OMRON

Machine Automation Controller NJ/NX-series

Troubleshooting Manual

NX701-1□□□
NX502-1□□□
NX102-1□□□
NX102-9□□□
NX1P2-1 □□□□
NX1P2-9 □□□□
NJ501-□□□□
NJ301-1□□□
NJ101-10□□
NJ101-90□□



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Introduction

Thank you for purchasing an NJ/NX-series CPU Unit.

This manual contains information that is necessary to use the NJ/NX-series CPU Unit. Please read this manual and make sure you understand the functionality and performance of the NJ/NX-series CPU Unit before you attempt to use it in a control system.

Keep this manual in a safe place where it will be available for reference during operation.

Intended Audience

This manual is intended for the following personnel, who must also have knowledge of electrical systems (an electrical engineer or the equivalent).

- · Personnel in charge of introducing FA systems.
- · Personnel in charge of designing FA systems.
- · Personnel in charge of installing and maintaining FA systems.
- · Personnel in charge of managing FA systems and facilities.

For programming, this manual is intended for personnel who understand the programming language specifications in international standard IEC 61131-3 or Japanese standard JIS B 3503.

Applicable Products

This manual covers the following products.

- NX-series CPU Units
 NX701-1□□□
 NX502-1□□□
 NX102-1□□□
 NX102-9□□□
 - NX1P2-1□□□□□□
 NX1P2-9□□□□□
- NJ-series CPU Units
 - NJ501-□□□□
 - NJ301-1□□□
 - NJ101-10□□
 - NJ101-90□□

Part of the specifications and restrictions for the CPU Units are given in other manuals. Refer to *Relevant Manuals* on page 2 and *Related Manuals* on page 19.

Relevant Manuals

The following table provides the relevant manuals for the NJ/NX-series CPU Units. Read all of the manuals that are relevant to your system configuration and application before you use the NJ/NX-series CPU Unit.

Most operations are performed from the Sysmac Studio Automation Software. Refer to the *Sysmac Studio Version 1 Operation Manual (Cat. No. W504)* for information on the Sysmac Studio.

										Mai	nual									
			Bas	ic inf	orma	tion														
Purpose of use	NX-series CPU Unit Hardware User's Manual	NX-series NX502 CPU Unit Hardware User's Manual	NX-series NX102 CPU Unit Hardware User's Manual	NX-series NX1P2 CPU Unit Hardware User's Manual	NJ-series CPU Unit Hardware User's Manual	NJ/NX-series CPU Unit Software User's Manual	NX-series NX1P2 CPU Unit Built-in I/O and Option Board User's Manual	NJ/NX-series Instructions Reference Manual	NJ/NX-series CPU Unit Motion Control User's Manual	NJ/NX-series Motion Control Instructions Reference Manua	NJ/NX-series CPU Unit Built-in EtherCAT Port User's Manual	NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual	NJ/NX-series CPU Unit OPC UA User's Manual	NX-series CPU Unit FINS User's Manual	NJ/NX-series Database Connection CPU Units User's Manual	NJ-series SECS/GEM CPU Units User's Manual	NJ-series Robot Integrated CPU Unit User's Manual	NJ-series NJ Robotics CPU Unit User's Manual	NJ/NY-series NC Integrated Controller User's Manual	NJ/NX-series Troubleshooting Manual
Introduction to NX701 CPU Units	0									_										
Introduction to NX502 CPU Units		0																		
Introduction to NX102 CPU Units			0																	
Introduction to NX1P2 CPU Units				0																
Introduction to NJ-series Controllers					0															
Setting devices and hard- ware																				
Using motion control									0											
Using EtherCAT	0	0	0	0	0						0									
Using EtherNet/IP												0								
Using robot control for OMRON robots																	0			

										Ма	nual									
					forma															
Purpose of use	NX-series CPU Unit Hardware User's Manual	NX-series NX502 CPU Unit Hardware User's Manual	NX-series NX102 CPU Unit Hardware User's Manual	NX-series NX1P2 CPU Unit Hardware User's Manual	NJ-series CPU Unit Hardware User's Manual	NJ/NX-series CPU Unit Software User's Manual	NX-series NX1P2 CPU Unit Built-in I/O and Option Board User's Manual	NJ/NX-series Instructions Reference Manual	NJ/NX-series CPU Unit Motion Control User's Manual	NJ/NX-series Motion Control Instructions Reference Manual	NJ/NX-series CPU Unit Built-in EtherCAT Port User's Manual	NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual	NJ/NX-series CPU Unit OPC UA User's Manual	NX-series CPU Unit FINS User's Manual	NJ/NX-series Database Connection CPU Units User's Manual	NJ-series SECS/GEM CPU Units User's Manual	NJ-series Robot Integrated CPU Unit User's Manual	NJ-series NJ Robotics CPU Unit User's Manual	NJ/NY-series NC Integrated Controller User's Manual	NJ/NX-series Troubleshooting Manual
oftware settings																				
Using motion control									0											
Using EtherCAT											0									
Using EtherNet/IP												0								
Using OPC UA													0							
Using FINS														0						
Using the database connection service															0					
Using the GEM Services						0										0				
Using robot control for OMRON robots																	0			
Using robot control by NJ Robotics function																		0		
Using numerical con- trol																			0	
Using the NX1P2 CPU Unit functions							0													
Vriting the user program																				
Using motion control						1			0	0										
Using EtherCAT											0									
Using EtherNet/IP												0								
Using OPC UA													0							
Using FINS														0						
Using the database connection service															0					
Using the GEM Services																0				
Using robot control for OMRON robots																	0			
Using robot control by NJ Robotics function						1		1										0		
Using numerical con- trol						1		1											0	
Programming error processing						1		1												0
Using the NX1P2 CPU Unit functions							0	1												

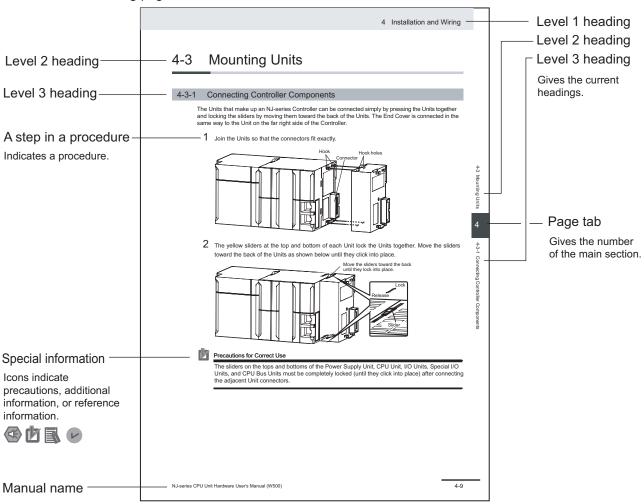
										Ма	nual									
			Bas	sic inf	forma	tion														
Purpose of use	NX-series CPU Unit Hardware User's Manual	NX-series NX502 CPU Unit Hardware User's Manual	NX-series NX102 CPU Unit Hardware User's Manual	NX-series NX1P2 CPU Unit Hardware User's Manual	NJ-series CPU Unit Hardware User's Manual	NJ/NX-series CPU Unit Software User's Manual	NX-series NX1P2 CPU Unit Built-in I/O and Option Board User's Manual	NJ/NX-series Instructions Reference Manual	NJ/NX-series CPU Unit Motion Control User's Manual	NJ/NX-series Motion Control Instructions Reference Manua	NJ/NX-series CPU Unit Built-in EtherCAT Port User's Manual	NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual	NJ/NX-series CPU Unit OPC UA User's Manual	NX-series CPU Unit FINS User's Manual	NJ/NX-series Database Connection CPU Units User's Manual	NJ-series SECS/GEM CPU Units User's Manual	NJ-series Robot Integrated CPU Unit User's Manual	NJ-series NJ Robotics CPU Unit User's Manual	NJ/NY-series NC Integrated Controller User's Manual	NJ/NX-series Troubleshooting Manual
Testing operation and de- bugging																				
Using motion control									0											
Using EtherCAT											0									
Using EtherNet/IP												0								
Using OPC UA													0							
Using FINS														0						
Using the database connection service															0					
Using the GEM Services						0										0				
Using robot control for OMRON robots																	0			
Using robot control by NJ Robotics function																		0		
Using numerical control																			0	
Using the NX1P2 CPU Unit functions							0													
Learning about error management and corrections*1													Δ	Δ	Δ	Δ	Δ	Δ	Δ	0
Maintenance																				
Using motion control	1								0											
Using EtherCAT	0	0	0	0	0						0									
Using EtherNet/IP	1						1					0								

^{*1.} Refer to the *NJ/NX-series Troubleshooting Manual (Cat. No. W503)* for the error management concepts and the error items. However, refer to the manuals that are indicated with triangles for details on errors corresponding to the products with the manuals that are indicated with triangles.

Manual Structure

Page Structure

The following page structure is used in this manual.



This illustration is provided only as a sample. It may not literally appear in this manual.

Special Information

Special information in this manual is classified as follows:



Precautions for Safe Use

Precautions on what to do and what not to do to ensure safe usage of the product.



Precautions for Correct Use

Precautions on what to do and what not to do to ensure proper operation and performance.



Additional Information

Additional information to read as required.

This information is provided to increase understanding or make operation easier.



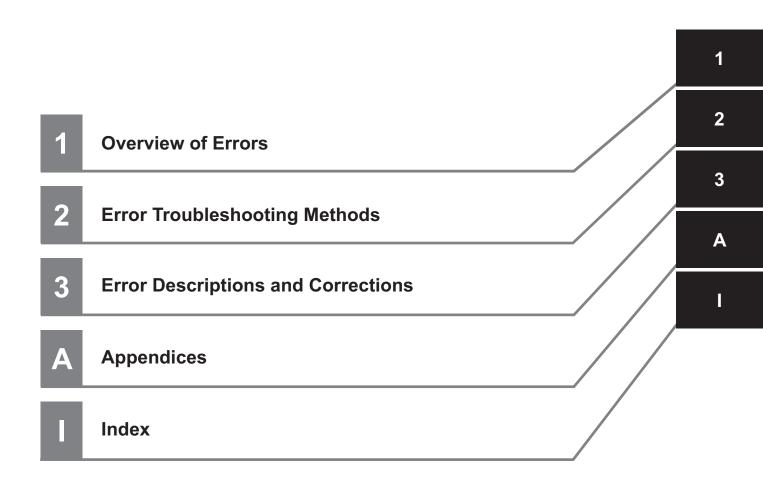
Version Information

Information on differences in specifications and functionality for Controller with different unit versions and for different versions of the Sysmac Studio is given.

Precaution on Terminology

In this manual, "download" refers to transferring data from the Sysmac Studio to the physical Controller and "upload" refers to transferring data from the physical Controller to the Sysmac Studio. For the Sysmac Studio, "synchronization" is used to both "upload" and "download" data. Here, "synchronize" means to automatically compare the data for the Sysmac Studio on the computer with the data in the physical Controller and transfer the data in the direction that is specified by the user.

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Warranty, Limitations of Liability

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NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

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Disclaimers

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Change in Specifications

Product specifications and accessories may be changed at any time based on improvements and other reasons. It is our practice to change part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Product may

be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Omron's representative at any time to confirm actual specifications of purchased Product.

Errors and Omissions

Information presented by Omron Companies has been checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.

Statement of security responsibilities for assumed use cases and against threats

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It shall be the users sole responsibility to determine and use adequate measures and checkpoints to satisfy the users particular requirements for (i) antivirus protection, (ii) data input and output, (iii) maintaining a means for reconstruction of lost data, (iv) preventing Omron Products and/or software installed thereon from being infected with computer viruses and (v) protecting Omron Products from unauthorized access.

Safety Precautions

Refer to the following manuals for safety precautions.

- NX-series CPU Unit Hardware User's Manual (Cat. No. W535)
- NX-series NX502 CPU Unit Hardware User's Manual (Cat. No. W629)
- NX-series NX102 CPU Unit Hardware User's Manual (Cat. No. W593)
- NX-series NX1P2 CPU Unit Hardware User's Manual (Cat. No. W578)
- NJ-series CPU Unit Hardware User's Manual (Cat No. W500)

Precautions for Safe Use

Refer to the following manuals for precautions for safe use.

- NX-series CPU Unit Hardware User's Manual (Cat. No. W535)
- NX-series NX502 CPU Unit Hardware User's Manual (Cat. No. W629)
- NX-series NX102 CPU Unit Hardware User's Manual (Cat. No. W593)
- NX-series NX1P2 CPU Unit Hardware User's Manual (Cat. No. W578)
- NJ-series CPU Unit Hardware User's Manual (Cat No. W500)

Precautions for Correct Use

Refer to the following manuals for precautions for correct use.

- NX-series CPU Unit Hardware User's Manual (Cat. No. W535)
- NX-series NX502 CPU Unit Hardware User's Manual (Cat. No. W629)
- NX-series NX102 CPU Unit Hardware User's Manual (Cat. No. W593)
- NX-series NX1P2 CPU Unit Hardware User's Manual (Cat. No. W578)
- NJ-series CPU Unit Hardware User's Manual (Cat No. W500)

Regulations and Standards

Refer to the following manuals for regulations and standards.

- NX-series CPU Unit Hardware User's Manual (Cat. No. W535)
- NX-series NX502 CPU Unit Hardware User's Manual (Cat. No. W629)
- NX-series NX102 CPU Unit Hardware User's Manual (Cat. No. W593)
- NX-series NX1P2 CPU Unit Hardware User's Manual (Cat. No. W578)
- NJ-series CPU Unit Hardware User's Manual (Cat No. W500)

Versions

Hardware revisions and unit versions are used to manage the hardware and software in NJ/NX-series Units and EtherCAT slaves. The hardware revision or unit version is updated each time there is a change in hardware or software specifications. Even when two Units or EtherCAT slaves have the same model number, they will have functional or performance differences if they have different hardware revisions or unit versions.

Refer to the following manuals for versions.

- NX-series CPU Unit Hardware User's Manual (Cat. No. W535)
- NX-series NX502 CPU Unit Hardware User's Manual (Cat. No. W629)
- NX-series NX102 CPU Unit Hardware User's Manual (Cat. No. W593)
- NX-series NX1P2 CPU Unit Hardware User's Manual (Cat. No. W578)
- NJ-series CPU Unit Hardware User's Manual (Cat No. W500)

Unit Versions of CPU Units and Sysmac Studio Versions

The events that can occur depend on the unit versions of the NJ/NX-series CPU Unit, the EtherCAT slaves, and the NX Units. You must use the corresponding version of Sysmac Studio to display events that were added for version upgrades when troubleshooting from the Sysmac Studio or from the Troubleshooter on an HMI.

Refer to the product manuals for information on the unit versions of the CPU Unit, EtherCAT slaves, and NX Units, and for the relationship with the version of the Sysmac Studio.

Related Manuals

The followings are the manuals related to this manual. Use these manuals for reference.

Manual name	Cat. No.	Model numbers	Application	Description
NX-series CPU Unit Hardware User's Manual	W535	NX701-□□□□	Learning the basic specifications of the NX701 CPU Units, including introductory information, designing, installation, and maintenance. Mainly hardware information is provided.	An introduction to the entire NX701 system is provided along with the following information on the CPU Unit. Features and system configuration Introduction Part names and functions General specifications Installation and wiring Maintenance and inspection
NX-series NX502 CPU Unit Hardware User's Manual	W629	NX502-□□□□	Learning the basic specifications of the NX502 CPU Units, including introductory information, designing, installation, and maintenance. Mainly hardware information is provided.	An introduction to the entire NX502 system is provided along with the following information on the CPU Unit. Features and system configuration Introduction Part names and functions General specifications Installation and wiring Maintenance and inspection
NX-series NX102 CPU Unit Hardware User's Manual	W593	NX102-□□□	Learning the basic specifications of the NX102 CPU Units, including introductory information, designing, installation, and maintenance. Mainly hardware information is provided.	An introduction to the entire NX102 system is provided along with the following information on the CPU Unit. • Features and system configuration • Introduction • Part names and functions • General specifications • Installation and wiring • Maintenance and inspection
NX-series NX1P2 CPU Unit Hardware User's Manual	W578	NX1P2-□□□□	Learning the basic specifications of the NX1P2 CPU Units, including introductory information, designing, installation, and maintenance. Mainly hardware information is provided.	An introduction to the entire NX1P2 system is provided along with the following information on the CPU Unit. • Features and system configuration • Introduction • Part names and functions • General specifications • Installation and wiring • Maintenance and inspection
NJ-series CPU Unit Hardware User's Manual	W500	NJ501-□□□□ NJ301-□□□□ NJ101-□□□□	Learning the basic specifications of the NJ-series CPU Units, including introductory information, designing, installation, and maintenance. Mainly hardware information is provided.	An introduction to the entire NJ-series system is provided along with the following information on the CPU Unit. • Features and system configuration • Introduction • Part names and functions • General specifications • Installation and wiring • Maintenance and inspection
NJ/NX-series CPU Unit Software User's Manual	W501	NX701-□□□□ NX502-□□□□ NX102-□□□□ NX1P2-□□□□ NJ501-□□□□ NJ301-□□□□ NJ101-□□□□	Learning how to program and set up an NJ/NX-series CPU Unit. Mainly software information is provided.	The following information is provided on a Controller built with an NJ/NX-series CPU Unit. CPU Unit operation CPU Unit features Initial settings Programming based on IEC 61131-3 language specifications

Manual name	Cat. No.	Model numbers	Application	Description
NX-series NX1P2 CPU Unit Built-in I/O and Option Board User's Manual	W579	NX1P2-□□□□	Learning about the details of functions only for an NX-series NX1P2 CPU Unit and an introduction of functions for an NJ/NX-series CPU Unit.	Of the functions for an NX1P2 CPU Unit, the following information is provided. Built-in I/O Serial Communications Option Boards Analog I/O Option Boards An introduction of following functions for an NJ/NX-series CPU Unit is also provided. Motion control functions EtherNet/IP communications functions EtherCAT communications functions
NJ/NX-series Instructions Reference Manual	W502	NX701-□□□□ NX502-□□□□ NX102-□□□□ NX1P2-□□□□ NJ501-□□□□ NJ301-□□□□ NJ101-□□□□	Learning detailed specifications on the basic instructions of an NJ/NX-series CPU Unit.	The instructions in the instruction set (IEC 61131-3 specifications) are described.
NJ/NX-series CPU Unit Motion Control User's Manual	W507	NX701-□□□□ NX502-□□□□ NX102-□□□□ NX1P2-□□□□ NJ501-□□□□ NJ301-□□□□ NJ101-□□□□	Learning about motion control settings and programming concepts.	The settings and operation of the CPU Unit and programming concepts for motion control are described.
NJ/NX-series Motion Control Instructions Reference Manual	W508	NX701-□□□□ NX502-□□□□ NX102-□□□□ NX1P2-□□□□ NJ501-□□□□ NJ301-□□□□ NJ101-□□□□	Learning about the specifications of the motion control instructions.	The motion control instructions are described.
NJ/NX-series CPU Unit Built-in EtherCAT [®] Port User's Manual	W505	NX701-□□□□ NX502-□□□□ NX102-□□□□ NX1P2-□□□□ NJ501-□□□□ NJ301-□□□□ NJ101-□□□□	Using the built-in EtherCAT port on an NJ/NX-series CPU Unit.	Information on the built-in EtherCAT port is provided. This manual provides an introduction and provides information on the configuration, features, and setup.
NJ/NX-series CPU Unit Built-in EtherNet/IP [™] Port User's Manual	W506	NX701-□□□□ NX502-□□□□ NX102-□□□□ NX1P2-□□□□ NJ501-□□□□ NJ301-□□□□ NJ101-□□□□	Using the built-in EtherNet/IP port on an NJ/NX-series CPU Unit.	Information on the built-in EtherNet/IP port is provided. Information is provided on the basic setup, tag data links, and other features.
NJ/NX-series CPU Unit OPC UA User's Manual	W588	NX701-□□□□ NX502-□□□□ NX102-□□□□ NJ501-1□00	Using the OPC UA.	Describes the OPC UA.
NX-series CPU Unit FINS Function User's Manual	W596	NX701-□□20 NX502-□□□□ NX102-□□□□	Using the FINS function of an NX-series CPU Unit.	Describes the FINS function of an NX-series CPU Unit.
NJ/NX-series Database Connection CPU Units User's Manual	W527	NX701-□□20 NX502-□□□□ NX102-□□20 NJ501-□□20 NJ101-□□20	Using the database connection service with NJ/NX-series Controllers.	Describes the database connection service.
NJ-series SECS/GEM CPU Units User's Manual	W528	NJ501-1340	Using the GEM Services with NJ-series Controllers.	Provides information on the GEM Services.

Manual name	Cat. No.	Model numbers	Application	Description
NJ-series Robot Integrated CPU Unit User's Manual	O037	NJ501-R□□□	Using the NJ-series Robot Integrated CPU Unit.	Describes the settings and operation of the CPU Unit and programming concepts for OMRON robot control.
Sysmac Studio Robot Integrated System Building Function with Robot Integrated CPU Unit Operation Manual	W595	SYSMAC-SE2□□ □ SYSMAC- SE200D-64	Learning about the operating procedures and functions of the Sysmac Studio to configure Robot Integrated System using Robot Integrated CPU Unit.	Describes the operating procedures of the Sysmac Studio for Robot Integrated CPU Unit.
Sysmac Studio Robot Integrated System Building Function with IPC Application Controller Operation Manual	W621	SYSMAC-SE2□□ SYSMAC- SE200D-64	Learning about the operating procedures and functions of the Sysmac Studio to configure Robot Integrated System using IPC Application Controller.	Describes the operating procedures of the Sysmac Studio for IPC Application Controller.
Sysmac Studio 3D Simulation Function Opera- tion Manual	W618	SYSMAC-SE2□□ □ SYSMAC-SA4□□ □-64	Learning about an outline of the 3D simulation function of the Sysmac Studio and how to use the function.	Describes an outline, execution procedures, and operating procedures for the 3D simulation function of the Sysmac Studio.
NJ-series NJ Robotics CPU Unit User's Manual	W539	NJ501-4□□□ NJ501-R□□□	Controlling robots with NJ-series CPU Units.	Describes the functionality to control robots.
NJ/NY-series NC Integrated Controller User's Manual	O030	NJ501-5300 NY532-5400	Performing numerical control with NJ/NY-series Controllers.	Describes the functionality to perform the numerical control.
NJ/NY-series G code Instructions Reference Manual	O031	NJ501-5300 NY532-5400	Learning about the specifications of the G code/M code instructions.	The G code/M code instructions are described.
NJ/NX-series Troubleshooting Manual	W503	NX701-□□□□ NX502-□□□□ NX102-□□□□ NX1P2-□□□□ NJ501-□□□□ NJ301-□□□□ NJ101-□□□□	Learning about the errors that may be detected in an NJ/NX-series Con- troller.	Concepts on managing errors that may be detected in an NJ/NX-series Controller and information on individual errors are described.
Sysmac Studio Version 1 Operation Manual	W504	SYSMAC -SE2□□□	Learning about the operating procedures and functions of the Sysmac Studio.	Describes the operating procedures of the Sysmac Studio.
NX-series EtherCAT [®] Coupler Unit User's Manual	W519	NX-ECC	Learning how to use the NX-series Ether- CAT Coupler Unit and EtherCAT Slave Terminals.	The following items are described: the overall system and configuration methods of an Ether-CAT Slave Terminal (which consists of an NX-series EtherCAT Coupler Unit and NX Units), and information on hardware, setup, and functions to set up, control, and monitor NX Units through EtherCAT.
NX-series Data Reference Manual	W525	NX	Referencing lists of the data that is re- quired to configure systems with NX-ser- ies Units.	Lists of the power consumptions, weights, and other NX Unit data that is required to configure systems with NX-series Units are provided.

Manual name	Cat. No.	Model numbers	Application	Description
NX-series	W521	NX-ID	Learning how to use	Describes the hardware, setup methods, and
NX Units		NX-IA	NX Units.	functions of the NX Units.
User's Manual		NX-OC		Manuals are available for the following Units.
		NX-OD		Digital I/O Units, Analog I/O Units, System Units,
		NX-MD		Position Interface Units, Communications Inter-
	W522	NX-AD		face Units, Load Cell Input Unit, and IO-Link Mas-
	11022	NX-DA		ter Units.
	\ME00	+		
	W592	NX-HAD		
	W566	NX-TS□□□□		
		NX-HB		
	W523	NX-PD1□□□		
		NX-PF0□□□		
		NX-PC0□□□		
		NX-TBX01		
	W524	NX-EC0□□□		
		NX-ECS□□□		
		NX-PG0□□□		
	\ME40	+	-	
	W540	NX-CIF		
	W565	NX-RS□□□□		
	W567	NX-ILM□□□		
NX-series	Z930	NX-SL	Learning how to use	Describes the hardware, setup methods, and
Safety Control Unit		NX-SI	NX-series Safety	functions of the NX-series Safety Control Units.
User's Manual		NX-SO	Control Units.	, -
NX-series	Z931	NX-SL□□□□	Learning about the	Describes the instructions for the Safety CPU
	2931	INA-SLUDUD	_	Unit.
Safety Control Unit			specifications of in-	Offic.
Instructions Reference Manual			structions for the	
			Safety CPU Unit.	
IO-Link System	W570	NX-ILM□□□	Learning everything	Provides an overview of IO-Link Systems and ex-
User's Manual		GX-ILM□□□	from an introduction	plains the system configuration, communications
			to details about IO-	specifications, communications methods, I/O da-
			Link Systems, includ-	ta, parameters, models, Support Software, and
			ing mainly software	troubleshooting.
			information common	
			to all IO-Link mas-	
			ters, Support Soft-	
			ware operating meth-	
			ods, and trouble-	
			shooting.	
GX-series EtherCAT Slave	W488	GX-ID□□□□	Learning how to use	Describes the hardware, setup methods and
Units		GX-OD	the EtherCAT remote	functions of the EtherCAT remote I/O terminals.
User's Manual		GX-OC□□□□	I/O terminals.	
Cool o Mariaa		GX-MD	li o torrimaio.	
		GX-AD		
		GX-DA		
		GX-EC□□□□		
		XWT-ID		
		XWT-OD□□		
MX2/RX Series	1574	3G3AX-MX2-ECT	Learning how to con-	Describes the following information for the
Inverter		3G3AX-RX-ECT	nect a 3G3AX-MX2-	3G3AX-MX2-ECT and 3G3AX-RX-ECT EtherCAT
EtherCAT Communications			ECT or 3G3AX-RX-	Communications Unit for MX2/RX-series Inver-
Unit			ECT EtherCAT Com-	ters: installation, parameter settings required for
User's Manual			munications Unit for	operation, troubleshooting, and inspection meth-
			I.	I .
			MX2/RX-series Inver-	ods.
			MX2/RX-series Inverters.	ods.
AC Servomotors/Servo Drives	1586	R88M-1□	ters.	
AC Servomotors/Servo Drives	1586	R88M-1□ R88D-1\$N□-FCT	ters. Learning how to use	Describes the hardware, setup methods and
1S-series with		R88D-1SN□-ECT	ters. Learning how to use the Servomotors/	Describes the hardware, setup methods and functions of the Servomotors/Servo Drives with
1S-series with Built-in EtherCAT® Communi-	I586 I621	R88D-1SN□-ECT R88M-1AL□/ -1AM	ters. Learning how to use the Servomotors/ Servo Drives with	Describes the hardware, setup methods and
1S-series with		R88D-1SN□-ECT	ters. Learning how to use the Servomotors/	Describes the hardware, setup methods and functions of the Servomotors/Servo Drives with

Manual name	Cat. No.	Model numbers	Application	Description
AC Servomotors/Servo Drives	1576	R88M-K□	Learning how to use	Describes the hardware, setup methods and
G5 Series with		R88D-KN□-ECT	the AC Servomotors/	functions of the AC Servomotors/Servo Drives
Built-in EtherCAT® Communi-	1577	R88L-EC-□	Servo Drives with	with built-in EtherCAT Communications.
cations User's Manual		R88D-KN□-ECT-L	built-in EtherCAT Communications.	The Linear Motor Type models and dedicated models for position control are available in G5-
			Communications.	series.
EtherCAT Digital-type Sensor	E413	E3X-ECT	Learning how to con-	Provides the specifications of and describes ap-
Communication Unit			nect E3X-series	plication methods for E3X-series EtherCAT Slave
Operation Manual			EtherCAT Slave	Units.
			Units.	
E3NW-ECT EtherCAT Digital	E429	E3NW-ECT	Learning how to con-	Provides the specifications of and describes ap-
Sensor Communications Unit			nect E3NW EtherCAT Slave Units.	plication methods for E3NW EtherCAT Slave Units.
Operation Manual Vision System	Z342	FH-0000	Learning how to con-	The functions, settings, and communications
FH/FZ5 Series	2342	FH-0000-00	nect FH/FZ5-series	methods to communicate with FH/FZ5 -series Vi-
User's Manual for Communica-		FZ5-□□□	Vision Systems	sion Systems from a PLC or other external device
tions Settings		FZ5-□□□-□□		are described.
		FZ5-□□□□		
		FZ5-□□□□-□□		
Displacement Sensor ZW-ser-	Z332	ZW-CE1□	Learning how to use	Describes the hardware, setup methods and
ies Confocal Fiber Type Displace-			the ZW-series Dis- placement Sensors.	functions of the ZW-series Displacement Sensors.
ment Sensors			placement Sensors.	5015.
User's Manual				
CJ-series	W490	CJ1W-AD□□□	Learning how to use	The methods and precautions for using CJ-series
Special Unit Manuals		CJ1W-DA□□□	CJ-series Units with	Units with an NJ-series CPU Unit are described,
For NJ-series CPU Unit		CJ1W-MAD42	an NJ-series CPU	including access methods and programming in-
	W491	CJ1W-TC□□□	Unit.	terfaces. Manuals are available for the following Units.
	W492	CJ1W-CT021		Analog I/O Units, Insulated-type Analog I/O Units,
	W498	CJ1W-PDC15		Temperature Control Units, ID Sensor Units,
		CJ1W-PH41U CJ1W-AD04U		High-speed Counter Units, Serial Communica-
	W493	CJ1W-CRM21		tions Units, DeviceNet Units, EtherNet/IP Units
	W494	CJ1W-SCU		and CompoNet Master Units.
	W495	CJ1W-EIP21		
		CJ1W-EIP21S		
	W497	CJ1W-DRM21		
	Z317	CJ1W-V680□□□		
NA-series	V117	NA5-00W0000	Learning the specifi-	Information is provided on NA-series Programma-
Programmable Terminal			cations and settings	ble Terminal specifications, part names, installa-
Hardware			required to install an	tion procedures, and procedures to connect an
User's Manual			NA-series Program- mable Terminals and	NA Unit to peripheral devices. Information is also provided on maintenance after operation and
			connect peripheral	troubleshooting.
			devices.	
NA-series Programmable Ter-	V118	NA5-00W0000	Learning about NA-	Describes the pages and object functions of the
minal		(-V□)	series PT pages and	NA-series Programmable Terminals.
Software User's Manual			object functions.	
NS-series Programmable Ter-	V073	NS15-□□□□□	Learning how to use	Describes the setup methods, functions, etc. of
minals Programming Manual		NS12-0000	the NS-series Pro-	the NS-series Programmable Terminals.
Programming Manual		NS10-□□□□□ NS8-□□□□□	grammable Termi- nals.	
		NS5-0000	nais.	

^{*1.} NX-TS□□□□ Temperature Input Units are introduced in Cat. No. W522 before Cat. No. W566 is released.

Revision History

A manual revision code appears as a suffix to the catalog number on the front and back covers of the manual.



Revision code	Date	Revised content				
01	July 2011	Original production				
02	March 2012	 Added information related to the upgrade to CPU unit version 1.01, made additions and changes to events related to the addition of devices that can be connected. Corrected mistakes. 				
03	May 2012	 Added information related to the upgrade to CPU unit version 1.02, made additions and changes to events related to the addition of devices that can be connected. Corrected mistakes. 				
04	August 2012	 Made additions to events and changes to the contents related to the upgrade to CPU unit version 1.03. Corrected mistakes. 				
05	February 2013	 Made additions to events and changes to the contents related to the upgrade to CPU unit version 1.04. Corrected mistakes. 				
06	April 2013	Made additions to events and changes to the contents related to the upgrade to CPU unit version 1.05, and corrected mistakes.				
07	June 2013	Made additions to events and changes to the contents related to the upgrade to CPU unit version 1.06, and corrected mistakes.				
08	September 2013	Made additions to events and changes to the contents related to the upgrade to CPU unit version 1.07, and corrected mistakes.				
09	December 2013	Made additions to events and changes to the contents related to the upgrade to CPU unit version 1.08, and corrected mistakes.				
10	July 2014	Corrected mistakes.				
11	January 2015	 Made additions to events and changes to the contents related to the upgrade to CPU unit version 1.10. Corrected mistakes. 				
12	April 2015	 Made additions to events and changes to the contents related to the addition of the NX701-□□□□ and NJ101-□□□□. Corrected mistakes. 				
13	April 2016	 Made changes to the contents related to the upgrade to CPU unit version 1.11. Corrected mistakes. 				
14	July 2016	 Made changes to the contents related to the upgrade to CPU unit version 1.12. Corrected mistakes. 				

Revision code	Date	Revised content
15	October 2016	 Made changes to the contents related to the upgrade to CPU unit version 1.13. Corrected mistakes.
16	April 2017	 Made changes to the contents related to the upgrade to CPU unit version 1.14. Corrected mistakes.
17	October 2017	 Made changes to the contents related to the upgrade to CPU unit version 1.16. Added an error log table for CJ-series Special Units. Corrected mistakes.
18	January 2018	Made changes to the contents related to the upgrade to CPU unit version 1.17.
19	April 2018	 Made changes to the contents related to the addition of NX-series NX102 CPU Units. Made changes to the contents related to the upgrade to CPU unit version 1.18 and 1.30. Collected descriptions on event codes and errors of each function module of NJ/NX-series CPU Units to this manual. Moved descriptions on the followings from Section 3 to Appendices. a) Tables of the errors (events) that can occur in models other than the standard CPU Units b) An Error Log Table for CJ-series Special Units c) Events in Order of Event Codes Corrected mistakes.
20	July 2018	 Added information related to the upgrade to CPU unit version 1.31, made additions and changes to events related to the addition of devices that can be connected. Corrected mistakes.
21	January 2019	Made changes to the contents of CPU Unit events.
22	April 2019	 Made additions and changes to events related to the upgrade to an NX102-□□□□ CPU Unit with unit version 1.32. Made additions and changes to events related to the upgrade to an NX1P2-□□□□□□ CPU Unit, NJ501-1□00 CPU Unit, NJ301-□□□□ CPU Unit, and NJ101-□□00 CPU Unit with unit version 1.21. Corrected mistakes.
23	July 2019	 Made additions and changes to events related to the upgrade to an NX102-□00 CPU Unit, NX1P2-□□□□□ CPU Unit, NJ501-1□00 CPU Unit, NJ301-□□□□ CPU Unit, and NJ101-□00 CPU Unit with unit version 1.40. Made additions and changes to events related to the upgrade to an NX701-□□□ CPU Unit, NJ501-4□00 CPU Unit, NJ501-4□10 CPU Unit, NJ501-1340 CPU Unit, and NJ501-5300 CPU Unit with unit version 1.21. Made additions and changes to events related to the addition of devices that can be connected. Corrected mistakes.
24	October 2019	Added information on the NX1P2-9B□□□□. Corrected mistakes.
25	July 2020	Corrected mistakes.
26	August 2020	Made changes to the contents related to the addition of NJ501-R□□□.
27	October 2020	Made changes to events related to the upgrade to CPU unit version 1.42.

Revision code	Date	Revised content
28	January 2021	 Made changes to the contents related to the upgrade to an NX102-□□00 and NJ501-1□00 CPU Unit with unit version 1.43. Made changes to the contents related to the upgrade to an NX102-□□20 CPU Unit with unit version 1.36. Made changes to the contents related to the upgrade to an NX701-1□□□ CPU Unit with unit version 1.24.
29	July 2021	 Added information on the functions supported by unit version 1.45 of the NX1P2-□00, NJ301-□00, and NJ101-□00. Added information on the functions supported by unit version 1.25 of the NJ501-1□20, NJ501-1340, NJ501-4□□, NJ501-5300, and NJ101-1□20. Added information on the functions supported by unit version 1.43 of the NJ501-R□00. Added information of the SD Memory Card.
30	November 2021	Added information related to the hardware revision D of the NJ-series CPU Unit and the hardware revision A of the NX701-□□□□.
31	April 2022	Corrected mistakes.
32	April 2022	Added information to Terms and Conditions Agreement.
33	June 2022	Added information on the hardware revision B of NX701-□□□.
34	October 2022	 Made changes accompanying the release of unit version 1.50 of the NJ-series, NX102, and NX1P2 CPU Units. Corrected mistakes.
35	November 2022	 Made changes accompanying the release of unit version 1.60 of the NJ-series, NX102, and NX1P2 CPU Units. Made changes accompanying the release of unit version 1.32 of NX701 CPU Units.
36	January 2023	Corrected mistakes.
37	April 2023	Added information on the NX502-1□□□.
38	July 2023	Revised for the release of automation playback function.
39	October 2023	 Made changes accompanying the release of unit version 1.64 of the NJ-series, NX502, NX102, and NX1P2 CPU Units. Made changes accompanying the release of unit version 1.35 of NX701 CPU Units.
40	January 2024	 Made changes accompanying the release of unit version 1.65 of NX502 CPU Units. Corrected mistakes.
41	October 2024	 Added information related to connection of CJ1W-EIP21S to the NJ-series CPU Unit. Corrected mistakes.
42	February 2025	Corrected mistakes.
43	February 2025	Corrected mistakes.
44	April 2025	 Made changes accompanying the release of unit version 1.68 of NX502 CPU Units. Corrected mistakes.



Overview of Errors

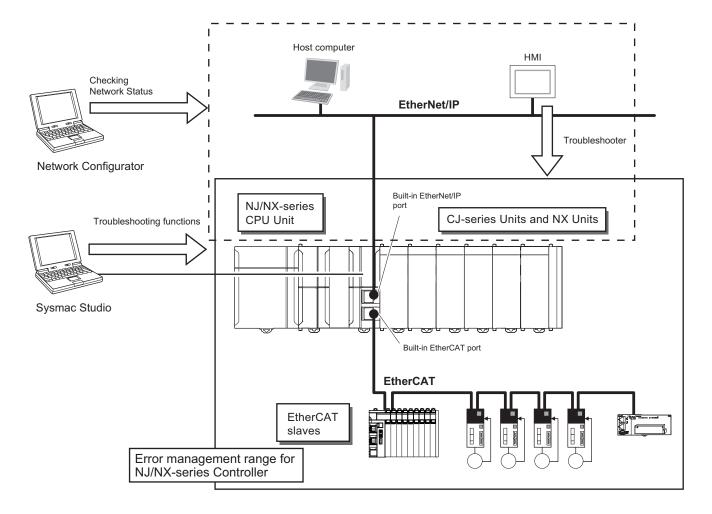
This section provides information that is required to troubleshoot errors. It introduces the types of errors that can occur on an NJ/NX-series, the operation that occurs in response to errors, and the methods you can use to check for errors. Refer to Section 2 Error Troubleshooting Methods on page 2-1 for information on troubleshooting errors.

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	1-2-1	Types of Fatal Errors	
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1-1 Overview of NJ/NX-series Errors

You manage all of the errors that occur on the NJ/NX-series Controller as events. The same methods are used for all events. This allows you to see what errors have occurred and find corrections for them with the same methods for the entire range of errors that is managed (i.e., CPU Unit, NX Units, NX-series Slave Terminals, EtherCAT slaves.*1 and CJ-series Units).

*1. Only Sysmac devices are supported. For information on EtherCAT slaves that are Sysmac devices, refer to the NJ/NX-series CPU Unit Built-in EtherCAT Port User's Manual (Cat. No. W505).



You can use the troubleshooting functions of the Sysmac Studio or the Troubleshooter on an HMI to quickly check for errors that have occurred and find corrections for them.

To perform troubleshooting from an HMI, connect the HMI to the built-in EtherNet/IP port on the CPU Unit.

You can also use the Network Configurator to check the network status of EtherNet/IP. For the procedure to check network status, refer to the methods of communications status check and troubleshooting for the EtherNet/IP network described in the *NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual (Cat. No. W506*).



Precautions for Correct Use

- The only CPU Units on which CJ-series Units can be mounted are the NJ-series CPU Units.
- The only CPU Units on which NX Units can be mounted are the NX502 CPU Units, NX102 CPU Units, and NX1P2 CPU Units.
- Refer to the appendices of the A-5 Applicable Range of the HMI Troubleshooter on page A-295 for the applicable range of the HMI Troubleshooter.

1-1-1 Types of Errors

There are two main types of errors (events) depending on whether the NJ/NX-series can manage them or not.

Fatal Errors

These errors are not detected by the event management function of the NJ/NX-series because the CPU Unit stops operation.

You cannot identify or reset these errors with the Sysmac Studio or an HMI.

Refer to 1-2 Fatal Errors on page 1-9 for error types and confirmation methods of fatal errors in the CPU Unit.

Non-fatal errors

These errors are detected and managed with the event management function of the NJ/NX-series. You can confirm these errors with the Sysmac Studio or an HMI.

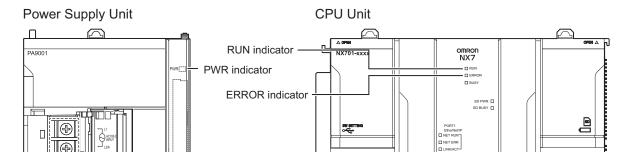
Refer to *1-3 Non-fatal Errors* on page 1-12 for error types and confirmation methods of non-fatal errors in the CPU Unit.

1-1-2 CPU Unit Status

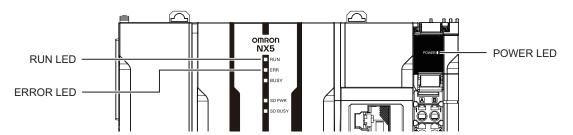
You can check the operating status of the CPU Unit with the PWR/POWER, RUN, and ERROR indicators on the front panels of the Power Supply Unit and CPU Unit.

NX-series CPU Units

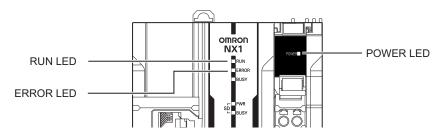
NX701 CPU Unit



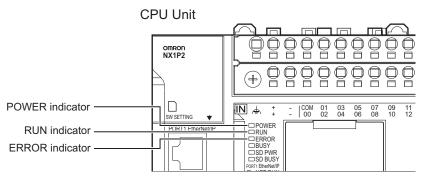
NX502 CPU Unit



NX102 CPU Unit



NX1P2 CPU Unit



The following table shows the status of front-panel indicators, the status of user program execution, and the ability to connect communications to the Sysmac Studio or an HMI during startup, during normal operation, and when errors occur.

(O:Lit/●:Not lit/⊙:Flashing)

CPU Unit	Power Supply Unit/CPU Unit	CPU Units		User pro- gram execu-	Communications with Sysmac Stu-	
	PWR/ POWER (green)	RUN (green)	ERROR (red)	tion status	dio or HMI	
Startup		0	(2-s intervals followed by 0.5-s intervals)	•	Stopped.	Not possible.
Normal operation	RUN mode	0	0	•	Continues.	Possible.
Hormai operation	PROGRAM mode	0	•	•	Stopped.	
	Power Supply Error*1	•	•	•	Stopped.	Not possible.
	CPU Unit Reset*1*2/ Hardware Initialization Error*1*3	0	•	•	Stopped.	
Fatal error in CPU Unit	CPU Unit Error*1	0	● or ⊙ (2- s intervals or 0.5-s intervals)	0	Stopped.	
	System Initialization Error*1	0	(2-s intervals) for 30 s or longer	•	Stopped.	
	Major Fault*4	0	•	0	Stopped.	Possible.
Non-fatal error in	Partial fault*4	0	0	⊙ (1-s inter- vals)	Continues.*5	(Communications can be connected from an HMI if
CPU Unit	Minor Fault*4	0	0	① (1-s inter- vals)	Continues.	EtherNet/IP is op- erating normally.)
	Observation*4	0	0	•	Continues.	

^{*1.} Refer to 1-2 Fatal Errors on page 1-9 for information on individual errors.

^{*2.} This error can occur for NX701 CPU Units or NX502 CPU Units. If the status of indicators shown above continues 30 seconds or longer, this error exists.

^{*3.} This error can occur for NX102 CPU Units or NX1P2 CPU Units. If the status of indicators shown above continues 30 seconds or longer, this error exists.

^{*4.} Refer to 1-3 Non-fatal Errors on page 1-12 for information on individual errors.

^{*5.} The function module where the error occurred stops.

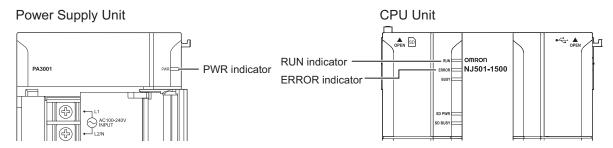


Precautions for Correct Use

When an NX502, NX102 or NX1P2 CPU Unit is used, a power shortage may occur at the CPU Rack depending on the configuration of NX Units mounted to the CPU Unit. If one of the followings occurs, use the Sysmac Studio to check if the power consumed by the Units on the CPU Rack exceeds the supplied power.

- The CPU Unit is operating but the mounted NX Units do not operate.
- · Power is supplied to the CPU Unit, but the CPU Unit does not turn ON.

NJ-series CPU Units



The following table shows the status of front-panel indicators, the status of user program execution, and the ability to connect communications to the Sysmac Studio or an HMI during startup, during normal operation, and when errors occur.

(O:Lit/●:Not lit/⊙:Flashing)

CPU Unit operating status		Power Supply Unit	CPU Unit		User pro- gram execu-	Communications with Sysmac Stu-
	PWR (green)	RUN (green)	ERROR (red)	tion status	dio or HMI	
Startup		0	⊙ (1-s inter- vals)	•	Stopped.	Not possible.
Normal aparation	RUN mode	0	0	•	Continues.	Possible.
Normal operation	PROGRAM mode	0	•	•	Stopped.	
	Power Supply Error*1	•	•	•	Stopped.	Not possible.
	CPU Unit Reset*1	0	•	•	Stopped.	
Fatal error in CPU Unit	Incorrect Power Supply Unit Connected*1	0	⊙ (3-s inter- vals)	0	Stopped.	
	CPU Unit Watchdog Timer Error*1	0	•	0	Stopped.	
	Major Fault ^{*2}	0	•	0	Stopped.	Possible.
Non-fatal error in CPU Unit	Partial fault*2	0	0	(1-s intervals)	Continues.*3	(Communications can be connected from an HMI if EtherNet/IP is operating normally.)
	Minor Fault*2	0	0	① (1-s inter- vals)	Continues.	
	Observation*2	0	0	•	Continues.	

^{*1.} Refer to 1-2 Fatal Errors on page 1-9 for information on individual errors.

^{*2.} Refer to 1-3 Non-fatal Errors on page 1-12 for information on individual errors.

^{*3.} The function module where the error occurred stops.

1-2 Fatal Errors

1-2-1 Types of Fatal Errors

This section describes the errors that cause the CPU Unit of the NJ/NX-series to stop. The errors that can occur depend on the CPU Unit.

Communications with the Sysmac Studio or an HMI are not possible if there is a fatal error in the CPU Unit.

(O: Error that can occur)

	CPU Unit				
Error name	NX701	NX502	NX102 NX1P2	NJ-series Controller	
Power Supply Error	0	0	0	0	
CPU Unit Reset	0	0		0	
Hardware Initialization Error			0		
Incorrect Power Supply Unit Connected				0	
CPU Unit Error	0	0	0		
CPU Unit Watchdog Timer Error				0	
System Initialization Error	0	0	0		

Power Supply Error

Power is not supplied, the voltage is outside of the allowed range, or the Power Supply Unit or power supply section is faulty.

CPU Unit Reset

The CPU Unit stopped operation because of a hardware error. For an NJ-series CPU Unit, this error can also occur for reasons other than hardware failures, as given below.

- The power supply to an Expansion Rack is OFF.
- The I/O Connecting Cable is incorrectly installed.
 - · The IN and OUT connectors are reversed.
 - · The connectors are not mated properly.
- There is more than one I/O Control Unit on the CPU Rack or there is an I/O Control Unit on an Expansion Rack.

Hardware Initialization Error

This error can occur for an NX102 CPU Unit or NX1P2 CPU Unit. It indicates a data error in minimum programs required to initialize the hardware. Only the POWER indicator will be lit while the CPU Unit is starting, but if it is lit for 30 seconds or longer, then this error occurs.

Incorrect Power Supply Unit Connected

There is a CJ-series Power Supply Unit connected to the NJ-series CPU Unit. The operation of the Controller is stopped.

CPU Unit Watchdog Timer Error

This error can occur for an NJ-series CPU Unit. This error occurs when the watchdog timer times out because of a hardware failure or when temporary data corruption causes the CPU Unit to hang.

• CPU Unit Error

This error can occur for an NX-series CPU Unit. It indicates that there is a hardware failure or that the CPU is running out of control due to temporary data corruption.

System Initialization Error

This error can occur for an NX-series CPU Unit. It indicates a hardware failure or data error. The RUN indicator will flash at 2-second intervals while the CPU Unit is starting, but if it flashes for 30 seconds or longer, then this error occurs.

1-2-2 Checking for Fatal Errors

You can identify fatal errors based on the status of the PWR/POWER, RUN, and ERROR indicators, as well as by the ability to connect communications to the Sysmac Studio.

Refer to Section 2 Error Troubleshooting Methods on page 2-1 for information on identifying errors and corrections.

NX-series CPU Units

(O:Lit/●:Not lit/⊙:Flashing)

Indicators		Communications		
PWR/POWER (green)	RUN (green)	ERROR (red)	Communications with Sysmac Studio	CPU Unit operating status
•	•	•	Not possible.*1	Power Supply Error
0	•	•		CPU Unit Reset/Hardware
				Initialization Error
0	• or	0		CPU Unit Error
	•			
	(at 2-s intervals			
	or 0.5-s inter-			
	vals)			
0	⊙ (2-s intervals)	•		System Initialization Error
	for 30 s or lon-			
	ger			

^{*1.} An online connection to the Sysmac Studio is necessary to differentiate between CPU Unit Resets/Hard-ware Initialization Errors, CPU Unit Errors, and non-fatal errors in the CPU Unit. Power Supply Errors and System Initialization Errors can be differentiated with the indicators. There is no need to see if you can go online with the CPU Unit from the Sysmac Studio.

NJ-series CPU Unit

(O:Lit/●:Not lit/⊙:Flashing)

	Indicators		Communications	CDI Unit apparating status
PWR (green)	RUN (green)	ERROR (red)	with Sysmac Studio	CPU Unit operating status
•	•	•	Not possible.*1	Power Supply Error
0	•	•		CPU Unit Reset
0	•	0		Incorrect Power Supply Unit
	(3-s intervals)			Connected
0	•	0		CPU Unit Watchdog Timer
				Error

^{*1.} An online connection to the Sysmac Studio is necessary to differentiate between CPU Unit Resets, CPU Unit Watchdog Timer Errors, and non-fatal errors in the CPU Unit. Power Supply Errors and Incorrect Power Supply Unit Connected errors can be differentiated with the indicators. There is no need to see if you can go online with the CPU Unit from the Sysmac Studio.

1-3 Non-fatal Errors

1-3-1 Types of Non-fatal Errors

Non-fatal errors that occur in the NJ/NX-series Controller are managed as events. You can check the event to find out what type of error occurred.

Controller Events

The Controller automatically detects these events. Controller events include events for the function modules in the CPU Unit, NX Units, X Bus Units, NX-series Slave Terminals, EtherCAT slaves, and CJ-series Units.



Additional Information

- You cannot check the error logs that are managed independently by EtherCAT slaves on Sysmac Studio because they are not for Controller events. Refer to relevant manuals for the slaves for the procedures to read error logs and correct errors.
- Error causes and corrections are not displayed on the Controller Event Log Tab Page in the Sysmac Studio, although error codes, which are registered in the error logs that are managed independently by CJ-series Special Units, are displayed. Refer to relevant manuals for the Units for the procedures to read error logs and correct errors.

User-defined Events

These are events that occur in applications that the user developed.

This manual does not describe user-defined events. Refer to the *NJ/NX-series CPU Unit Software User's Manual (Cat. No. W501)* for information on user-defined events.

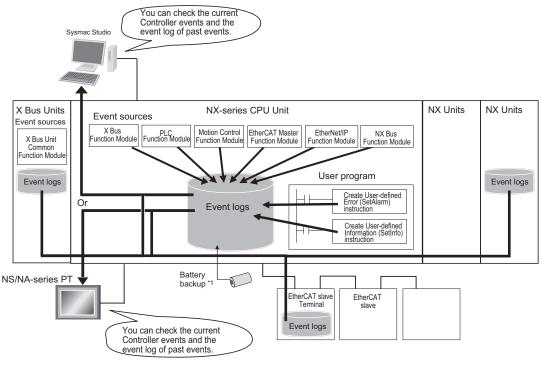
Overview of Controller Events (Errors and Information)

You use the same methods to manage all of the events that occur on the NJ/NX-series Controller. The events that occur are saved in the CPU Unit or NX-series Slave Terminals.

You can use the Sysmac Studio or an HMI to confirm current Controller events and the log of events that occurred before. This log is called an event log.

To use an HMI to check events, connect the HMI to the built-in EtherNet/IP port on the CPU Unit. To check events in the NX502 CPU Unit using an HMI, connect the HMI to the built-in EtherNet/IP port of the NX502 CPU Unit or to the EtherNet/IP port of an NX-series EtherNet/IP Unit connected to the NX502 CPU Unit.

The event management for NX-series Units is shown below.



^{*1.} The event logs are saved in battery-backup memory in the NX701 CPU Unit.

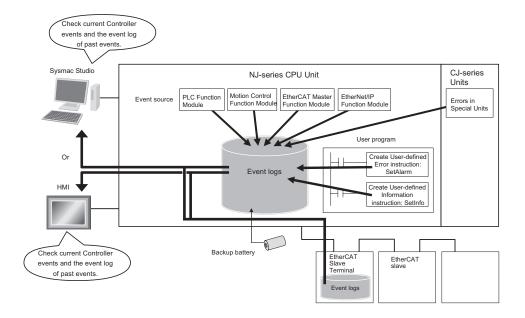
The event logs are saved in the non-volatile memory in the NX502 CPU Unit, NX102 CPU Unit and NX1P2 CPU Unit.



Precautions for Correct Use

The only CPU Units on which NX Units can be mounted are the NX502 CPU Units, NX102 CPU Units, and NX1P2 CPU Units.

The event management for NJ-series Units is shown below.





Additional Information

For an NX-series or NJ-series CPU Unit, use the following information to handle errors that occurred in an EtherCAT Slave Terminal or EtherCAT slave.

- Refer to the manual for the Communications Coupler Unit for details on the event log in a Slave Terminal.
- When there is an emergency message that notifies an error from an EtherCAT slave to the CPU Unit, it is recorded in the event log of the EtherCAT Master Function Module as the Emergency Message Detected (64200000 hex) event.
- You cannot confirm the event log for an EtherCAT slave that has no event log. To record an
 error history as an event, you have to change the setting of the EtherCAT slave to notify
 emergency messages, then the Emergency Message Detected (64200000 hex) event is recorded. However, errors which cannot be notified by emergency messages from EtherCAT
 slaves are not recorded in the event log.
 - Meanwhile, there is a way to display error history of some EtherCAT slaves that do not have the event log, on the Sysmac Studio version 1.15 or higher as the event log. Refer to relevant manuals for EtherCAT slaves for the possibility to display error history as the event log.
- Refer to relevant manuals for the slaves for the procedures to read error history of EtherCAT slaves

Details on Controller Events (Errors and Information)

Controller Event Times

The time of occurrence is recorded when an event occurs.

The times of occurrence are based on the CPU Unit's built-in clock data.

The time of occurrence for an event is displayed on the Sysmac Studio or HMI.



Version Information

If the EtherCAT Slave Terminal cannot obtain the clock data from the CPU Unit or an event occurred before the EtherCAT Slave Terminal obtains the clock data from the CPU Unit, the time of occurrence is displayed as 1970/1/1 0:00:00 with Sysmac Studio version 1.14 or lower.

Sources of Controller Events

The Event source information indicates the location where an event occurred.

The event source identifies the particular function module in the CPU Unit in which the event occur-

For some function modules, there is more detailed information about the event source. This information is called the Source details.

The following information is provided as the event source details.

Event source	Source details
PLC Function Module	Instructions, power supply, built-in I/O, Option Board, I/O bus
	master, CJ-series Unit, OPC UA Server Function, DB con-
	nection service*1, or SECS/GEM*2
NX Bus Function Module *3	Master or NX Unit
X Bus Function Module *4	Master
X Bus Unit Common Function Module *4	None, X Bus Unit
Motion Control Function Module	Common, axis, or axes group
EtherCAT Master Function Module	Communications port, EtherCAT master, EtherCAT Coupler
	Unit, NX Unit, or EtherCAT slave
EtherNet/IP Function Module	Communications port, communications port 1, communica-
	tions port 2, CIP, CIP1, CIP2, FTP, NTP, or SNMP

^{*1.} Only for NJ/NX-series Database Connection CPU Units.

^{*2.} Only for NJ-series SECS/GEM CPU Units.

^{*3.} Only for NX102 CPU Units and NX1P2 CPU Units.

^{*4.} Only for NX502 CPU Units.

Note 1. An NC Integrated Controller has the CNC Function Module. For how to check and correct errors in the CNC Function Module, refer to *NJ/NY-series NC Integrated Controller User's Manual(Cat. No. O030)*.

Note 2. The X Bus Unit has other function modules in addition to those listed above. For troubleshooting of the functional modules other than those listed above, refer to the user's manual for each X Bus Unit.

The event source is displayed on the Sysmac Studio or HMI.

Levels of Controller Events (Errors and Information)

The following table classifies the levels of Controller events according to the effect that the errors have on control. All events in impact levels as errors are collectively called Controller errors. All other events that are not classified into errors but mean information are called Controller information.

No.	Level	Level name	Classification
1	High	Major fault level	Controller errors
2		Partial fault level	
3		Minor fault level	
4		Observation	
5	Low	Information	Controller informa-
			tion

Errors with a higher level have a greater impact on the functions that the NJ/NX-series Controller provides, and are more difficult to recover from.

When an event occurs, the Sysmac Studio or HMI will display the level name.

Each event level is described below.

Level	Description
Major fault level	These errors prevent control operations for the entire Controller. When the CPU Unit detects a major fault, it immediately stops the execution of the user program and turns OFF the loads of all slave, including remote I/O. With EtherCAT slaves, some NX Units, and some CJ-series Special Units, you can set the slave settings or Unit settings to select whether outputs will go OFF or retain their previous status. You cannot reset major fault level errors from the user program, the Sysmac Studio or an HMI. To recover from a major fault level error, remove the cause of the error, and either cycle the power supply to the Controller, or reset the Controller from the Sysmac Studio.
Partial fault level	These errors prevent control operations in a certain function module in the Controller. The NJ/NX-series CPU Unit continues to execute the user program even after a partial fault level error occurs. You can include error processing in the user program in order to stop equipment safely. After you remove the cause of the error, execute one of the following to return to normal status. Reset the error from the user program, the Sysmac Studio, or an HMI. Cycle the power supply. Reset the Controller from the Sysmac Studio.
Minor fault level	These errors prevent part of the control operations in a certain function module in the Controller. The troubleshooting for minor fault level errors is the same as the processing for partial fault level errors.
Observations	These errors do not affect the control operations of the Controller. The observation notifies you of potential problems before they develop into a minor fault level error or worse.
Information	Events that are classified as information provide information that do not indicate errors.

You can change the event level for some events. Refer to *NJ/NX-series CPU Unit Software User's Manual (Cat. No. W501)* for details on changing event levels. Refer to *Section 3 Error Descriptions and Corrections* on page 3-1, *A-1 Other Errors (Events) That Can Occur in the CPU Units* on page A-2, and *A-2 Errors (Events) That Can Occur in Connected Devices* on page A-80 in this manual to see the events for which you can change the event level.

Operation for Each Level

The way that the Controller operates when an event occurs depends on the level of the Controller event.

		Level of current event				
	Item		Controll	er errors		Controller in- formation
		Major fault level	Partial fault level	Minor fault level	Observation	Information
Definition	on	These errors are serious errors that prevent control operations for the entire Controller.	These errors prevent all of the control in a function module other than PLC Function Module.	These errors prevent part of the control operations in a certain function module.	These errors do not affect system control operations.	These are not errors, but appear in the event log to notify the user of specific information.
Example	e of events	Non-volatile Memory Da- ta Corrupted (PLC Func- tion)	Motion Control Period Exceeded (Motion Control Function Module) Communications Controller Error (Ether-CAT Master Function)	Positive Limit Input Detected (Motion Control Function Module) Low Battery Voltage (PLC Function Module)	Packet Discarded Due to Full Reception Buffer (Ether-Net/IP Function Module)	Power Turned ON Power Interrupted Memory All Cleared
Front- panel indica-	PWR/ POWER (green)	Lit	Lit	Lit	Lit	Lit
tors *1	RUN (green)	Not lit	Lit	Lit	Lit	Lit
	ERROR (red)	Lit	Flashes at 1-s intervals.	Flashes at 1-s intervals.	Not lit	Not lit
NJ/NX- series CPU Unit opera- tion	RUN out- put on Power Supply Unit	OFF	ON	ON	ON	ON
	User program execution status	Stops.	Continues.*2	Continues.	Continues.	Continues.
	Outputs turned OFF	Yes	No	No	No	No
	Error reset	Not possible.	Depends on the nature of the error.	Depends on the nature of the error.		

		Level of current event					
Item			Controll		Controller in- formation		
		Major fault level	Partial fault level	Minor fault level	Observation	Information	
	Event logs	Recorded. (Some errors are not record- ed.)	Recorded.	Recorded.	Recorded.	Recorded.	
CAT slav	from Ether- ves and Ba- out Units	Refer to I/O Operation for Major Fault Level Control- ler Errors on page 1-23	Errors in EtherCAT Master Function Module: Depends on settings in the slave. Errors in other function modules: According to user program.	According to user program.	According to user program.	According to user program.	
Sysmac play (when o	Studio dis- nline)	Error messages are automatically displayed in the Controller Status Pane. The user can display detailed information in the Troubleshooting Dialog Box.		These items are in the error disp troller Status Pa	lay in the Con-		

^{*1.} If multiple Controller errors have occurred, the indicators show the error with the highest event level.

^{*2.} Operation stops in the function module (NX Bus Function Module, Motion Control Function Module, EtherCAT Master Function Module, or EtherNet/IP Function Module) in which the error occurred.

Operation in the Function Module Where an Error Event Occurred

F	Level of current event			
Function module	Major fault level	Partial fault level	Minor fault level	Observation
PLC Function Module	User program execution stops.		Operation continues.	
NX Bus Function Module		I/O refreshing for NX bus communi- cations stops. (NX Unit operation depends on the NX Unit settings.)	Operation continues. If an NX Unit error occurs, operation depends on the Fail-soft Operation Setting.	Operation continues.
X Bus Function Module		Data exchange between an X Bus Unit and CPU Unit stops.	Data exchange with an X Bus Unit stops. Data exchange with an X Bus Unit where an error is occurring stops. An instruction from the user program to the X Bus function where an error is occurring ends with an error.	
Motion Control Function Module		All axes stop. (The stop method depends on the error.)	The affected axis/axes group stops. (The stop method depends on the settings.) The motion control instruction is not executed (for instructions related to axis operation.)	Axis operation continues. The motion control instruction is not executed (for instructions not related to axis operation).

Function module	Level of current event					
Function module	Major fault level	Partial fault level	Minor fault level	Observation		
EtherCAT Master Function Module		EtherCAT communications stop. (The slaves operate according to the settings in the slaves.)	I/O refreshing for EtherCAT communications stops or continues according to the Fail-soft Operation Setting in the master. (If I/O refreshing stops, the slaves operate according to the settings in the slaves.)(If I/O refreshing stops, the slaves operate according to the settings in the slaves operate according to the settings in the slaves.)	I/O refreshing for EtherCAT commu- nications continues.		
EtherNet/IP Function Module		EtherNet/IP communications stop. (Online connections to the Sysmac Studio and communications connections with an HMI is not possible.)	Part of the Ether-Net/IP communications stop. (Online connections to the Sysmac Studio and communications connections with an HMI is possible if the online connections or communications connections connection is not the cause of the error.)	EtherNet/IP communications continue.		

Note Major fault level errors occur only in the PLC Function Module.

• I/O Operation for Major Fault Level Controller Errors

The following table gives the operation of the CPU Unit and the I/O devices.

Unit	CPU Unit operation	Unit or slave operation
NX Unit mounted to the CPU Unit *1	Input refreshing continues.Updating the output values is stopped.	Depends on the settings for the NX Unit.
X Bus Unit mounted to the CPU Unit *2	Refreshing continues.	Depends on the settings for the X Bus Unit.
Built-in I/O *3	 Depends on the Load Rejection Output Setting. Input refreshing continues. 	
Option Boards *3	 Outputs turned OFF. Output values depend on the specifications of the Option Board. Input refreshing stops. 	Analog I/O Option Board • Output value: 0 V
NX-series Slave Terminal	The NX-series Slave Terminal moves to Safe-Operational state.	Depends on the NX Unit settings.
EtherCAT Slave *4	The slave is placed in the Safe-Operational state.	Depends on the slave set- tings. *5
Servo Drive or NX Unit assigned to an axis	Updating the command values is stopped.	All axes stop immediately.
CJ-series Basic I/O Units *6	The values of all outputs are cleared to zero. Input refreshing continues.	All outputs are turned OFF. External inputs are refreshed.
CJ-series Special Unit *6	Refreshing continues.	Depends on the Unit operating specifications.
Devices connected with Ether- Net/IP	 For the originators of tag data links, the variables and I/O memory addresses for input (consume) tags are not refreshed. For the targets of tag data links, operation depends on the settings of the tags sets for the output (produce) tags. *7 	Depends on the specifications of the connected devices.

^{*1.} This applies to the NX102 CPU Unit and NX1P2 CPU Unit.

The following table gives the operation of the CPU Unit and the I/O devices for the following errors that occur for an NJ-series Unit.

- · Unsupported Unit Detected
- I/O Bus Check Error
- · End Cover Missing
- Incorrect Unit/Expansion Rack Connection
- Duplicate Unit Number
- · Too Many I/O Points

^{*2.} This applies to the NX502 CPU Unit.

^{*3.} This applies to an NX1P2 CPU Unit.

^{*4.} Excluding Servo Drives assigned to an axis.

^{*5.} Settings and setting methods depend on the slave. Refer to the manual for the slave. For a Servo Drive, operation depends on the setting of object 605E hex (Fault Reaction Option Code).

^{*6.} This applies to an NJ-series CPU Unit.

^{*7.} You can set whether to clear output or maintain the data from before the error occurred. Refer to NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual (Cat. No. W506) for details.

• I/O Setting Check Error

Unit	CPU Unit operation	Unit or slave operation
NX-series Slave Terminal	The NX-series Slave Terminal moves to Safe-Operational state.	Depends on the NX Unit settings.
EtherCAT Slaves *1	The slave is placed in the Safe-Operational state.	Depends on the slave settings. *2
Servo Drive or NX Unit assigned to an axis	Updating the command values is stopped.	All axes stop immediately.
CJ-series Basic I/O Unit	Refreshing is stopped.	 All outputs are turned OFF. All inputs are turned OFF.
CJ-series Special Unit	Refreshing is stopped.	Depends on the Unit operating specifications (the ERH indicator lights).
Devices connected with Ether- Net/IP	 For the originators of tag data links, the variables and I/O memory addresses for input (consume) tags are not refreshed. For the targets of tag data links, operation depends on the settings of the tags sets for the output (produce) tags. *3 	Depends on the specifications of the connected devices.

^{*1.} Excluding Servo Drives assigned to an axis.

^{*2.} Settings and setting methods depend on the slave. Refer to the manual for the slave. For a Servo Drive, operation depends on the setting of object 605E hex (Fault Reaction Option Code).

^{*3.} You can set whether to clear output or maintain the data from before the error occurred. Refer to the NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual (Cat. No. W506) for details.

Event Code

Events that occur in a Controller have an event code.

When an event occurs, the Sysmac Studio or HMI will display the event code.

You can use the instructions that get error status to read the error codes of current errors from the user program.

The event codes are 8-digit hexadecimal values.

The first digit of a Controller event represents its category. These categories are listed in the table below

First digit of the code (hex)	Classification	Meaning
0	Hardware errors	An error caused by a hardware problem such as an internal part malfunction, contact failure, temperature error, undervoltage, overvoltage, or overcurrent.
1	Data errors	An error caused by incorrectly saved data or data corruption in the Controller.
2	Hardware setting errors	An error caused by incorrect handling of hardware settings (e.g., hardware switches) or restrictions (e.g., Unit assignment locations).
3	Configuration errors	An error caused by incorrect parameter values, parameters and hardware configurations that do not match, or configurations set by the user.
4	Software errors	An error caused by Controller software.
5	User software errors	An error that is caused by the user program. (For example, an input value to an instruction that is out of range.)
6	Observation errors	An error that was detected in monitoring operation that occurs due to user settings in the Controller. (For example, if the task period is exceeded or if a position outside of the motion range is detected.)
7	Control errors	An error caused by a control process. (For example, if the operating status does not meet the required conditions or if the timing is incorrect.)
8	Communications errors	An error caused by communications with an external device or host system.
9	Information	Events that are classified as information and provide information that do not indicate errors.

Relationship between Event Codes and Error Codes

In addition to the event codes that indicate errors, the Function Modules and Units have their own error codes.

If there are corresponding event and error codes, you can tell what the other code is if you know either one of them. This allows you to know when the same error is being given when you check errors with more than one method.

The following table shows the relationship between the error codes and event codes.

Error code (4-digit hexadecimal)		Corresponding event code (8-digit hexadecimal)		Example: Event code for an error code of
Classification	Used in	Upper 4 digits	Lower 4 digits	A123 hex
Error codes for basic instructions, OPC UA instructions, DB Connection instructions, GEM instructions, CNC instructions, and robot control instructions	ErrorID output variable for each instruction	5401 hex	Error code	5401A123 hex
Error codes in the Motion Control Function Module	 ErrorID output variable for motion control in- structions System-defined varia- bles for motion con- trol*1 	Error code	0000 hex	A1230000 hex
Error codes for NJ Robotics function.	 ErrorID output variable for basic instructions System-defined varia- bles for motion con- trol*1 	Error code	0000 hex	A1230000 hex
Error codes in CJ- series Special Units	Error logs from CJ-series Special Units	0000 hex	Error code	0000A123 hex

^{*1.} The following are system-defined variables for motion control:

Variable	Name
_MC_COM.PFaultLvl.Code	MC Common Partial Fault Code
_MC_COM.MFaultLvl.Code	MC Common Minor Fault Code
_MC_COM.Obsr.Code	MC Common Observation Code
_MC_AX[].MFaultLvl.Code	Axis Minor Fault Code
_MC_AX[].Obsr.Code	Axis Observation Code
_MC_GRP[].MFaultLvl.Code	Axes Group Minor Fault Code
_MC_GRP[].Obsr.Code	Axes Group Observation Code

Exporting the Event Log

You can use the Sysmac Studio or an HMI to export the displayed event log to a CSV file. Refer to the *NJ/NX-series CPU Unit Software User's Manual (Cat. No. W501)* for information on exporting event logs.

1-3-2 Checking for Non-fatal Errors

Checking Methods

Use the following methods to check for non-fatal errors in the CPU Unit.

Checking method	What you can check
Checking the indicators	You can use the indicators to confirm the Controller error level and the error status of the EtherCAT Master Function Module and EtherNet/IP Function Module.
Checking with the troubleshooting function of the Sysmac Studio	You can check for current Controller errors, a log of past Controller errors, error sources, error causes, and corrections. You can also check error logs from CJ-series Special Units.*1
Checking with the Troubleshooter of an HMI*2	You can check for current Controller errors, a log of past Controller errors, error sources, error causes, and corrections.
Instructions that read error status	You can check the highest-level status and highest-level event code in the current Controller errors.
Checking the system-defined variables	You can check the current Controller error status for each function module.
Checking communications status with the Network Configurator	You can check the communications status (e.g., tag data link connection status) for each device on the EtherNet/IP network.
Checking with the EtherCAT diag- nostic and statistical information on the Sysmac Studio	You can check the statistical information such as the number of communications frames on the EtherCAT network as well as the number of frames for which errors were detected.

^{*1.} Detailed information, such as error causes and corrections, is not displayed.

Checking the Indicators

Checking the Level of a Controller Error

You can use the PWR/POWER, RUN, and ERROR indicators to determine the level of an error. The following table shows the relationship between the Controller's indicators and the event level.

(O:Lit/●:Not lit/⊙:Flashing)

Indicators			
PWR/POWER (green)	RUN (green)	ERROR (red)	Event level
0	•	0	Major fault level
0	0	•	Partial fault level
		(1-s intervals).	Minor fault level
0	0	•	Observation

Checking the Status of EtherCAT and EtherNet/IP Ports

For the EtherCAT and EtherNet/IP ports, use the EtherCAT and EtherNet/IP NET ERR indicators to determine whether an error that affects process data communications has occurred and whether a minor fault level error or higher-level error has occurred.

The indicators let you check the status given in the following table.

^{*2.} To perform troubleshooting from an HMI, connect the HMI to the built-in EtherNet/IP port on the CPU Unit. Refer to *A-5 Applicable Range of the HMI Troubleshooter* on page A-295 for the applicable range of the HMI Troubleshooter.

Indicator	Indicated status	
EtherCAT	EtherCAT Port	Status
NET ERR	• Lit:	Errors for which normal status cannot be recovered through user actions (i.e., errors for which you must replace the CPU Unit or contact your OMRON representative).
	Flashing:	Errors for which normal status can be recovered through user actions.
	Not lit:	An error that affects process data communications has not occurred.
EtherNet/IP	EtherNet/IP Port Status	
NET ERR	• Lit:	Errors for which normal status cannot be recovered through user actions (i.e., errors for which you must replace the CPU Unit or contact your OMRON representative).
	Flashing:	Errors for which normal status can be recovered through user actions.
	Not lit:	There are no minor fault level or higher-level errors.

Checking with the Troubleshooting Function of Sysmac Studio

When an error occurs, you can connect the Sysmac Studio online to the Controller to check current Controller errors and the log of past Controller errors.

Current Errors

Open the **Controller Error** Tab Page to check the current error's level, source, source details, event name, event code, username, occurrence number*1, details, attached information 1 to 4, action and correction.

Observation level errors are not displayed.

*1. Displayed only for event logs generated for the NX502 CPU Unit .

Log of Past Errors

Open the **Controller Event Log** Tab Page to check the time, level, source, source details, event name, event code, username, occurrence number, details, attached information 1 to 4, action and correction of the past errors.

Error logs from CJ-series Special Units are displayed on the **Controller Event Log** Tab Page. Detailed information is not displayed. To check detailed information, use the event codes that are displayed and refer to the error codes that are given in the manual for the relevant Unit. The relationship between error codes and event codes is described in *Details on Controller Events (Errors and Information)* on page 1-15 under 1-3-1 Types of Non-fatal Errors on page 1-12.

Refer to the Sysmac Studio Version 1 Operation Manual (Cat. No. W504) for details on trouble-shooting with the Sysmac Studio.

Checking with the Troubleshooter of an HMI

When an error occurs, if you can connect communications between an HMI and the Controller, you can check current Controller errors and the log of past Controller errors.

To perform troubleshooting from an HMI, connect the HMI to the built-in EtherNet/IP port on the CPU Unit.



Precautions for Correct Use

Refer to *A-5 Applicable Range of the HMI Troubleshooter* on page A-295 for the applicable range of the HMI Troubleshooter.

Current Errors

You can check the current error's event name, event code, level, source, source details, time, details, and attached information 1 to 4.

Also, observations are not displayed as errors.

Log of Past Errors

You can check the time, level, source, source details, event name, event code, details, attached information 1 to 4 for past errors.

Refer to the relevant HMI manual for information on the HMI Troubleshooter.

Checking with Instructions That Read Error Status

You can determine the error status with the instructions that get error status provided for each function module from the user program.

These instructions get the status and the event code of the error with the highest level.

Applicable function module	Instruction name	Instruction
PLC Function Module	Get PLC Controller Error Status	GetPLCError
	Get I/O Bus Error Status	GetCJBError
NX Bus Function Module	Get NX Bus Error Status	GetNXBError
	Get NX Unit Error Status	GetNXUnitError
X Bus Function Module, X Bus	Get X Bus Error Status	GetXBError
Unit Common Function Module, X Bus Ethernet Function Module, X Bus EtherNet/IP Function Module	Get X Bus Unit Error Status	GetXBUnitError
Motion Control Function Module	Get Motion Control Error Status	GetMCError
EtherCAT Master Function Module	Get EtherCAT Error Status	GetECError
EtherNet/IP Function Module	Get EtherNet/IP Error Status	GetEIPError

Note An NC Integrated Controller has the CNC Function Module. For how to check and correct errors in the CNC Function Module, refer to *NJ/NY-series NC Integrated Controller User's Manual(Cat. No. 0030)*.

For details on the instructions that get error status, refer to the *NJ/NX-series Instructions Reference Manual (Cat. No. W502)*.

Checking with System-Defined Variables

You can check the error status variables in the system-defined variables to determine the status of errors in a Controller.

You can read the Error Status variable from an external device by using communications.

You can monitor the MC Common Variable, Axis Variables, and Axes Group Variables of the system defined variables for motion control to see if errors have occurred in the Motion Control Function Module.

Refer to the *NJ/NX-series CPU Unit Software User's Manual (Cat. No. W501)* for information on system-defined variables.

Checking Communications Status with the Network Configurator

You can use the Network Configurator to check the communications status (e.g., tag data link connection status) for each device on the EtherNet/IP network. For details, refer to the methods of communications status check and troubleshooting for the EtherNet/IP network described in the *NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual (Cat. No. W506*).

Checking with the EtherCAT Diagnostic and Statistical Information on the Sysmac Studio

With the Sysmac Studio, you can check the statistical information such as the number of communications frames on the EtherCAT network as well as the number of frames for which errors were detected. For details, refer to the diagnosis and statistics information for EtherCAT described in the *NJ/NX*-series CPU Unit Built-in EtherCAT Port User's Manual (Cat. No. W505).

1-3-3 Resetting Non-fatal Errors

Unless you reset an error, the Controller will retain the error status until you turn OFF the power supply to the Controller or reset the Controller.

To reset a Controller error, it is necessary to eliminate the cause of the error. The same error will occur again if you reset the error, but do not eliminate the cause of the error.



Precautions for Safe Use

- Always confirm safety at the connected equipment before you reset Controller errors with an
 event level of partial fault or higher for the EtherCAT Master Function Module. When the error
 is reset, all slaves that were in any state other than Operational state (in which outputs are
 disabled) due to the Controller error with an event level of partial fault or higher will go to Operational state and the outputs will be enabled.
 - Before you reset all errors, confirm that no Controller errors with an event level of partial fault have occurred for the EtherCAT Master Function Module.
- Always confirm safety at the connected equipment before you reset Controller errors for a CJ-series Special Unit. When a Controller error is reset, the Unit where the Controller error with an event level of observation or higher will be restarted.
 - Before you reset all errors, confirm that no Controller errors with an event level of observation or higher have occurred for the CJ-series Special Unit. Observation level events do not appear on the **Controller Error** Tab Page, so it is possible that you may restart the CJ-series Special Unit without intending to do so.
 - You can check the status of the _CJB_UnitErrSta[0,0] to _CJB_UnitErrSta[3,9] error status variables on a Watch Tab Page to see if an observation level Controller error has occurred.



Precautions for Correct Use

Resetting an error is not the same as eliminating the cause of the error.

Always eliminate the cause of an error before you perform the procedure to reset the error.

Error Resetting Methods

Method	Operation	Errors that are reset	Description
Command from Sysmac Studio	Resetting Controller errors	Resetting all errors in the entire Controller	Reset the Controller errors from the Sysmac Studio's Troubleshooting Dialog Box.
		Resetting all Slave Terminal errors	Refer to the manual for the Communications Coupler Unit for details on resetting errors in a Slave Terminal.
		Resetting errors for individually specified NX Units	For NX Units connected to the NX bus of the CPU Unit, reset the Controller error individually from the Sysmac Studio's Troubleshooting Dialog Box. Refer to the manual for the Communications Coupler Unit for details on resetting errors individually for NX Units mounted to a Slave Terminal.
		Resetting errors for individually specified X Bus Units	For X Bus Units connected to the X Bus of the CPU Unit, reset the Controller error individually from the Sysmac Studio's Troubleshooting Dialog Box.
	Downloading	Resetting all errors for a specific func- tion module	After the causes of the Controller errors are removed, all Controller errors in the relevant function module are reset as a result. Errors are not reset when you download the Unit Configuration and Setup.
	Clear All Memory	Resetting all errors for all function modules	After the causes of the Controller errors are removed, all Controller errors in all function modules are reset as a result.
	Controller reset		Errors for Slave Terminals are not reset.*1 After the causes of the Controller errors are removed, all Controller errors in all function modules are reset as a result. Errors for Slave Terminals are not reset.*1
	Clear All Memory operation for Slave Terminal Restarting the Slave Terminal	Resetting all Slave Terminal errors	If the causes for the Controller errors are removed, all Controller errors in the Slave Terminals are reset.
Commands from an HMI*2	Resetting Controller errors	Resetting all errors in the entire Control- ler	Reset Controller errors from the Trouble-shooter of an HMI. You can reset errors from an HMI that is not directly compatible with the NJ/NX-series Controller or another company's HMI if you use the HMI in combination with the reset error instruction for the function module in the user program.

Method	Operation	Errors that are reset	Description
Commands from the user program	Resetting Controller errors	Resetting errors for individual function modules	 Execute the reset error instruction for the function module in the user program. For the Motion Control Function Module, you can reset all errors, errors for a particular axis, or errors for a particular axes group. For the NJ-series I/O bus, you can reset all errors or just the errors for a particular Unit. For the NX Bus Function Module, only resetting all errors is possible. For the X Bus Function Module, errors can be reset for individual Unit.
Commands from a host computer	Resetting Controller errors with CIP messages	Resetting all errors for all function mod- ules	Use a CIP message from a host computer to reset errors.
Cycling the Control- ler's power supply		Resets all errors.	After the causes of the Controller errors are removed, all Controller errors in all function modules are reset as a result.
Cycling the power supply to the Slave Terminal		Resetting all Slave Terminal errors	If the causes for the Controller errors are removed, all Controller errors in the Slave Terminals are reset.

^{*1.} Some errors are reset when the EtherCAT communications link is established rather than when the reset operation is performed.

Refer to the *Sysmac Studio Version 1 Operation Manual (Cat. No. W504)* for details on clearing errors from the Sysmac Studio.

^{*2.} To reset errors from an HMI, connect the HMI to the built-in EtherNet/IP port on the CPU Unit.

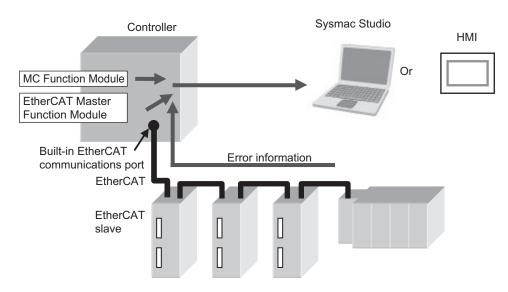
1-3-4 Errors Related to the Motion Control Function Module

This section describes errors related to the Motion Control Function Module (sometimes abbreviated to "MC Function Module").

Sources of Errors Related to the Motion Control Function Module

Errors can occur internally in the Motion Control Function Module, or they can occur in EtherCAT communications, which are used to connect to the Servo Drives and other slaves.

- · Inside MC Function Module
- EtherCAT Master Function Module
- · Built-in EtherCAT communications port hardware
- · EtherCAT slaves



Classifications

There are the following three sources of errors in the Motion Control Function Module.

Classification	Description
MC Common Er-	If an error is detected in the common portion of the Motion Control Function Module, the
rors	corresponding bit in the MC Common Error Status variable shows the error.
Axis Error	If an error is detected for an axis, the corresponding bit in the Axis Error Status variable
	shows the error.*1
Axes Group Errors	If an error is detected for an axes group, the corresponding bit in the Axes Group Error
	Status variable shows the error.

^{*1.} If an axis error with a minor fault level or higher level occurs, operation is also not possible for an axes group that contains the axis as a composition axis.

Note Refer to NJ/NX-series CPU Unit Software User's Manual (Cat. No. W501) for details on status variables.

Event Source and Level

The following tables list the errors in each event level that can occur for each source.

MC Common Errors

Level	Error name		
Major fault	None		
Partial fault	Motion Control Parameter Setting Error		
	Cam Data Read Error		
	Required Process Data Object Not Set		
	Axis Slave Disabled		
	Network Configuration Information Missing for Axis Slave		
	Motion Control Initialization Error		
	Motion Control Period Exceeded Error		
	Absolute Encoder Home Offset Read Error		
Minor Fault	Cam Table Save Error		
	Other execution errors for motion control instructions		
Observation	Cannot Execute Save Cam Table Instruction		
	Too Many Reset Motion Control Error Instructions		
Information	Error Clear from MC Test Run Tab Page		

Axis Errors

Error	name
None	
None	
 Cam Table Data Error during Cam Motion Immediate Stop Instruction Executed Positive Software Limit Exceeded Negative Software Limit Exceeded In-position Check Time Exceeded In-position Check Time Exceeded Immediate Stop Input Positive Limit Input Detected Negative Limit Input Detected Illegal Following Error Servo OFF Error Absolute Encoder Current Position Calculation Failed Servo Main Circuit Power OFF Interrupt Feeding Interrupt Signal Missing Homing Opposite Direction Limit Input Detected Homing Direction Limit Input Detected Homing Limit Inputs Detected in Both Directions Home Proximity/Homing Opposite Direction Limit Input Detected 	 Home Proximity/Homing Direction Limit Input Detected Home Input/Homing Opposite Direction Limit Input Detected Home Input/Homing Direction Limit Input Detected Invalid Home Input Mask Distance No Home Input No Home Proximity Input Slave Error Detected MC Common Error Occurrence Latch Position Overflow Latch Position Underflow Master Sync Direction Error Slave Disconnection during Servo ON Feed Distance Overflow Error in Changing Servo Drive Control Mode Master Axis Position Read Error Auxiliary Axis Position Read Error EtherCAT Slave Communications Error Other execution errors for motion control instructions
	None Cam Table Data Error during Cam Motion Immediate Stop Instruction Executed Positive Software Limit Exceeded Negative Software Limit Exceeded In-position Check Time Exceeded Following Error Limit Exceeded Immediate Stop Input Positive Limit Input Detected Negative Limit Input Detected Negative Limit Input Detected Illegal Following Error Servo OFF Error Absolute Encoder Current Position Calculation Failed Servo Main Circuit Power OFF Interrupt Feeding Interrupt Signal Missing Homing Opposite Direction Limit Input Detected Homing Direction Limit Input Detected Homing Limit Inputs Detected in Both Directions Home Proximity/Homing Opposite Di-

Level	Error name		
Observation	 Following Error Warning Velocity Warning Acceleration Warning Deceleration Warning Positive Torque Warning Negative Torque Warning Command Position Overflow 	 Command Position Underflow Actual Position Overflow Actual Position Underflow Slave Observation Detected Notice of Insufficient Travel Distance to Achieve Blending Transit Velocity Other execution errors for motion control instructions 	
Information	Slave Error Code Report		

Axes Group Errors

Level	Error name		
Major fault	None		
Partial fault	None		
Minor fault	Axes Group Immediate Stop Instruction Executed		
	Home Undefined during Coordinated Motion		
	Axes Group Composition Axis Error		
	Other execution errors for motion control instructions		
Observation	Velocity Warning		
	Acceleration Warning		
	Deceleration Warning		
	Notice of Insufficient Travel Distance to Achieve Blending Transit Velocity		
Information	None		

Errors Related to EtherCAT Communications, EtherCAT Slaves, and NX Units

The following Motion Control Function Module error can occur due to errors in EtherCAT communications, EtherCAT slaves, or NX Units.

Error name	Event code	Cause	Operation for error
EtherCAT Slave	8440 0000 hex	A communications error occurred	The Servo is turned OFF for the
Communications		for the EtherCAT slave or NX Unit	axis with an error and operations
Error		that is allocated to an axis in the	other than error resets are not ac-
		Motion Control Function Module. *1	knowledged. *2
Slave Error De-	742F 0000 hex	An error was detected for the Ether-	The Servo is turned OFF for the
tected		CAT slave or NX Unit that is allocat-	axis with an error and operations
		ed to an axis in the Motion Control	other than error resets are not ac-
		Function Module.	knowledged.

^{*1.} When an error occurs in communications with an EtherCAT slave, an error also occurs in the EtherCAT Master Function Module. If you assign more than one device to the same axis, a communications error occurs for the axis if a communications error occurs for even one of the devices.

Servo Drive Errors

This section describes the notification that is provided for errors that occur in OMRON 1S-series Servo Drives and G5-series Servo Drives.

^{*2.} When an error occurs in slave communications, home becomes undefined for the axis.

There is a difference between the timing of when the Motion Control Function Module detects the error in the Servo Drive and when the error code is obtained from the Servo Drive.

The Motion Control Function Module therefore reports different events for the error in the Servo Drive and the error code.

Error Notification

When the Motion Control Function Module detects an error, a Slave Error Detected minor fault level error (742F0000 hex) occurs.

At this point, the Motion Control Function Module performs the error operation (i.e., it turns OFF the Servo).

Error Code Notification

When the Servo Drive reports the error code, the Motion Control Function Module generates a Slave Error Code Report information event (94220000 hex).

The error code (the main part of the error display number) from the Servo Drive is included in the lower two digits of the attached information of the Slave Error Code Report event.

For example, if the attached information is displayed as FF13, the error with display number 13 (Main Circuit Power Supply Undervoltage) occurred in the Servo Drive.



Precautions for Correct Use

You must change the settings to receive notification of the Slave Error Code Report event. Map object 603F hex (Error Code) in the PDO Edit Pane.

Errors Related to NX Units

Error and error code notifications are provided for errors that occur for OMRON NX-series Position Interface Units in the same way as they are for OMRON 1S-series Servo Drives and G5-series Servo Drives.

However, NX-series Position Interface Units do not have an object that corresponds to object 603F hex (Error Code), so 0000 hex is given for the Slave Error Code Report (94220000 hex) in the attached information.

Refer to the *NX-series Position Interface Units User's Manual (W524)* or the *NX-series EtherCAT Coupler Unit User's Manual (Cat. No. W519)* for details on errors that occur in NX-series Position Interface Units.

1-3-5 Errors Related to the EtherNet/IP Function Module

This section describes the errors that are related to the EtherNet/IP Function Module.

Classifications

There are the following sources of errors in the EtherNet/IP Master Function Module.

NX701 CPU Units, NX502 CPU Units, and NX102 CPU Units

Classification	Description
Communications	If an error is detected for EtherNet/IP communications port 1, the corresponding bit in
port 1 errors	the Communications Port1 Error status variable shows the error.
Communications	If an error is detected for EtherNet/IP communications port 2, the corresponding bit in
port 2 errors	the Communications Port2 Error status variable shows the error.
CIP communica-	If an error that is related to the tag data links or CIP message communications is de-
tions 1 errors	tected for EtherNet/IP communications port 1, the corresponding bit in the CIP Com-
	munications1 Error status variable shows the error.*1
CIP communica-	If an error that is related to the tag data links or CIP message communications is de-
tions 2 errors	tected for EtherNet/IP communications port 2, the corresponding bit in the CIP Com-
	munications2 Error status variable shows the error.*1
TCP application er-	If an error that is related to the FTP server, NTP, or SMNP client is detected, the corre-
rors	sponding bit in the TCP Application Communications Error status variable shows the
	error.

^{*1.} Other Ethernet communications are not affected.

NX1P2 CPU Units

Classification	Description
Communications	If an error is detected for EtherNet/IP communications port 1, the corresponding bit in
port 1 errors	the Communications Port1 Error status variable shows the error.
CIP communica-	If an error that is related to the tag data links or CIP message communications is de-
tions 1 errors	tected for EtherNet/IP communications port 1, the corresponding bit in the CIP Com-
	munications1 Error status variable shows the error.*1
TCP application er-	If an error that is related to the FTP server, NTP, or SMNP client is detected, the corre-
rors	sponding bit in the TCP Application Communications Error status variable shows the
	error.

^{*1.} Other Ethernet communications are not affected.

NJ-series CPU Units

Classification	Description
Communications port	If an error is detected in overall EtherCAT communications, the corresponding bit in
errors	the Communications Port Error status variable shows the error.
CIP communications	If an error that is related to the tag data links or CIP message communications is
errors	detected, the corresponding bit in the CIP Communications Error status variable
	shows the error.*1
TCP application er-	If an error that is related to the FTP server, NTP, or SMNP client is detected, the
rors	corresponding bit in the TCP Application Communications Error status variable
	shows the error.

^{*1.} Other Ethernet communications are not affected.

Event Source and Level

The following table gives sources and levels of the events that can occur in the EtherNet/IP Function Module.

NX-series CPU Units

	Source			
Level	Communications port	CIP communications	TCP application	
Major fault	None	None	None	
Partial fault	EtherNet/IP Processing Error	None	None	
Minor fault	Communications Controller Error MAC Address Error IP Route Table Setting Error Basic Ethernet Setting Error IP Address Setting Error DNS Setting Error DNS Server Connection Error IP Address Duplication Error BOOTP Server Connection Error	Identity Error Identity Error Tag Data Link Setting Error Tag Name Resolution Error Controller Insufficient Memory Warning Tag Data Link Connection Failed Tag Data Link Timeout Tag Data Link Connection Timeout Allowed Communications Bandwidth per Unit Exceeded	FTP Server Setting Error NTP Client Setting Error SNMP Setting Error NTP Server Connection Error	
Observation	 Access Detected Outside Range of Variable Packet Discarded Due to Full Receive Buffer Link OFF Detected 	None	None	
Information	 Link Detected Restarting Ethernet Port IP Address Fixed BOOTP Client Started 	 Tag Data Link Download Started Tag Data Link Download Finished Tag Data Link Stopped Tag Data Link Started Tag Data Link All Run 	FTP Server Started NTP Client Started SNMP Started	

NJ-series CPU Units

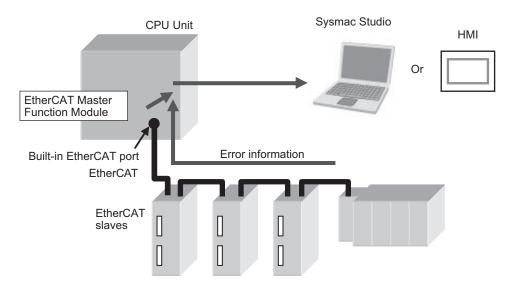
11	Source		
Level	Communications port	CIP communications	TCP application
Major fault	None	None	None
Partial fault	Communications Controller Error MAC Address Error EtherNet/IP Processing Error Basic Ethernet Setting Error IP Address Setting Error IP Address Duplication Error BOOTP Server Connection Error	None	None
Minor fault	DNS Server Connection Error IP Route Table Setting Error	Identity Error Tag Data Link Setting Error Tag Name Resolution Error Controller Insufficient Memory Warning Tag Data Link Connection Failed Tag Data Link Timeout Tag Data Link Connection Timeout	FTP Server Setting Error NTP Client Setting Error SNMP Setting Error NTP Server Connection Error
Observation	Access Detected Outside Range of Variable Packet Discarded Due to Full Reception Buffer Link OFF Detected	None	None
Information	Link Detected Restarting Ethernet Port IP Address Fixed BOOTP Client Started	 Tag Data Link Download Started Tag Data Link Download Finished Tag Data Link Stopped Tag Data Link Started Tag Data Link All Run 	FTP Server StartedNTP Client StartedSNMP Started

1-3-6 Errors Related to the EtherCAT Master Function Module

This section describes the errors that are related to the EtherCAT Master Function Module.

Locations of Errors in the EtherCAT Master Function Module

Errors can occur internally in the EtherCAT Master Function Module, or they can occur in the built-in EtherCAT port or in EtherCAT slaves.



If an error occurs at the same time for more than one slave, only the error occurred for some slaves is registered among current errors or recorded in the event log as follows. When you clear a registered or recorded error on a slave, the error occurred on another slave may be registered or recorded. Make corrections repeatedly until the error is no longer registered or recorded.

For Project Unit Version 1.40 or Later

Among the slaves in which the error occurs, the error for all slaves that can communicate is registered or recorded.

This applies to the following errors:

- 1. Illegal Slave Disconnection Detected
- 2. Network Configuration Verification Error (Slave Unconnected)
- 3. Network Configuration Verification Error (Mismatched Slave)

For Project Unit Version Earlier Than 1.40

Only the error for the slave that is closest to the master among those slaves is recorded. This applies to the following errors:

- 1. Network Configuration Verification Error
- 2. Process Data Communications Error (when caused by a disconnected cable)
- 3. Slave Node Address Duplicated
- 4. Slave Initialization Error

Classifications

There are the following sources of errors in the EtherCAT Master Function Module.

Classification	Description	
Communications port	If an error is detected in overall EtherCAT communications, the corresponding bit in	
errors	the Communications Port Error status variable shows the <i>error</i> .	
EtherCAT master er-	If the EtherCAT master detects an error in its own settings or processing, the corre-	
rors	sponding bit in the Master Error status variable shows the <i>error</i> .	
	If the EtherCAT master detects an error in a slave, the corresponding bit in the Master	
	Error status variable shows the <i>error</i> .	
EtherCAT slave errors	If the EtherCAT master detects an error in a slave, the error status for the slave will	
	show that the <i>master detected an error</i> . *1*2*3	

^{*1.} The EtherCAT master periodically reads error status information from the slaves. It updates the system-defined variables at the same time as the I/O data.

- *2. The EtherCAT master will set the bits for EtherCAT slaves that do not report error status to FALSE in the Slave Error Table.
- *3. If the error in the slave is corrected after it occurs, you do not need to reset it. It is reset automatically. (This applies to CPU Unit with unit version 1.05 or later.)



Additional Information

Refer to the *NX-series EtherCAT Coupler Unit User's Manual (Cat. No. W519)* for the events that can occur for an EtherCAT Slave Terminal.

Event Source and Level

The following table gives sources and levels of the events that can occur in the EtherCAT Master Function Module. The events that can occur depend on the project unit versions*1.

*1. In this manual, the unit version set for a project is called "project unit version". A project unit version is set for a project in the Select Device Area of Project Properties Dialog Box on the Sysmac Studio.

For Project Unit Version 1.40 or Later

Laval	Source		
Level	Communications port	EtherCAT slaves *1	
Major fault	None	None	None
	Communications Con-	EtherCAT Fault	EtherCAT Frame Not Re-
Partial fault	troller Error	EtherCAT Frame Not	ceived
	Link OFF Error	Received	

	Source			
Level	Communications port	EtherCAT master	EtherCAT slaves *1	
Minor fault	None	Network Configuration Information Error Process Data Reception Timeout Error Process Data Transmission Error Input Process Data Invalid Error Clock Synchronization Compensation Failed Network Configuration Verification Error (Incorrect Wiring) Network Configuration Verification Error (Incorrect Ring Wiring) Incorrect Wiring Detected Wait for Cycling Power Supply	Slave Node Address Duplicated Network Configuration Verification Error (Incorrect Wiring) Network Configuration Verification Error (Slave Unconnected) Network Configuration Verification Error (Mismatched Slave) Slave State Transition Failed Slave AL Status Error Detected Illegal Slave Disconnection Detected Slave PDI WDT Error Detected	
Observation	None	 EtherCAT Slave Backup Failed EtherCAT Slave Restore Operation Failed Ring Disconnection Detected 	Emergency Message Detected Illegal Mailbox Received	
Information	None	 Errors Reset EtherCAT Diagnosis/ Statistics Log Started EtherCAT Diagnosis/ Statistics Log Ended 	Slave DisconnectedSlave ConnectedSlave DisabledSlave Enabled	

^{*1.} Slave errors that are detected by the master are listed. There will also be a master error if any of these errors occurs. For slave errors that are not detected by the master, the errors and levels are defined by the individual slaves. Refer to the manual for the slave.

Refer to the NX-series EtherCAT Coupler Unit User's Manual (Cat. No. W519) for the events that can occur for an EtherCAT Slave Terminal.

• For Project Unit Version Earlier Than 1.40

Laval	Source			
Level	Communications port EtherCAT master EtherCAT slave			
Major fault	None	None	None	
Partial fault	Communications Controller Error MAC Address Error Link OFF Error	EtherCAT Processing Error EtherCAT Frame Not Received	EtherCAT Frame Not Received	

Level	Source		
	Communications port	EtherCAT master	EtherCAT slaves *1
Minor fault	None	 Slave Node Address Duplicated Network Configuration Information Error EtherCAT Communications Cycle Exceeded Network Configuration Error Network Configuration Verification Error Slave Initialization Error Process Data Transmission Error Process Data Reception Timeout Error Input Process Data Invalid Error 	Network Configuration Verification Error Slave Application Error Process Data Communications Error Slave Node Address Duplicated Slave Initialization Error
Observation	None	 EtherCAT Slave Backup Failed EtherCAT Slave Restore Operation Failed EtherCAT Message Error 	Emergency Message Detected
Information	None	 Error Reset EtherCAT Diagnosis/ Statistics Log Started EtherCAT Diagnosis/ Statistics Log Ended 	Slave DisconnectedSlave ConnectedSlave DisabledSlave Enabled

^{1.} Slave errors that are detected by the master are listed. There will also be a master error if any of these errors occurs. For slave errors that are not detected by the master, the errors and levels are defined by the individual slaves. Refer to the manual for the slave.

Refer to the *NX-series EtherCAT Coupler Unit User's Manual* (Cat. No. W519) for the events that can occur for an EtherCAT Slave Terminal.

Error Reset of EtherCAT Master Function Module

There are three methods to reset errors of the EtherCAT Master Function Module.

- · Sysmac Studio
- HMI
- Execution of the Reset EtherCAT Error (ResetECError) instruction

Refer to 2-3 *Troubleshooting Non-fatal Errors* on page 2-10 for the resetting procedures from the Sysmac Studio or an HMI.

Refer to the *NJ/NX-series Instructions Reference Manual (Cat. No. W502)* for details on the Reset EtherCAT Error (ResetECError) instruction.



Precautions for Correct Use

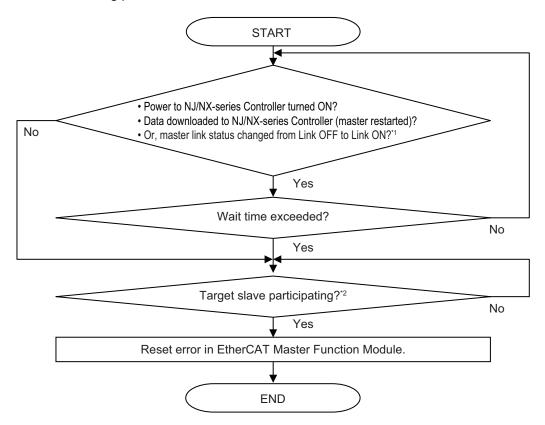
The current errors in the EtherCAT Master Function Module cannot be reset during the occurrence of a Wait for Cycling Power Supply event (94520000 hex) (page 3-734).

Resetting Errors in the EtherCAT Master Function Module

Before you reset the following errors, always make sure that the slave with the error is participating in the network.

- Resetting a Network Configuration Verification Error or Process Data Communications Error while the power supply to the slave is ON or while the cable is connected
- Resetting a Link OFF Error while the power supply is ON to the first slave where the cable was disconnected or while the cable is connected

Use the following procedure.



- *1. Check the EC LinkStatus (Link Status) system-defined variable.
- *2. Check the EC EntrySlavTbl[] (Network Connected Slave Table) system-defined variable.

Also, set the wait time for slave startup in the EtherCAT master settings (EtherCAT master parameter settings) long enough to allow for the power supply startup time of all of the slaves.

If you reset the error in the EtherCAT Master Function Module without using the above procedure, the EtherCAT master may access a slave with a different node address than the specified node address, or other unexpected operations may occur. Also, the error may not be reset correctly.

Resetting Slave Errors

You can reset errors in the EtherCAT Master Function Module to reset slave errors. However, process data communications between the EtherCAT master and EtherCAT slave must be active to reset a slave error.

If process data communications with the slave are not active, check the slave after you reset errors in the EtherCAT Master Function Module to see if process data communications are active. Then, to reset the error in the slave, reset errors in the EtherCAT Master Function Module again.

Precautions When Connecting or Disconnecting Slaves during Communications

This section describes the procedure and precautions for replacing a slave that is currently performing communications.

Procedure for Disconnecting Slaves during Communications

Always use the following procedure to turn OFF the slave power supply or disconnect cables during EtherCAT master communications.*

* This includes the safe-operational and operational states.

Step 1: Use the Sysmac Studio or an instruction to send a command to disconnect the slave.

Step 2: Confirm that the slave was disconnected normally.

Step 3: Turn OFF the power supply to the slave or disconnect the cable.

If you turn OFF the power supply or disconnect the cable without performing steps 1 and 2, the slaves that are operating may be adversely affected.

Prohibition to Physically Disconnecting a Slave and Resetting an Error or Connecting a Slave at the Same Time

If you perform the following operation (a) or (b) at the same time as operation (c), an error will occur.

- a. Turn OFF the power supply to the slave or disconnect the cable.
- b. Turn ON the power supply to the slave or connect the cable.
- c. Reset an error in the EtherCAT Master Function Module or connect the slave.*
- * This can happen when the Reset EtherCAT Error (ResetECError) instruction or Connect Ether-CAT Slave (EC_ConnectSlave) instruction is cyclically executed in the user program.

If you perform these operations at the same time, the EtherCAT master may access a slave with a different node address than the specified node address, or other unexpected operations may occur. Therefore, never turn OFF the power supply to the slave or disconnect the cable at the same time as you reset an error or connect a slave.



Error Troubleshooting Methods

This section describes troubleshooting methods for specific errors.

2-1	Troul	oleshooting Flowcharts	2-2
	2-1-1	Checking to See If the CPU Unit Is Operating	
	2-1-2	Troubleshooting Flowchart for Non-fatal Errors	
	2-1-3	Flowchart to Check Error Status on EtherNet/IP Function Module	
2-2	Troul	oleshooting Fatal Errors	2-8
2-3	Troul	oleshooting Non-fatal Errors	2-10
	2-3-1	Identifying and Resetting Errors with the Sysmac Studio	
	2-3-2	Identifying and Resetting Errors with an HMI	
	2-3-3	Identifying and Resetting Errors from the User Program	
	2-3-4	Checking for Errors with System-defined Variables	
2-4	Troul	oleshooting When Support Software Cannot Go Online	2-24
	2-4-1	Troubleshooting When You Cannot Go Online from the Sysmac Studio	
	2-4-2	Troubleshooting When You Cannot Go Online from the Network Con-	
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	2-4-4	Troubleshooting When You Cannot Go Online from the CX-Integrator	2-37
	2-4-5	Troubleshooting When You Cannot Go Online from the CX-Protocol	

2-1 Troubleshooting Flowcharts

This section provides basic error identification and troubleshooting flowcharts. Use them when an error occurs in the NJ/NX-series Controller.

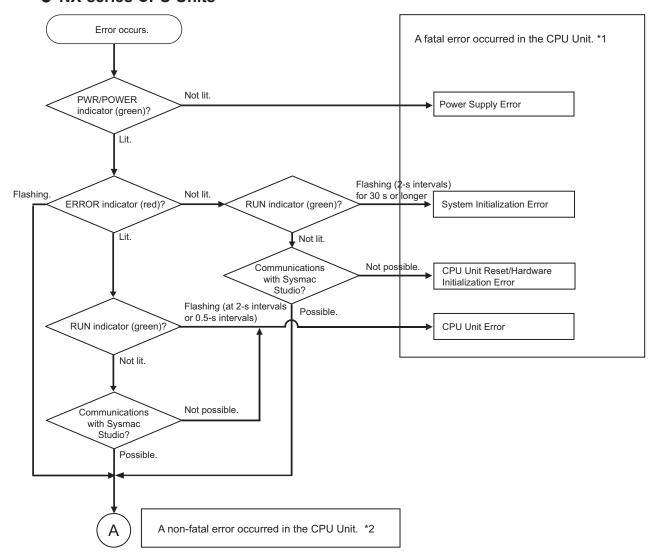
2-1-1 Checking to See If the CPU Unit Is Operating

When an error occurs in the NJ/NX-series Controller, use the following flowchart to determine whether the error is a fatal error or a non-fatal error.

Whenever possible, set the Sysmac Studio's software connection method in the flowchart to a direct USB connection if the CPU Unit has a USB (peripheral) port. If you use Ethernet, there are many reasons that prevent a communications connection for the Sysmac Studio, so time is required to determine if a fatal or non-fatal error has occurred.

If you cannot go online from the Sysmac Studio, perform 2-4-1 Troubleshooting When You Cannot Go Online from the Sysmac Studio on page 2-24 before you assume that the error is a fatal error.

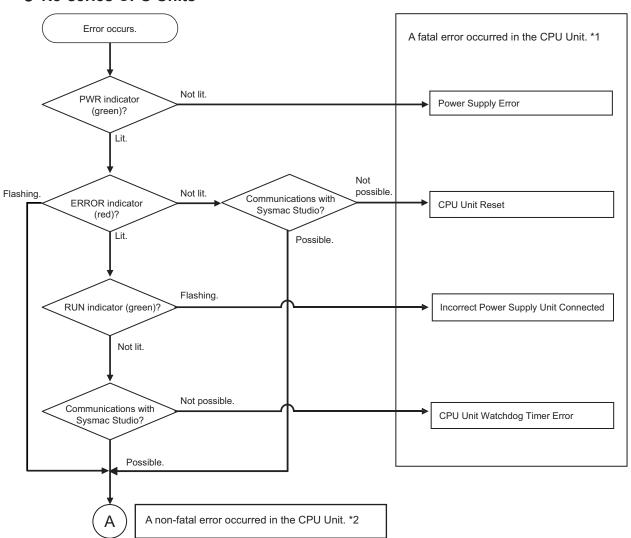
NX-series CPU Units



*1. Refer to 2-2 Troubleshooting Fatal Errors on page 2-8.

*2. Refer to 2-1-2 Troubleshooting Flowchart for Non-fatal Errors on page 2-4.

NJ-series CPU Units



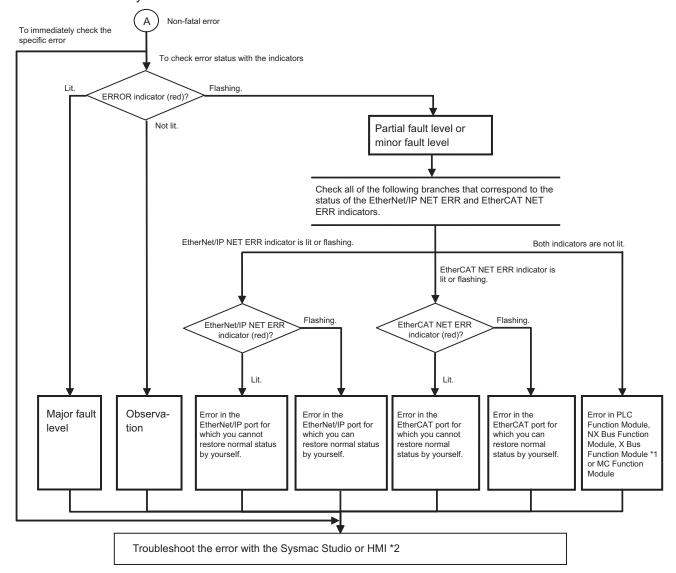
- *1. Refer to 2-2 Troubleshooting Fatal Errors on page 2-8.
- *2. Refer to 2-1-2 Troubleshooting Flowchart for Non-fatal Errors on page 2-4.

2-1-2 Troubleshooting Flowchart for Non-fatal Errors

For a non-fatal error, use the Sysmac Studio or an HMI to troubleshoot the error with the following flowchart.

You can use the indicators to check the following:

- Level
- · Whether the error is in the EtherNet/IP port or the EtherCAT port
- If the source of the error is the EtherNet/IP port or the EtherCAT port, whether you can restore normal status yourself



- *1. Refer to the *3-4 Errors in the X Bus Function Module* on page 3-444 for information on X Bus errors. For information on the X Bus Unit errors, refer to *Troubleshooting* in the user's manual for each X Bus Unit.
- *2. Refer to 2-3 Troubleshooting Non-fatal Errors on page 2-10.



Precautions for Correct Use

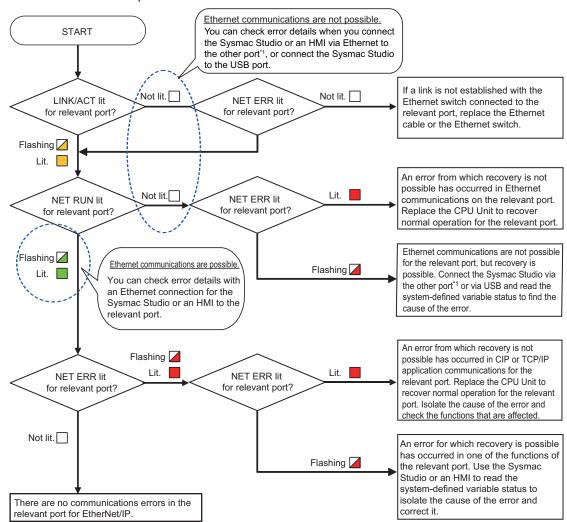
Refer to *A-5 Applicable Range of the HMI Troubleshooter* on page A-295 for the applicable range of the HMI Troubleshooter.

2-1-3 Flowchart to Check Error Status on EtherNet/IP Function Module

When an error occurs in the EtherNet/IP Function Module, use the following flowchart to check the error and take necessary measures.

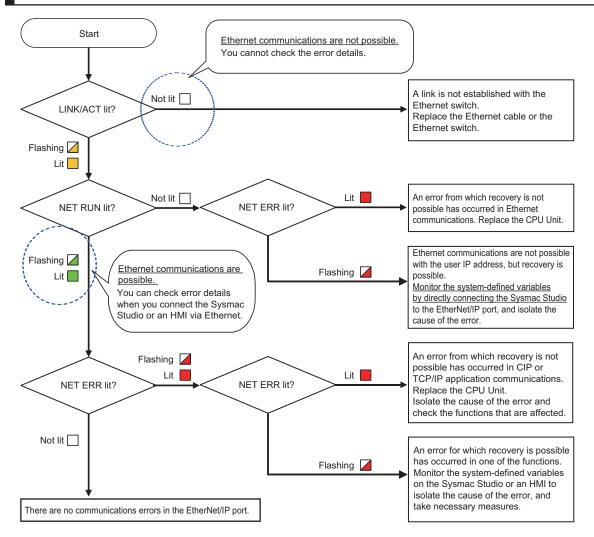
NX701 CPU Unit and NX102 CPU Unit

To differentiate between the two communications ports in the flowchart, the port for which to isolate the error is called the relevant port.

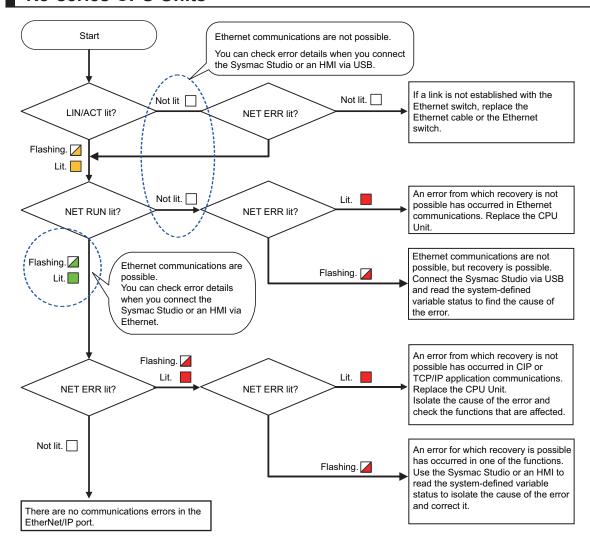


^{*1.} You can connect the Sysmac Studio or an HMI to the other port to confirm error details only when Ethernet communications are possible for the other port.

NX502 CPU Unit and NX1P2 CPU Unit



NJ-series CPU Units



2-2 Troubleshooting Fatal Errors

The section describes the procedure to troubleshoot fatal errors in the CPU Unit.

Power Supply Error

Cause	Correction
Power is not being input.	Turn ON the power.
The voltage is outside of the allowable	Check the Controller's power supply system, and correct it so that
range for the power supply.	the voltage is within the allowable range.
Power supply system error caused by mounted Unit	Remove the Units from the CPU Rack one by one. If the error is eliminated, replace that Unit.
Power Supply Unit failure (CPU Units other than NX102 and NX1P2)	If the error persists even after you make the above corrections, replace the Power Supply Unit.
Power supply section failure (NX102 CPU Unit or NX1P2 CPU Unit)	If the error persists even after you make the above corrections, replace the CPU Unit.

System Initialization Error

Cause	Correction
A conductive object has gotten inside.	If there is conductive material nearby, blow out the CPU Unit with
	air.
Noise	If the error did not result from the above causes, cycle the power
	to the Controller and see if that resets the error. If the error occurs
	frequently, check the FG and power supply lines to see if noise is
	entering on them. Implement noise countermeasures as required.
CPU Unit failure	If the error persists even after you make the above corrections,
	replace the CPU Unit.

CPU Unit Reset

Cause	Correction
A conductive object has gotten inside.	If there is conductive material nearby, blow out the CPU Unit with air.
The power supply to an Expansion Rack is OFF.	Supply the correct voltage to the Power Supply Unit on the Expansion Rack.
The I/O Connecting Cable is incorrectly installed.	Correct the connection of the I/O Connecting Cable.
Noise	If the error did not result from the above causes, cycle the power to the Controller and see if that resets the error. If the error occurs frequently, check the FG and power supply lines to see if noise is entering on them. Implement noise countermeasures as required.
Power Supply Unit failure	If the error persists even after you make the above corrections, replace the Power Supply Unit.
CPU Unit failure	If the error persists even after you make the above corrections, replace the CPU Unit.

Hardware Initialization Error

Cause	Correction
A conductive object has gotten inside.	If there is conductive material nearby, blow out the CPU Unit with
	air.
Noise	If the error did not result from the above causes, cycle the power
	to the Controller and see if that resets the error. If the error occurs
	frequently, check the FG and power supply lines to see if noise is
	entering on them. Implement noise countermeasures as required.
CPU Unit failure	If the error persists even after you make the above corrections,
	replace the CPU Unit.

• Incorrect Power Supply Unit Connected

Cause	Correction
A CJ-series Power Supply Unit is con-	Connect an NJ-series Power Supply Unit to the NJ-series CPU
nected to an NJ-series CPU Unit.	Unit.

CPU Unit Error

Cause	Correction
A conductive object has gotten inside.	If there is conductive material nearby, blow out the CPU Unit with
	air.
Noise	If the error did not result from the above causes, cycle the power
	to the Controller and see if that resets the error. If the error occurs
	frequently, check the FG and power supply lines to see if noise is
	entering on them. Implement noise countermeasures as required.
CPU Unit failure	If the error persists even after you make the above corrections,
	replace the CPU Unit.

• CPU Unit Watchdog Timer Error

Cause	Correction
A conductive object has gotten inside.	If there is conductive material nearby, blow out the CPU Unit with
	air.
Noise	If the error did not result from the above causes, cycle the power to the Controller and see if that resets the error. If the error occurs frequently, check the FG and power supply lines to see if noise is entering on them. Implement noise countermeasures as required.
CPU Unit failure	If the error persists even after you make the above corrections, replace the CPU Unit.

2-3 Troubleshooting Non-fatal Errors

2-3-1 Identifying and Resetting Errors with the Sysmac Studio

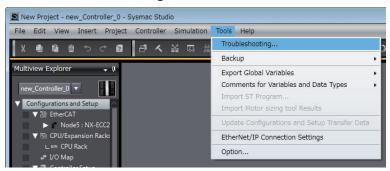
Troubleshooting functions are provided by the Sysmac Studio.

You can use the troubleshooting functions to identify errors that occur in a Controller, and reset the errors.

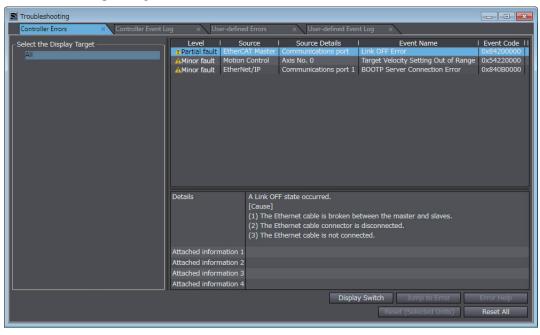
Displaying Errors on the Sysmac Studio

If an error occurs while the Sysmac Studio is online with the Controller, the Sysmac Studio notifies the user of the error in the Controller Status Pane. From there, you can open the Troubleshooting and Event Logs Window to read detailed error information and troubleshooting methods.

Click the **Troubleshooting** Button in the toolbar, or select **Troubleshooting** from the **Tools** Menu.



The Sysmac Studio automatically collects the Controller's error information, and opens the **Troubleshooting** Dialog Box.

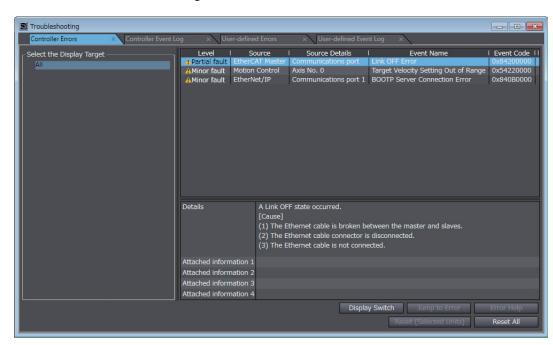


Checking Current Errors and the Event Logs with the Sysmac Studio

Checking Current Errors with the Sysmac Studio

You can click the **Controller Errors** Tab in the **Troubleshooting** Dialog Box to read information on current errors in the Controller.

The Controller Errors Tab Page lists the current errors in order of their levels.



Displayed Item	Description
Level	This is the event level of the error.
Source and Source Details	This is the physical location and functional location of the error.
Event Name	Error name
Event Code	This is the code of the error.

You can click the column headings in the Controller error list, such as the **Level** or **Source**, to reorder the table rows according to that heading.

For example, the following change occurs when you click the **Source** heading.

Before Source heading is clicked.



After **Source** heading is clicked.





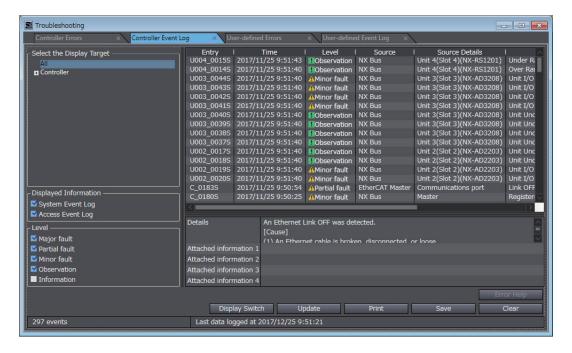
Additional Information

Sysmac Studio provides the function to display on the network configuration information the current errors whose source is the EtherCAT Master Function Module. This function is used to identify the error slave and the cause of the error. Refer to the descriptions on identifying an error slave and cause of error in the *NJ/NX-series CPU Unit Built-in EtherCAT Port User's Manual (Cat. No. W505)* for details.

Displaying Event Logs with the Sysmac Studio

With Sysmac Studio, you can check a log of the Controller events that previously occurred on the **Controller Event Log** Tab Page.

You can select the event logs and levels to display in the Display Settings Area. Information on the event that you specified are displayed in the Details Pane.



Error logs from CJ-series Special Units are displayed on the **Controller Event Log** Tab Page. Detailed information is not displayed. To check detailed information, use the event codes that are displayed and refer to the error codes that are given in the manual for the relevant Unit. The relationship between error codes and event codes is described in *Details on Controller Events (Errors and Information)* on page 1-15 under 1-3-1 Types of Non-fatal Errors on page 1-12.



Additional Information

- The Sysmac Studio is provided with a function for displaying logs of events whose source is
 the EtherCAT Master Function Module in the network configuration information. This function
 is used for identifying the slave where an error occurred and the cause of the error. For the
 description of the function, refer to the descriptions related to the identification of the slave
 where an error occurred and the cause of the error in the NJ/NX-series CPU Unit Built-in
 EtherCAT Port User's Manual (Cat. No. W505).
- You can also save an event log in a file and display it offline in the Event Log Viewer. For details on the Event Log Viewer, refer to the Sysmac Studio Version 1 Operation Manual (Cat. No. W504).

Resetting Errors with the Sysmac Studio

You can use the Sysmac Studio to reset errors that occur in a Controller.

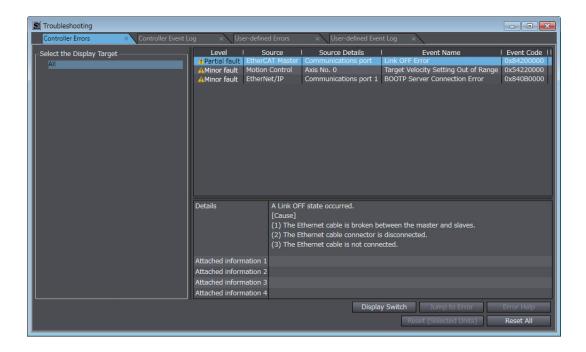
With a CPU Unit with unit version 1.05 or later and Sysmac Studio version 1.06 or higher you can also reset errors for individual Units.

Before you attempt to reset a Controller error, isolate and remove the cause of the error.

The Troubleshooting Dialog Box displays the cause, source, and corrections for the error. You can select any of the items from the error list to display the following information about that error. Click the **Display Switch** Button to switch between displaying details and attached information and displaying actions and corrections.

Displayed item	Description
Details	Detailed information on the error is displayed, such as the probable causes.
Attached information	Detailed information about the source of the error is displayed.
1 through 4	
Action and Correc-	Methods to correct the probable causes of the error are displayed.
tion	

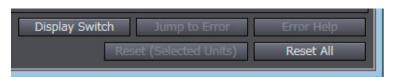
After confirming the cause of the displayed error and the conditions in which it occurred, perform the displayed error corrections to eliminate the cause of the error.



To eliminate the cause of the error, first select the item to perform from the Action and Correction list. When you select the appropriate step in the Action and Correction list, either the **Jump to Error** or **Error Help** Button is enabled, depending on the contents. In some cases, neither button will operate. Click the enabled button, and proceed with the displayed troubleshooting steps.

After you complete all of the troubleshooting steps for the current errors, click the **Reset (Selected Units)** or **Reset All** Button to reset all of the current errors.

If the cause of the error is not removed, or if the power supply is not cycled or the Controller is not reset as required after resetting the error, the error will occur again.



Button	Description
Jump to Error	This button is enabled when the error correction involves a change in the Sysmac Studio settings. When you click the button, the Sysmac Studio will automatically switch to the Editing Pane.
Error Help	The correction methods or the attached information is displayed if it is not possible to jump to the settings display.
Reset (Selected Units)	This button resets the current errors in the selected Unit.
Reset All	This button resets all of the current errors, and reads errors again.

It is necessary to synchronize the data between the Sysmac Studio and the connected CPU Unit before you use the **Jump to Error** Button.

For details on synchronization, refer to the *Sysmac Studio Version 1 Operation Manual (Cat. No. W504)*.

If you have enabled the verification of operation authority, it is necessary to confirm your authority before you can reset Controller errors.

The Operator, Maintainer, Designer, and Administrator have the authority to reset errors. For an Operator, however, verification is required each time.

Refer to the *NJ/NX-series CPU Unit Software User's Manual (Cat. No. W501)* for information on operation authority.

The Controller errors in all function modules are reset when you reset the Controller from the Sysmac Studio.

If the cause of the error is not removed, the error will occur again.

2-3-2 Identifying and Resetting Errors with an HMI

You can connect an OMRON HMI to an NJ/NX-series CPU Unit through an EtherNet/IP network, and use it to read and reset errors that occurred in the Controller. (The Troubleshooter of the HMI is used.) To perform troubleshooting from an HMI, connect the HMI to the built-in EtherNet/IP port on the CPU Unit.



Precautions for Correct Use

Refer to *A-5 Applicable Range of the HMI Troubleshooter* on page A-295 for the applicable range of the HMI Troubleshooter.

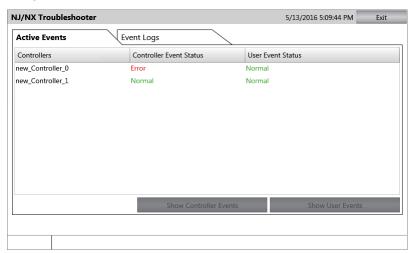
Checking for Current Errors with an HMI

You can check for errors in the Controller using the Troubleshooter of an HMI. You can also use the Troubleshooter to read detailed error information and corrections for current errors.

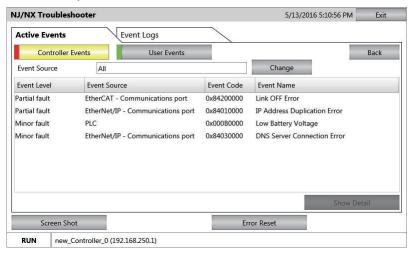
Refer to the relevant HMI manual for details on the HMI Troubleshooter.

The following example demonstrates the procedure used to check for errors with an NA-series HMI.

You can check the names and status of all connected Controllers in the Controller Status Screen of the NJ/NX Troubleshooter of the NA-series HMI. If there is an error, *Error* is displayed as the status of the Controller.



Select the Controller with an error and click the **Show Controller Events** Button to display the Controller Event List Screen. In the Controller Event List Screen, you can check the list of Controller errors that currently exist in the selected Controller.



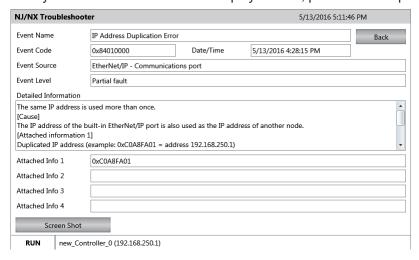
Resetting Errors with an HMI

You can use the Troubleshooter in an HMI to reset errors that occur in the Controller. Before you attempt to reset a Controller error, identify and remove the cause of the error.

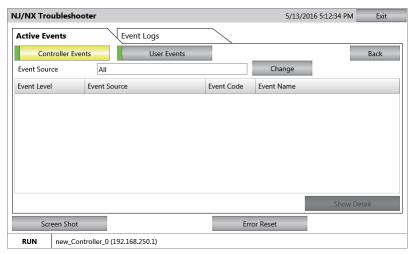
The following example demonstrates the procedure used to check for errors with an NA-series HMI.

Select an event in the Controller Event List Screen and click the **Show Detail** Button to display error causes and corrections. In the Details Screen, information such as the error causes and corrections are displayed.

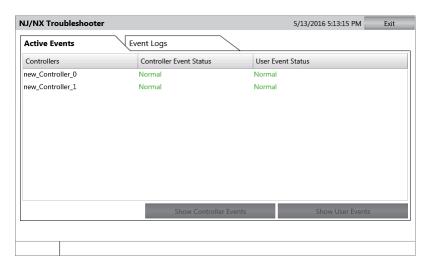
After you confirm the cause of the displayed error, perform the steps in the displayed correction.



After you complete all of the correction steps for the current errors, click the **Error Reset** Button in the Controller Event List Screen to reset all of the current errors.



Return to the Controller Status Screen and check the Controller status. The status of the Controller whose errors were completely reset is displayed as "Normal".



If the cause of the error is not removed, or if the power supply is not cycled or the Controller is not reset as required after resetting the error, the error will occur again.

Refer to the relevant HMI manual for details on the HMI Troubleshooter.

2-3-3 Identifying and Resetting Errors from the User Program

In a Controller, you can check for errors that have occurred from the user program. This feature allows you to program operations in the user program according to the error status. Special instructions are provided for this purpose.

These include instructions to get Controller error information and instructions to reset Controller errors.

Instructions That Get Controller Error Information

Determine the error status with the instruction to get error information that is provided for each function module.

The following table lists the instruction that are used to get error information for each function module.

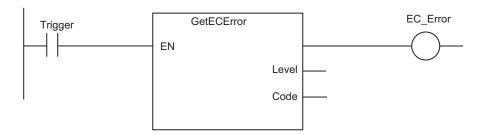
Instruction name	Instruction	Function
Get PLC Controller Error Status	GetPLCError	Gets the status and the event code of the error with the highest level of the Controller errors in the PLC Function Module.
Get I/O Bus Error Status	GetCJBError	Gets the status and the event code of the error with the highest level of the Controller errors in the I/O bus of the NJ-series CPU Unit.
Get NX Bus Error Status	GetNXBError	Gets the highest level status of all current Controller errors in the NX Bus Function Module of the NX-series CPU Unit.
Get NX Unit Error Status	GetNXUnitError	Gets the highest level status and highest level event code of the current Controller errors in the specified NX bus master or NX Unit in the NX Bus Function Module of an NX-series CPU Unit.
Get X Bus Error Status	GetXBError	Gets the highest level status of the Controller errors in the X Bus Unit.
Get X Bus Unit Error Status	GetXBUnitError	Gets the highest level status and highest level event code of the current Controller errors in the Unit on the X Bus.
Get Motion Control Error Status	GetMCError	Gets the status and the event code of the error with the highest level of the Controller errors in the Motion Control Function Module.
Get EtherNet/IP Error Status	GetEIPError	Gets the status and the event code of the error with the highest level of the Controller errors in the EtherNet/IP Function Module.
Get EtherCAT Error Status	GetECError	Gets the status and the event code of the error with the highest level of the communications port errors and master errors detected by the EtherCAT Master Function Module.

Refer to NJ/NX-series Instructions Reference Manual (Cat. No. W502) for details on these instructions.

Example of Error Detection for the EtherCAT Master Function Module

Name	Data type	Initial value	Comment
Trigger	BOOL	FALSE	Get Condition

Name	Data type	Initial value	Comment
EC_Error	BOOL	FALSE	EtherCAT Master Error Flag



Resetting Controller Errors with Instructions

You can use the instructions that are provided to reset errors in the user program to reset errors that occur in the Controller.

Before you attempt to reset a Controller error, isolate and remove the cause of the error.

Reset the errors with the instruction provided to reset errors for each function module.

Instruction name	Instruction	Function
Reset PLC Controller Error	ResetPLCError	Resets current Controller errors from the PLC Function Module.
Reset I/O Bus Controller Error	ResetCJBError	Resets current Controller errors from the I/O bus of the NJ-series CPU Unit.
Reset NX Bus Error	ResetNXBError	Resets the current Controller errors in the NX Bus Function Module.
Reset X Bus Unit Error	ResetXBUnitError	Resets Controller errors in the Unit on the X Bus.
Reset Motion Control Error	ResetMCError	Resets current Controller errors from the Motion Control Function Module.
Reset EtherCAT Error	ResetECError	Resets current Controller errors from the EtherCAT Master Function Module.

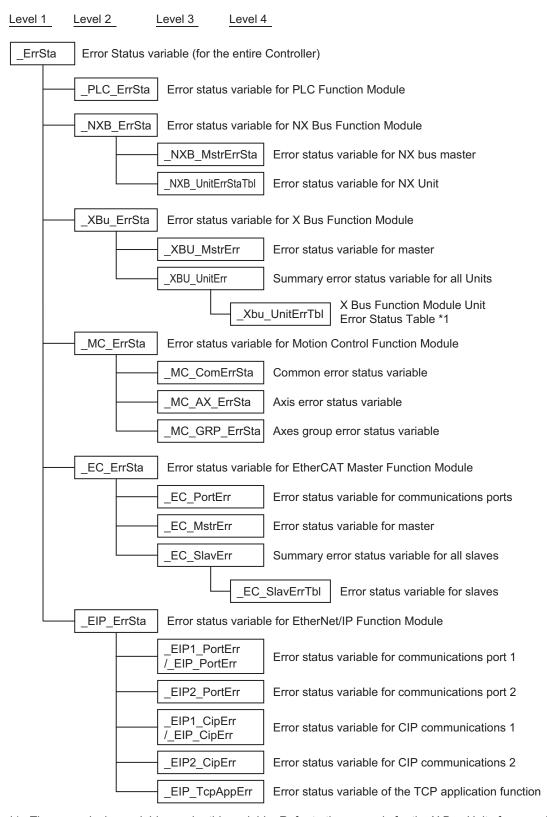
Refer to the NJ/NX-series Instructions Reference Manual (Cat. No. W502) for details on these instructions.

2-3-4 Checking for Errors with System-defined Variables

The system-defined variables include an Error Status variable, which shows the error status in a hierarchical structure. The system determines the error status of each level by logically ORing the error status information of the next lower level.

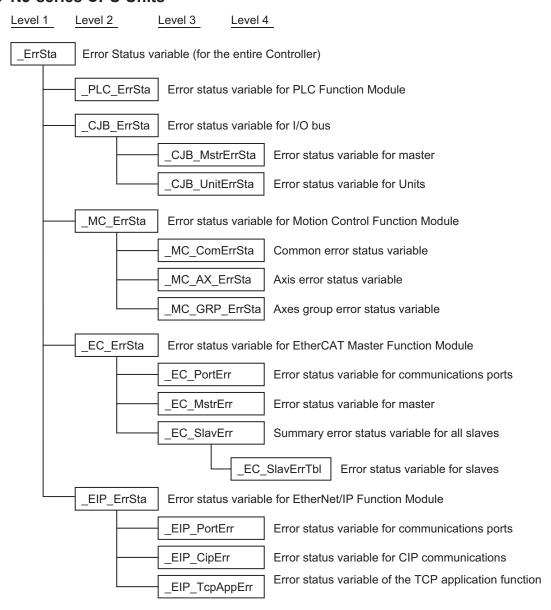
You can read the Error Status variable from an external device through communications. Refer to the *NJ/NX-series CPU Unit Software User's Manual (Cat. No. W501)* for information on system-defined variables.

NX-series CPU Units



^{*1.} There are device variables under this variable. Refer to the manuals for the X Bus Units for more information on device variables.

NJ-series CPU Units



2-4 Troubleshooting When Support Software Cannot Go Online

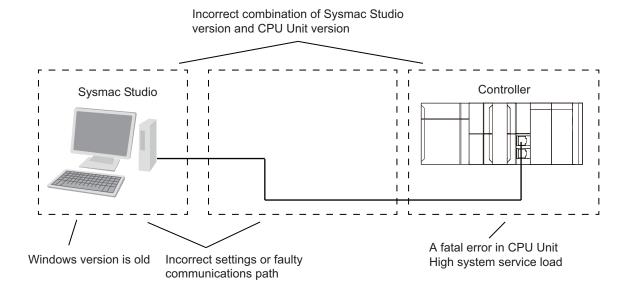
This section describes the corrective actions when the support software cannot be connected online.

2-4-1 Troubleshooting When You Cannot Go Online from the Sysmac Studio

The section describes the procedure to troubleshoot when you cannot go online with the CPU Unit from the Sysmac Studio.

Causes and Correction When You Cannot Go Online from the Sysmac Studio

The following table lists the possible causes when you cannot go online with the CPU Unit from the Sysmac Studio.



Cause	Description	Correction
Incorrect settings	There is a mistake in the settings	Refer to Troubleshooting Incorrect Settings and Faulty
or faulty communi-	that the Sysmac Studio uses to	Communications Path on page 2-27.
cations path	go online with the CPU Unit. Or,	
	the communications path is faul-	
	ty.	
Incorrect combina-	For CPU Units that support se-	Either use Sysmac Studio that supports secure com-
tion of Sysmac	cure communication, prepare	munication, or allow connection from an NA-series
Studio version and	and use Sysmac Studio that sup-	Programmable Terminal or Sysmac Studio that do not
CPU Unit version	ports secure communication.	support secure communication on the CPU Unit.
		Refer to the NJ/NX-series CPU Unit Software User's
		Manual (Cat. No. W501) for information on the CPU
		Unit models and unit versions that support secure
		communication, and corresponding Sysmac Studio
		versions.

Cause	Description	Correction
Windows version is old	On Windows 10 Version 1709 and lower, Sysmac Studio cannot connect to a CPU Unit that supports secure communication.	To connect online to a CPU Unit that supports secure communication, use Sysmac Studio on Windows 10 Version 1803 or higher OS on the computer. Or, do both of the following: • Change the DIP switch settings on the CPU Unit to allow connections from Sysmac Studio or an NAseries Programmable Terminal that do not support secure communication, and then restart the CPU Unit. For information on setting the DIP switch, refer to the description of the DIP switch in the hardware user's manual of the CPU Unit. • Restore the backup file created on a CPU Unit that does not support secure communication using an SD Memory Card to a CPU Unit that supports secure communication.
Fatal error in theCPU Unit	A fatal error occurred in the CPU Unit.	Refer to 2-1-1 Checking to See If the CPU Unit Is Operating on page 2-2.
High system serv- ice load ^{*1}	The system service load on the CPU Unit is too high and time to connect with the Sysmac Studio cannot be taken.	Start operation of the CPU Unit in Safe Mode. Refer to Troubleshooting a High System Service Load on page 2-35 for details.

^{*1.} This applies to an NJ-series CPU Unit.

Note If the EtherNet/IP NET ERR indicator on the CPU Unit is lit or flashing, it is possible that you cannot go online through an EtherNet/IP route because of an error in the EtherNet/IP Function Module. If the CPU Unit has a peripheral (USB) port, see if you can go online with a direct USB connection. If the CPU Unit does not have a peripheral (USB) port, see if you can go online with a direct Ethernet connection.



Precautions for Correct Use

- If you connect an NX-series CPU Unit to the Sysmac Studio through an EtherNet/IP port, connect to communications port 1. You cannot connect the Sysmac Studio directly to communications port 2.
- When Packet Filter (Simple) is enabled on the NX102 CPU Unit, the following restrictions apply.
 - a) You cannot connect the Sysmac Studio installed on the computer with unregistered IP address which is not allowed to be connected. Confirm that the IP address of the computer to allow connection is registered correctly in advance.
 - b) You cannot connect the Sysmac Studio to the CPU Unit in **Direct connection via Ethernet**. Select **Controller Communications Setup** to confirm that the connection type is *Ethernet connection via a hub*.
- If the **Do not use** Option for the CIP message server is selected, Sysmac Studio cannot be connected to the CPU Unit in **Remote connection via USB**.
- Incorrect setting of Packet Filter (Simple) or Packet Filter will prevent the Sysmac Studio from being connected to the CPU Unit. In that case, connect the Sysmac Studio with the NJ-series CPU Unit in direct connection via USB, and with the NX701 CPU Unit, NX102 CPU Unit, and NX1P2 CPU Unit in Safe Mode to review the setting.

You can use the status of the RUN indicator on the CPU Unit to isolate the cause. Implement the troubleshooting for the applicable cause.

O: Cause

	Cause				
RUN indicator	Incorrect settings or faulty communications path	Fatal errors in CPU Unit	High system service load ^{*3}		
• (Not lit.)	0	0			
		O*2			
(Flashing at 2-s inter- vals.)					
•*3		0			
(Flashing at 3-s intervals.)		(Incorrect Power Supply Unit Connected.)			
O (Lit.)	0		0		

^{*1.} This applies to an NX-series CPU Unit.

^{*2.} If the ERROR indicator is lit at the same time or if the RUN indicator flashes at a 2-second interval for more than 30 seconds, a fatal CPU Unit error has occurred.

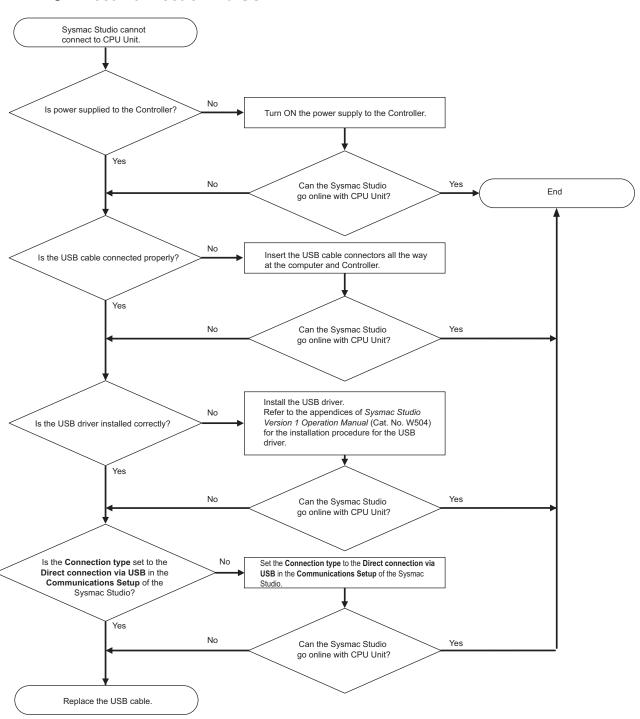
^{*3.} This applies to an NJ-series CPU Unit.

Troubleshooting for Each Cause

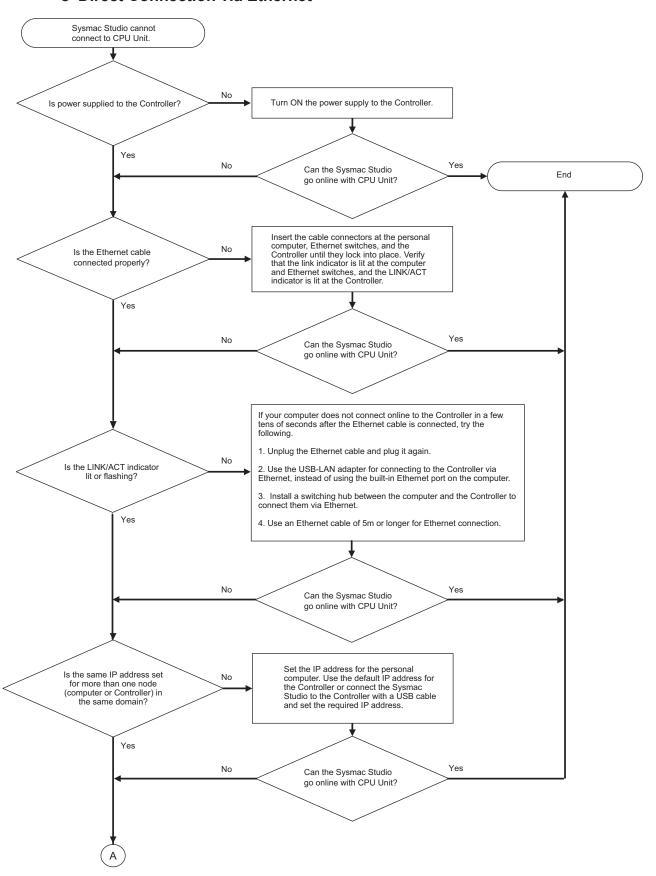
This section provides troubleshooting methods for *incorrect settings, fault communications paths*, and *high system service loads*.

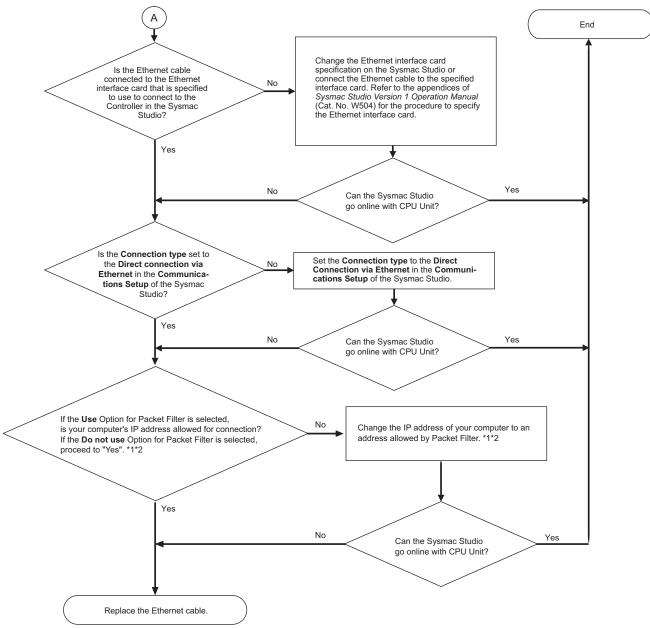
Troubleshooting Incorrect Settings and Faulty Communications Path

Direct Connection via USB



Direct Connection via Ethernet

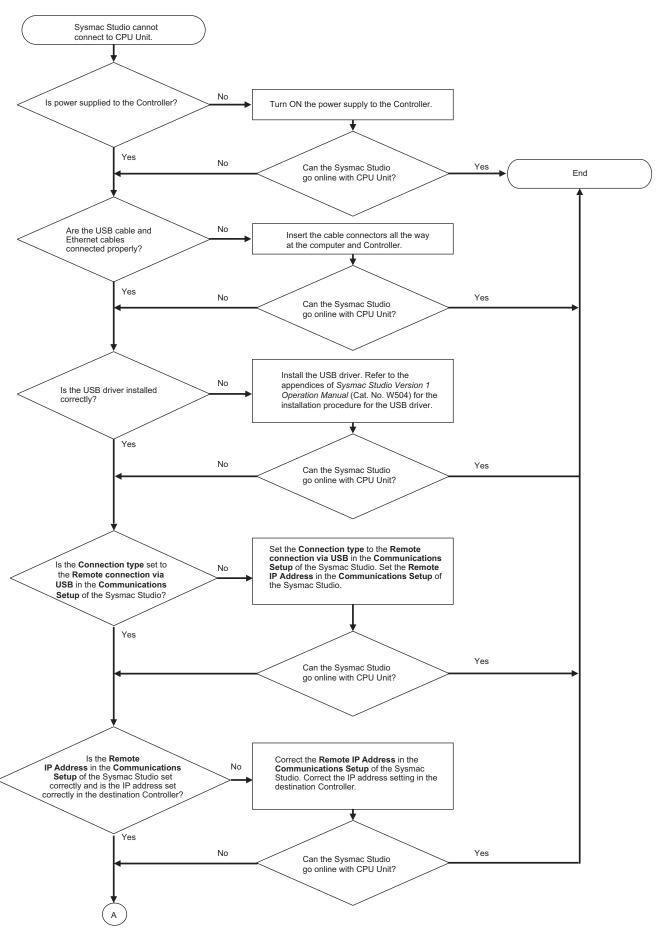


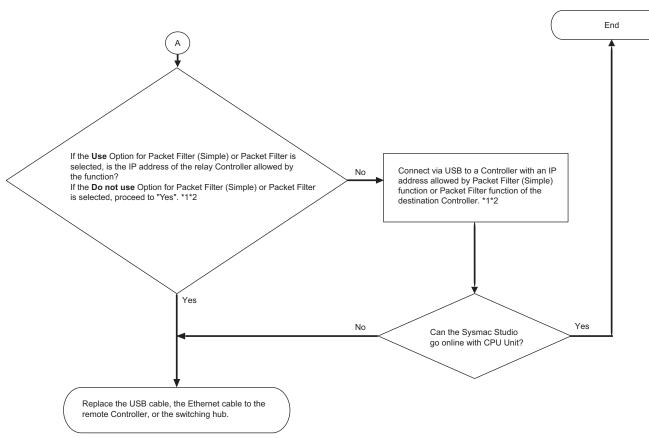


^{*1} For details on Packet Filter (Simple) setting and Packet Filter setting, refer to the NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual (Cat. No. W506).

^{*2} Incorrect setting of Packet Filter will prevent the Sysmac Studio from connecting to the CPU Unit. In that case, connect the Sysmac Studio with the NJ-series CPU Unit and the NX701 CPU Unit in direct connection via USB and with the NX502, NX102 and NX1P2 CPU Unit in Safe Mode. For details on Safe Mode, refer to Troubleshooting Incorrect Settings of Packet Filter or Packet Filter (Simple).

Remote Connection via USB

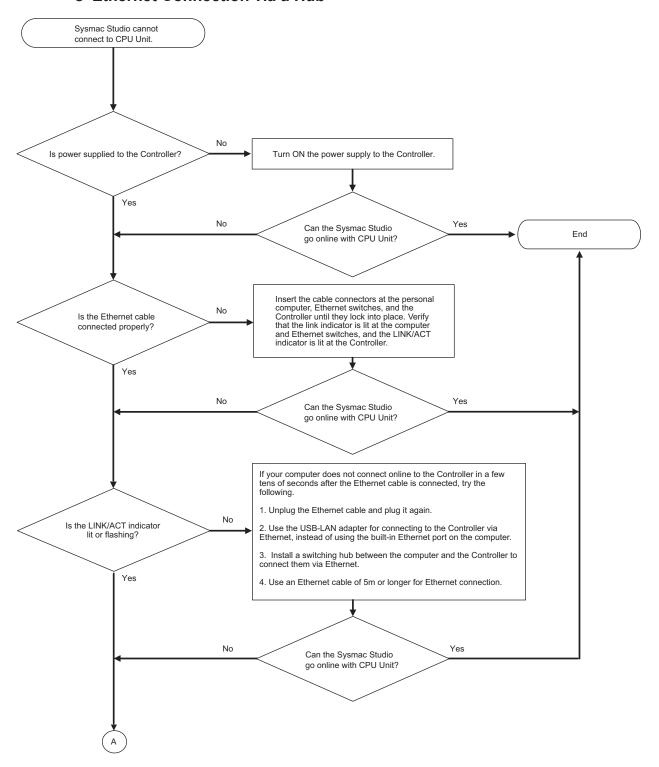


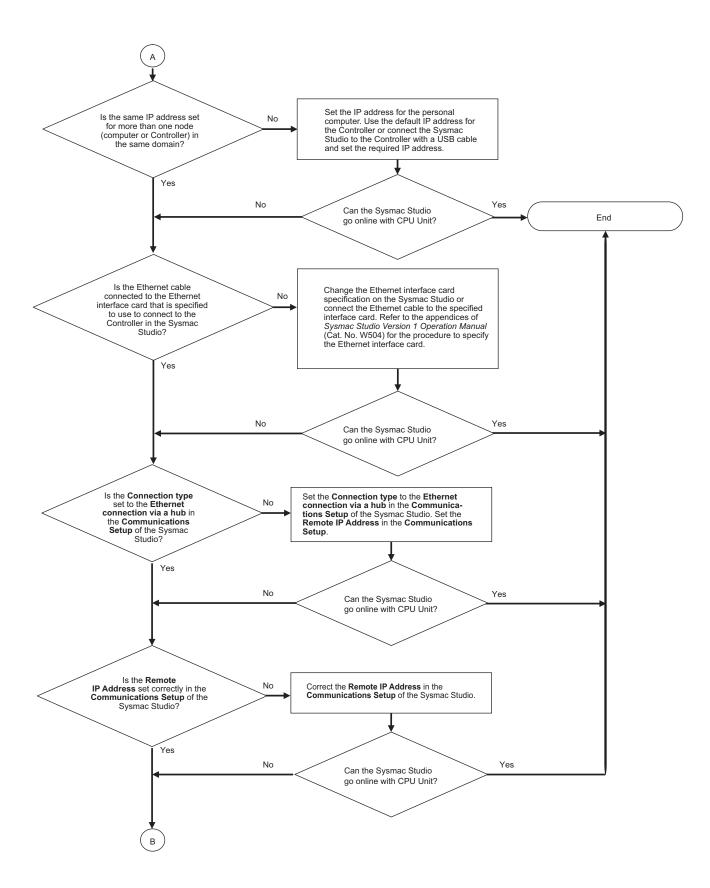


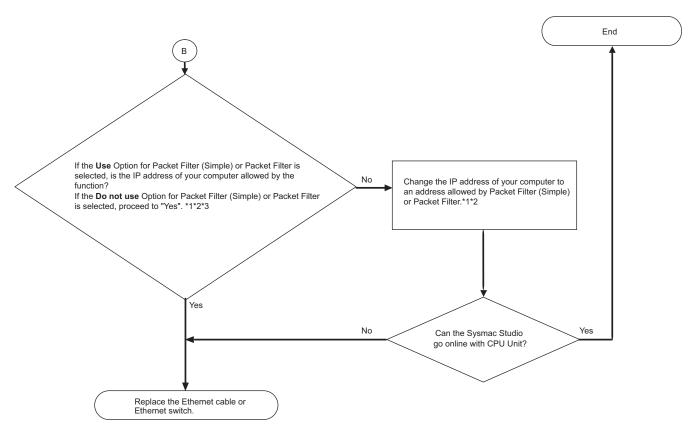
- *1 For details on Packet Filter (Simple) setting and Packet Filter setting, refer to the NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual
- (Cat. No. W506).

 *2 Incorrect setting of Packet Filter (Simple) or Packet Filter will prevent the Sysmac Studio from connecting to the CPU Unit. In that case, connect the Sysmac Studio with the NJ-series CPU Unit and the NX701 CPU Unit in direct connection via USB and with the NX502, NX102 and NX1P2 CPU Unit in Safe Mode. For details on Safe Mode, refer to Troubleshooting Incorrect Settings of Packet Filter or Packet Filter (Simple).

• Ethernet Connection via a Hub







^{*1} For details on Packet Filter (Simple) setting and Packet Filter setting, refer to the NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual (Cat. No. W506).

^{*2} Incorrect setting of Packet Filter (Simple) or Packet Filter will prevent the Sysmac Studio from connecting to the CPU Unit. In that case, connect the Sysmac Studio with the NJ-series CPU Unit and the NX701 CPU Unit in direct connection via USB and with the NX502, NX102 and NX1P2 CPU Unit in Safe Mode. For details on Safe Mode, refer to Troubleshooting Incorrect Settings of Packet Filter or Packet Filter (Simple).

^{*3} If you are connecting the Sysmac Studio to an X Bus Unit for which the Use Option is selected for Packet Filter, connect the Sysmac Studio through a built-in EtherNet/IP port in the CPU Unit and correct the Packet Filter settings of the X Bus Unit.

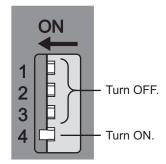
Troubleshooting a High System Service Load

In the NJ-series CPU Unit, a high throughput in task execution may cause the system service to enter a high-load state, and this may prevent the Sysmac Studio from connecting with the CPU Unit. If a high system service load is the problem, you will be able to go online with the CPU Unit from the Sysmac Studio if you start in Safe Mode. Use the following procedure.

1 Set on the DIP switch on the CPU Unit as shown below and then cycle the power supply to the Controller.

The CPU Unit will start in Safe Mode.

on setting the primary periodic task.



- **2** Go online with the CPU Unit from the Sysmac Studio and perform the required operation. Ensure that there is sufficient system service time to enable the Sysmac Studio to go online with the CPU Unit. To do so, either increase the period of the primary periodic task or decrease the sizes of the programs in the primary periodic task. Refer to the *NJ/NX-series CPU Unit Software User's Manual (Cat. No. W501)* for information
- **3** Turn OFF all DIP switch pins and then cycle the power supply to the Controller to restore normal CPU Unit operation.

Safe Mode Operation

If the Controller is started when the CPU Unit is in Safe Mode, the CPU Unit will start in PROGRAM mode even if the startup mode is set to RUN mode. This increases the ratio of system service processing that is performed by the CPU Unit, which makes it easier for the Sysmac Studio to go online with the CPU Unit. You can also use Safe Mode when you do not want to execute the user program.

The CPU Unit will generate an observation level Controller event and record a Safe Mode event in the event log.



Additional Information

Operation in Safe Mode depends on the unit version of the CPU Unit.

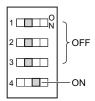
Item	Unit version of CPU Unit						
item	1.02 or lower	1.03 or later					
Operating mode	The CPU Unit operates accord-	The CPU Unit ignores the setting					
	ing to the setting of the startup	of the startup mode and operates					
	mode.	in PROGRAM mode.					
Changing the operating mode	Not possible.	Possible.					
Controller event level	Major fault level	Observation level					

Troubleshooting Incorrect Settings of Packet Filter or Packet Filter (Simple)

Incorrect setting of Packet Filter or Packet Filter (Simple) will prevent the Sysmac Studio from connecting to the CPU Unit. Connect the Sysmac Studio to an NX502, NX102 or NX1P2 CPU Unit in Safe Mode and correct the Packet Filter settings or Packet Filter (Simple) settings.

1 Set the DIP switch of the CPU Unit as shown in the figure below, and then turn ON the power to the Controller again.

The CPU Unit starts up in Safe Mode.



2 Go online with the CPU Unit from the Sysmac Studio and review the Packet Filter settings or Packet Filter (Simple) settings.

For the details on the settings, refer to Packet Filter or Packet Filter (Simple) in the NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual (Cat. No. W506).

- 3 Turn OFF all DIP switch pins and then cycle the power supply to the Controller to restore normal CPU Unit operation.
- 4 Check whether the Sysmac Studio can go online with the CPU Unit.

 Select Controller Communications Setup to confirm that Ethernet connection via a hub is selected for connection method. If Packet Filter (Simple) is enabled, you cannot connect the Sysmac Studio in Direct connection via Ethernet.

Safe Mode Operation

If the Controller is started in Safe Mode, Packet Filter and Packet Filter (Simple) are disabled. This allows you to go online the Sysmac Studio with the CPU Unit from a computer.

The CPU Unit will generate an observation level Controller event and record a Safe Mode event in the event log.



Additional Information

The safe mode operation is given below.

Item	Operation
Operating mode	The CPU Unit ignores the setting of the startup mode and operates in PROGRAM mode.
Changing the operating mode	Possible
Controller event level	Observation level

2-4-2 Troubleshooting When You Cannot Go Online from the Network Configurator

Refer to the *NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual (Cat. No. W506)* for actions to take when Network Configurator cannot go online with the CPU Unit.

2-4-3 Troubleshooting When You Cannot Go Online from the CX-Configurator FDT

Refer to the *IO-Link System User's Manual (Cat. No. W570)* or the *NXR-series IO-Link Master Unit for EtherNet/IP User's Manual (Cat. No. W619)* for actions to take when CX-Configurator FDT cannot go online with the CPU Unit.

2-4-4 Troubleshooting When You Cannot Go Online from the CX-Integrator

Refer to the CS/CJ/CP/NSJ/NJ Series CX-Integrator Operation Manual (Cat. No. W464) for actions to take when CX-Integrator cannot go online with the CPU Unit.

2-4-5 Troubleshooting When You Cannot Go Online from the CX-Protocol

Refer to the *CX-Protocol Operation Manual (Cat. No. W344)* for actions to take when CX-Protocol cannot go online with the CPU Unit.

2 E	Error	Troubles	shooting	Methods
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Error Descriptions and Corrections

This section describes all of the errors (events) that can occur on NJ/NX-series CPU Units and corrections for these errors.

For errors (events) that can occur in models other than the standard CPU Units and the errors (events) that can occur in connected devices, only tables of errors are provided in *Appendices* on page A-1. Refer to the manual for the specific product for details on errors.

3-1	Interpr	reting Tables	3-3
	3-1-1 3-1-2	Interpreting Error TableInterpreting Error Descriptions	
3-2	Errors 3-2-1 3-2-2 3-2-3	in the PLC Function Module Error Tables Error Descriptions Other Troubles and Corrections	3-6 3-94
3-3	Errors 3-3-1 3-3-2	in the NX Bus Function Module	3-423
3-4	Errors 3-4-1 3-4-2	in the X Bus Function Module Error Tables Error Descriptions	3-444
3-5	Errors 3-5-1 3-5-2	in the X Bus Unit Common Function Module	3-456
3-6	Errors 3-6-1 3-6-2 3-6-3	in the Motion Control Function Module	3-478 3-517
3-7	Errors 3-7-1 3-7-2 3-7-3	in the EtherNet/IP Function Module. Error Tables	3-661 3-670
3-8	Errors 3-8-1 3-8-2	in the EtherCAT Master Function Module Error Tables Error Descriptions	3-722
3-9	Errors 3-9-1	in the OPC UA Function	

3-1

3-9-2	Error Descriptions	3-8	12
3-9-3	OPC UA Server-specific Troubleshooting	3-8	38

3-1 Interpreting Tables

Within each source, errors (events) are given by functional classifications. Also, events that are not errors are given.



Additional Information

For descriptions of the error codes for the motion control instructions and other instructions, refer to the descriptions of the corresponding event codes. Events that occur for motion control instructions are given in 3-2 Errors in the PLC Function Module on page 3-6. Events that occur for other instructions are given in 3-6 Errors in the Motion Control Function Module on page 3-478. Refer to Relationship between Event Codes and Error Codes on page 1-26 for the relationship between event codes and error codes.

If events that occur are different according to versions, the versions for events that occur are given in the following expressions.

- For unit versions of CPU Units, "CPU Unit with unit version X.XX" or "Ver. X.XX"
- For project unit versions^{*1}, "project unit version X.XX"
- *1. In this manual, the unit version set for a project is called "project unit version". A project unit version is set for a project in the Select Device Area of Project Properties Dialog Box on the Sysmac Studio.

3-1-1 Interpreting Error Table

The contents of the error tables are described below.

Item	Description
Event code	The event code of the error in the NJ/NX-series Controller is given. The codes are given in eight hexadecimal digits.
	A version in parentheses in the Event code column is the unit version of a CPU Unit or the
	project unit version where an event with the relevant event code occurs.
	A model name in square brackets in the Event code column is the CPU Unit when the event
	occurs. The model name is not described if the event occurs in all CPU Unit.
Event name	The name of the error is given
Meaning	A short description of the error is given.
Assumed cause	The assumed cause of the error is given
Level	The level of influence on control is given.
	The abbreviations have the following meanings.
	Maj: Major fault level
	Prt: Partial fault level
	Min: Minor fault level
	Obs: Observation
	Info: Information
	The symbols have the following meanings.
	O: Event levels that are defined by the system.
	⊙: Event levels that can be changed by the user. *1
Reference	The catalog number of the manual that provides details on the event is given. The manual
	name that corresponds to the manual number is given before each error table.

^{*1.} This symbol appears only for events for which the user can change the event level.

3-1-2 Interpreting Error Descriptions

The items that are used to describe individual errors (events) are described in the following copy of an error table.

Event name	Gives the name	of the error.		Event code	Gives the code of	of the error.			
Meaning	Gives a short de	scription of the err	or.						
Source	Gives the source	e of the error.	Source details	Gives details on the source of the error.	Detection timing Tells when the error is detected ed.				
Error attrib- utes	Level	Tells the level of influence on control. *1	Recovery	Gives the method to return to normal state after eliminating the cause of the error.	Log category	Tells which log the error is saved in. *2			
Effects	User program	Tells what will happen to execution of the user program.	Operation	Provides special results from the	information on the	e operation that			
Indicators/ Status		itor status is given			ors or the built-in E ster Function Mod	•			
System-de-	Variable		Data type		Name				
fined varia-	Lists the variable	names, data type	es, and meanings	for system-defined	d variables that pr	ovide direct error			
bles	notification, that	are directly affecte	ed by the error, or	that contain settin	gs that cause the	error. *4			
Cause and	Assumed cause	•	Correction		Prevention				
correction	Lists the possible	e causes, correction	ons, and preventiv	e measures for th	e error.				
Attached in- formation	This is the attach	ned information tha	at is displayed by	the Sysmac Studio	o or an HMI. ^{*5}				
Precautions/ Remarks					e user can set the tion, and other info				
User name in the access log	tion is provided of		•	-	rates the access lorded in the acces	-			

*1. One of the following:

Major fault: Major fault level Partial fault: Partial fault level Minor fault: Minor fault level

Observation Information

*2. One of the following:

System: System event log Access: Access event log

*3. One of the following:

Continues: Execution of the user program will continue.

Stops: Execution of the user program stops. Starts: Execution of the user program starts.

Device variables are also contained in this section.

The differences between system-defined variables and device variables are as follows:

System-defined variable: The variable name starts with an underbar (_).

- Device variable: The variable name stars with a character other than an underbar (_).
- *5. Refer to A-5 Applicable Range of the HMI Troubleshooter on page A-295 for the applicable range of the HMI Troubleshooter.

3-2 Errors in the PLC Function Module

The section provides tables of the errors (events) that can occur in the PLC Function Module.

They are divided into the following functional classifications.

- · Self-diagnosis
- CJ-series Unit configuration
- · Built-in I/O, Option Boards
- Tasks
- · Controller operation
- · FINS communications
- Instructions



Additional Information

- Instruction events are supported by CPU Units with unit version 1.02 or later.
- To create instruction events, you must select Use for Event Log Settings Instruction Error
 Output on the Controller Setup. With the default setting, instructions events are not output.
 Sysmac Studio version 1.03 or higher is required to use the Event Log Settings.

3-2-1 Error Tables

Errors for Self Diagnosis

					Level				
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
00090000 hex	DIP Switch Setting Error	An error was detected in the DIP switch setting.	There is an error in the DIP switch setting.	0					page 3-94
000D0000 hex	Internal Bus Check Error	A fatal error was detected on the internal bus.	A conductive material has gotten inside. Noise The CPU Unit has failed.	0					page 3-95
000E0000 hex	Non-volatile Memory Life Exceeded	The specified number of deletions for non-volatile memory was exceeded. Or, the number of bad blocks in memory exceeded the specified value.	Non-volatile memory life expired.	0					page 3-96
00110000 hex [NX502, NX701]	CPU Unit Overheat (Operation Stopped)	Operation was stopped because the temperature inside the CPU Unit was too high.	The ambient operating temper- ature is too high.	0					page 3-97

					L	_eve	l		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
00130000 hex (Ver. 1.13 or later) [NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.16 or later) [NX701, NJ5 with hardware revision B] (Ver. 1.17 or later) [NJ3 with hardware revision A, NJ1 with hardware revision A]	Main Memo- ry Check Er- ror	An error was detected in the memory check of the main memory in the CPU Unit.	 A conductive material has gotten inside. Noise There is a soft error. The CPU Unit has failed. 	0					page 3-98
10010000 hex	Non-volatile Memory Re- stored or Formatted	An error was detected in the non-volatile memory check and file system recovery or formatting was executed. Previous files may have been deleted.	The Controller power supply was turned OFF while the BUSY indicator was lit. The power supply to the Controller was interrupted momentarily while the BUSY indicator was lit.	0					page 3-99
10020000 hex	Non-volatile Memory Da- ta Corrupted	A file that must be in non-volatile memory is missing or corrupt- ed.	 The Controller power supply was turned OFF while the BUSY indicator was lit. The power supply to the Controller was interrupted momentarily while the BUSY indicator was lit. The CPU Unit has failed. 	0					page 3-100
10080000 hex	Main Memo- ry Check Er- ror	An error was detected in the memory check of the main memory in the CPU Unit.	 A conductive material has gotten inside. Noise There is a soft error. The CPU Unit has failed. 	0					page 3-101
100A0000 hex (Ver. 1.10 or later) [NJ-series, NX701]	Data Not Saved to Battery- backup Memory	An error occurred in the software and data could not be saved in battery-backup mem- ory during power- OFF processing.	An error occurred in the soft- ware.	0					page 3-102
100B0000 hex	Non-volatile Memory Da- ta Corrupted	A file that must be in non-volatile memory is missing or corrupt- ed.	The Controller power supply was turned OFF while the BUSY indicator was lit. The power supply to the Controller was interrupted momentarily while the BUSY indicator was lit. The CPU Unit has failed.	0					page 3-103

					l	_eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
100C0000 hex (Ver. 1.03 or later)	Event Level Setting Error	The settings in the event level setting file are not correct.	The event level settings are not correct because the power supply to the Controller was interrupted or communications with the Sysmac Studio were disconnected during a download of the event level settings. The event level settings are not correct because the power supply to the Controller was interrupted during a Clear All Memory operation. Non-volatile memory failed.	0					page 3-104
100F0000 hex [NX102, NX1P2, NX502]	Present Values of Retained Variables Restoration Error	The present values of retained variables could not be restored at startup and the values were initialized.	An error occurred in the software. Backup memory failure	0					page 3-105
10100000 hex [NX102, NX1P2, NX502]	Present Val- ues of Re- tained Varia- bles Not Saved	The process of saving the current value of the retained variable during power interruptions could not be performed because an error occurred in the software.	An error occurred in the soft- ware.	0					page 3-106
40010000 hex [NJ-series]	PLC System Processing Error	A fatal error was detected in the PLC Function Module.	An error occurred in the soft- ware.	0					page 3-107
40020000 hex	PLC System Processing Error	A fatal error was detected in the PLC Function Module.	An error occurred in the soft- ware.	0					page 3-107
40030000 hex	PLC System Processing Error	A fatal error was detected in the PLC Function Module.	An error occurred in the soft- ware.	0					page 3-108
40040000 hex [NX701, NX1P2]	PLC System Processing Error	A fatal error was detected in the PLC Function Module.	An error occurred in the soft- ware.	0					page 3-108
40050000 hex [NX701, NX1P2]	PLC System Processing Error	A fatal error was detected in the PLC Function Module.	An error occurred in the soft- ware.	0					page 3-109
00070000 hex	Real-Time Clock Stop- ped	The oscillation of the real-time clock stopped. The real-time clock is set to an illegal time.	The battery voltage is low. The battery connector has come loose. The Battery is missing.			0	•		page 3-109
00080000 hex	Real-Time Clock Failed	The real-time clock in the CPU Unit failed.	The CPU Unit clock has failed.			0			page 3-110

					L	_eve	el —		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
000B0000 hex	Low Battery Voltage	The voltage of the Battery has dropped.	 The battery voltage is low. The battery connector has come loose. The Battery is missing. 			0	•		page 3-110
000C0000 hex [NJ-series, NX502, NX701]	CPU Unit Overheat	The temperature inside the CPU Unit exceeded the specified value.	The ambient operating temper- ature is too high.			0			page 3-111
00120000 hex [NX502, NX701]	Slow Fan	The speed of the fan dropped to a specified level or lower.	 There is an obstacle that prevents the operation of the fan. The fan has reached the end of its service life. The fan is faulty. 			0	•		page 3-111
00150000 hex (Ver.1.60 or later) [NJ-series, NX102, NX1P2, NX502] (Ver. 1.32 or later) [NX701]	Non-volatile Memory Life Warning	The warning number of deletions for non-volatile memory was exceeded. Or, the number of bad blocks in memory exceeded the warning value.	Non-volatile memory life expired.			0	•		page 3-112
10090000 hex [NJ-series, NX701]	Battery- backup Memory Check Error	An error was detected in the memory check of the battery-backup memory in the CPU Unit.	The battery voltage is low. The battery connector has come loose. The Battery is missing.			0	•		page 3-113
000F0000 hex	SD Memory Card Invalid Type	The current SD Memory Card is not supported.	An SD Memory Card that is not supported was inserted in- to the CPU Unit.				0		page 3-114
00100000 hex	SD Memory Card Life Exceeded	The specified number of deletions for the SD Memory Card was exceeded. Or, the number of bad blocks exceeded the specified value.	The service life of the SD Memory Card was exceeded.			•	0		page 3-115
10030000 hex	SD Memory Card Invalid Format	The file format of the SD Memory Card is not FAT16 or FAT32.	The file format of the SD Mem- ory Card inserted in the CPU Unit is not FAT16 or FAT32.				0		page 3-115
10040000 hex	SD Memory Card Re- stored or Formatted	An error was detected during the file system check and the file system was restored. Files may have been deleted.	The Controller power supply was turned OFF while the SD BUSY indicator was lit. The power supply to the Controller was interrupted momentarily while the SD BUSY indicator was lit. The SD Memory Card was removed while the SD PWR indicator was lit. The SD Memory Card is damaged.			•	0		page 3-116

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
10060000 hex	SD Memory Card Data Corrupted	A file that must be in the SD Memory Card is missing or corrupt- ed.	The Controller power supply was turned OFF while the SD BUSY indicator was lit. The power supply to the Controller was interrupted momentarily while the SD BUSY indicator was lit. The SD Memory Card was removed while the SD PWR indicator was lit. The SD Memory Card is damaged.			•	0		page 3-117
10070000 hex	SD Memory Card Access Power OFF Error	The power supply to the Controller was in- terrupted during ac- cess to the SD Mem- ory Card.	The Controller power supply was turned OFF while the SD BUSY indicator was lit. The power supply to the Controller was interrupted momentarily while the SD BUSY indicator was lit.				0		page 3-118
10130000 hex [NX102, NX1P2]	PLC System Information	This event provides internal information from the PLC Function Module.	This event provides internal information from the PLC Function Module. It is recorded to provide additional information for another event.				0		page 3-118
10310000 hex (Ver. 1.02 or later)	Incorrect SD Memory Card Re- moval	SD Memory Card removal processing failed.	The SD Memory Card was removed while the SD PWR indicator was lit.				0		page 3-119

Errors Related to CJ-series Unit Configuration

					Level				
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
04010000 hex [NJ-series]	I/O Bus Check Error	An error occurred in a bus line transmission between the CPU Unit and the Units in the rack slots. Or, detection of all Special I/O Units and CPU Bus Units was not completed when the power supply to the Controller was turned ON.	 The I/O Connecting Cable is disconnected or wires inside it are broken. Conductive material has gotten inside. The connector contact is faulty due to foreign material in the connector. Noise A Unit has failed. 	0					page 3-120
24010000 hex [NJ-series]	Unsupported Unit Detect- ed	An unsupported CJ- series Unit or Power Supply Unit is mount- ed.	An unsupported CJ-series Unit or Power Supply Unit was de- tected.	0					page 3-121
24020000 hex [NJ-series]	Too Many I/O Points	The total number of I/O points in the connected CJ-series Units exceeds the maximum specified value of the CPU Unit.	The total number of I/O points in the connected CJ-series Ba- sic I/O Units exceeds 2,560.	0					page 3-121
24030000 hex [NJ-series]	End Cover Missing	The End Cover is not connected to right end of the CPU Rack or an Expansion Rack.	 The End Cover is not connected to right end of the CPU Rack or an Expansion Rack. The End Cover is not connected properly. 	0					page 3-122
24040000 hex [NJ-series]	Incorrect Unit/Expan- sion Rack Connection	The number of Units or Expansion Racks exceeds the maximum value specified for the CPU Unit. Or, an Interrupt Input Unit was mounted to a unsupported slot or to an Expansion Rack.	 More than 10 Units are connected to one Rack. More than three Expansion Racks are connected. More than two Interrupt Input Units are mounted. An Interrupt Input Unit was mounted to a unsupported slot or to an Expansion Rack. 	0					page 3-122
24050000 hex [NJ-series]	Duplicate Unit Number	The same unit number is set for more than one Special I/O Unit or more than one CPU Bus Unit.	 The same unit number is set for more than one Special I/O Unit or more than one CPU Bus Unit. The same unit number is assigned to a Special I/O Unit that uses more than one unit number and another Special I/O Unit. 	0					page 3-123

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
34010000 hex [NJ-series]	I/O Setting Check Error	There is an inconsistency between a Unit model in the Unit Configuration in the CPU Unit and the Unit model that is mounted in the Controller.	A Unit model or Special Unit unit number in the Unit Config- uration in the CPU Unit is dif- ferent from the Unit model or the Special Unit unit number of the Unit that is mounted in the Controller.	0					page 3-124
44400000 hex [NJ-series]	PLC Func- tion Proc- essing Error	A fatal error was detected in the PLC Function Module.	An error occurred in the soft- ware.	0					page 3-124
64010000 hex [NJ-series]	Impossible to Access Special Unit	An error occurred in data exchange between the CPU Unit and a Special Unit.	 The setting of the rotary switches or a DIP switch pin on a Special Unit is not correct. An error occurred in the Special Unit. The Unit connection is faulty. Noise A Unit has failed. 			0			page 3-125
102D0000 hex (Ver. 1.03 or later) [NJ-series]	CJ-series Unit Backup Failed	The backup operation for a CJ-series Unit ended in an error.	 An error occurred in the Unit Configuration. An error occurred for a Special Unit. A restart is in progress for the Special Unit. A Unit model or Special Unit unit number in the Unit Configuration in the CPU Unit is different from the Unit model or the Special Unit unit number of the Unit that is mounted in the Controller. The CPU Unit or CJ-series Unit has failed. 				0		page 3-126
102E0000 hex (Ver. 1.03 or later) [NJ-series]	CJ-series Unit Restore Operation Failed	The restore operation for a CJ-series Unit ended in an error.	 An error occurred in the Unit Configuration. An error occurred for a Special Unit. The Unit Configuration in the backup file does not agree with the physical Unit configuration. A restart is in progress for the Special Unit. The restore conditions that are required by the Special Unit are not met. The backup files are corrupted. The CPU Unit or CJ-series Unit has failed. 				0		page 3-127

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
30200000 hex (Ver. 1.02 or later) [NJ-series]	Unsupported Unit Setting	A setting in the Special Unit is not supported.	A setting in the Special Unit is not supported by the CPU Unit.				0		page 3-128
80010000 hex [NJ-series]	Illegal Pack- et Discarded	An illegal packet was received during message communications. The illegal packet was discarded.	Noise				0		page 3-128
04020000 hex [NJ-series]	PLC System Information	This event provides internal information from the PLC Function Module.	This event provides internal information from the PLC Function Module. It is recorded to provide additional information for another event.					0	page 3-129
44410000 hex [NJ-series]	PLC System Information	This event provides internal information from the PLC Function Module.	This event provides internal information from the PLC Function Module. It is recorded to provide additional information for another event.					0	page 3-129

Built-in I/O and Option Boards

			Le	evel	Reference
Event code	Event name	Meaning	Assumed cause M P a rt	M O I n f o	
05440000 hex [NX1P2]	Option Board Error	An Option Board was removed or mounted during operation, or an Option Board hardware error occurred.	An Option Board was removed or mounted during operation. A hardware error was detected in an Option Board.	0	page 3-130
35940000 hex [NX1P2]	Option Board Configuration Verification Error	The Option Board configuration setup does not agree with the actual configuration.	The Option Board configuration setup does not agree with the actual configuration. An Option Board is not mounted correctly.	0	page 3-131
35950000 hex [NX1P2]	Unsupported Option Board Mounted	There is an unsup- ported Option Board in the actual configu- ration.	There is an unsupported Option Board in the actual configuration.	0	page 3-131
88130000 hex [NX1P2]	Analog Op- tion Board Startup Error	An error occurred when an Analog Option Board is started.	An Analog Option Board is not mounted correctly. Or an Analog Option Board failed.	0	page 3-132
88140000 hex [NX1P2]	Analog Option Board Communications Error	A communications error occurred during Analog Option Board operation.	If the indicator on an Analog Option Board flashes, it means that an error occurred in communicating with the Analog Option Board during operation. If the indicator on an Analog Option Board is lit, it means that a WDT error occurred in the Analog Option Board.	0	page 3-132

Errors Related to Tasks

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
60020000 hex	Task Execution Timeout	Task execution exceeded the timeout detection time.	 The timeout detection time setting is too short. The task period setting is too short. A user program is too large. The number of times that processing is repeated is larger than expected. Task Priority Error Frequent Event Task Execution 	0					page 3-133
60030000 hex	I/O Refreshing Timeout Error	Consecutive I/O refresh failures occurred during the primary periodic task or periodic task period.	The task period setting is too short. Task Priority Error for Periodic Tasks and Event Tasks There are too many Units and slaves that perform I/O refresh in the task period. Frequent Event Task Execution	0					page 3-134
60040000 hex	Insufficient System Service Time Error	The specified system service execution time could not be obtained.	There was not sufficient time to execute the tasks and tag data link service. The system service execution interval is too short or the system service execution time ratio is too long in the System Service Monitoring Settings.	0					page 3-135
60010000 hex	Task Period Exceeded	Task execution was not completed during the set task period for the primary periodic task or a periodic task.	 The task period setting is too short. A user program is too large. The number of times that processing is repeated is larger than expected. Task Priority Error for Periodic Tasks and Event Tasks Frequent Event Task Execution 			0			page 3-136
60050000 hex	Task Period Exceeded	Task execution was not completed during the set task period for the primary periodic task or fixed periodic task.	 The task period setting is too short. A user program is too large. The number of times that processing is repeated is larger than expected. Task Priority Error for Periodic Tasks and Event Tasks Frequent Event Task Execution 				0		page 3-137

Errors Related to Controller Operation

				Level			el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
10200000 hex	User Program/ Controller Configurations and Setup Transfer Error	The user program or Controller Configurations and Setup were not transferred correctly.	 The user program or Controller Configurations and Setup are not correct because the power supply to the Controller was interrupted during a download of the user program or the Controller Configurations and Setup. The user program or Controller Configurations and Setup are not correct because the power supply to the Controller was interrupted during online editing. The user program or Controller Configurations and Setup are not correct because the power supply to the Controller was interrupted during a Clear All Memory operation. The user program or Controller Configurations and Setup are not correct because the power supply to the Controller was interrupted during a Clear All Memory operation. The power supply to the Controller was interrupted during a restore operation. The power supply to the Controller is not cycled, although it is required after a Clear All Memory operation. Non-volatile memory failed. 	0					page 3-138
10210000 hex	Illegal User Program Ex- ecution ID	The user program execution IDs set in the user program and in the CPU Unit do not match.	 The user program execution IDs set in the user program and in the CPU Unit do not match. A user program execution ID is set in the CPU Unit but not in the user program. 	0					page 3-139
10240000 hex	Illegal User Program	The user program is not correct.	There are more than 8 nesting levels for functions or function blocks.	0					page 3-140
10250000 hex	Illegal User Program/ Controller Configura- tions and Setup	The upper limit of the usable memory was exceeded or the user program or Controller Configurations and Setup is corrupted.	 The upper limit of the data size was exceeded. The main memory capacity was exceeded. Non-volatile memory is deteriorating or has failed. 	0					page 3-141

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
10270000 hex (Ver. 1.03 or later)	Error in Starting Automatic Transfer	An error was detected in pre-execution checks for automatic transfer.	 An SD Memory Card is not inserted. The SD Memory Card type is not correct. The format of the SD Memory Card is not correct. There is no autoload folder on the SD Memory Card. There are no backup files in the autoload folder on the SD Memory Card. Either the backup files in the autoload folder on the SD Memory Card are corrupted or required data is not in the backup files on the SD Memory Card. The unit version of the CPU Unit to which to transfer the files is older than the unit version of the backup files on the SD Memory Card. The model of the CPU Unit to which to transfer the files is not the same as the model of the CPU Unit of the backup files on the SD Memory Card. Recovery was executed for the SD Memory Card. Recovery was executed for the SD Memory Card. The CPU Unit is write-protected. The Settings in the automatic transfer command file (AutoloadCommand.ini) are not correct. Reading the data for automatic transfer failed because the SD Memory Card is faulty or not formatted correctly. The SD Memory Card is damaged. The database connection service version of the CPU Unit to which to transfer the files is older than the database connection service version of the SD Memory Card. The robot version of the CPU Unit to which to transfer the files is older than the robot version of the SD Memory Card. The robot version of the CPU Unit to which to transfer the files is older than the robot version of the SD Memory Card. The robot version of the CPU Unit to which to transfer the files is older than the robot version of the SD Memory Card. The robot version of the CPU Unit to which to transfer the files is older than the robot version of the SD Memory Card. 	0					page 3-142

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
10280000 hex (Ver. 1.03 or later)	Error in Executing Automatic Transfer	The automatic transfer ended in an error.	 It was not possible to read the data for automatic transfer. The SD Memory Card was removed during an automatic transfer. There are no backup files in the autoload folder on the SD Memory Card. The backup files in the autoload folder on the SD Memory Card are corrupted. The SD Memory Card is damaged. Also check the following when you use the Robot Integrated CPU Unit. The SD Memory Card is write protected. The capacity of the SD Memory Card is insufficient. The number of files or directories in the SD Memory Card exceeded the maximum number supported by the file system of the SD Memory Card. 	0					page 3-144

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
10330000 hex (Ver. 1.11 or later)	SD Memory Card Pro- gram Trans- fer Pre-exe- cution Check Error	An error was detected in pre-execution checks for transferring SD Memory Card programs.	 An SD Memory Card is not inserted. The SD Memory Card type is not correct. The format of the SD Memory Card is not correct. There is no such folder on the SD Memory Card as specified by the _Card1PrgTransferCmd.DirName system-defined variable. There are no backup files in such a folder on the SD Memory Card as specified by the _Card1PrgTransferCmd.DirName system-defined variable. Either the backup files in the folder specified by the_Card1PrgTransferCmd.DirName system-defined variable on the SD Memory Card are corrupted or required data is not in the backup files on the SD Memory Card. The unit version of the CPU Unit to which to transfer the files is older than the unit version of the backup files on the SD Memory Card. The model of the CPU Unit to which to transfer the files is not the same as the model of the CPU Unit of the backup files on the SD Memory Card. The CPU Unit is write-protected. Required files are not set to transfer in the setting of the _Card1PrgTransferCmd system-defined variable. Reading the data for the SD Memory Card is faulty or not formatted correctly. The SD Memory Card is damaged. 	0					page 3-146

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
10340000 hex (Ver. 1.11 or later)	Error in Exe- cuting SD	The SD Memory Card program transfer	 The database connection service version of the CPU Unit to which to transfer the files is older than the database connection service version of the backup files on the SD Memory Card. The robot version of the CPU Unit to which to transfer the files is older than the robot version of the backup files on the SD Memory Card. It was not possible to read the data for SD Memory Card pro- 						page 3-149
	Memory Card Pro- gram Trans- fer	ended in an error.	gram transfers. The SD Memory Card was removed during a SD Memory Card program transfer. There are no backup files in such a folder on the SD Memory Card as specified by the _Card1PrgTransferCmd.Dir-Name system-defined variable. The backup files in such a folder on the SD Memory Card as specified by the _Card1PrgTransferCmd.Dir-Name system-defined variable are corrupted. The SD Memory Card is damaged. Also check the following when you use the Robot Integrated CPU Unit. The SD Memory Card is write protected. The capacity of the SD Memory Card is insufficient. The number of files or directories in the SD Memory Card exceeded the maximum number supported by the file system of the SD Memory Card.	0					2.450
40110000 hex	PLC Func- tion Proc- essing Error	A fatal error was de- tected in the PLC Function Module.	An error occurred in the soft- ware.	0					page 3-150
40160000 hex (Ver. 1.02 or earli- er) [NJ-series]	Safe Mode	The Controller started in Safe Mode.	The power supply was turned ON to the Controller when the Safe Mode was set on the DIP switch on the CPU Unit.	0					page 3-151

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
44420000 hex (Ver. 1.05 or later)	PLC Func- tion Proc- essing Error	A fatal error was detected in the PLC Function Module.	An error occurred in the soft- ware.	0					page 3-151
40120000 hex	PLC Func- tion Proc- essing Error	A fatal error was detected in the PLC Function Module.	An error occurred in the soft- ware.		0				page 3-152
35EF0000Hex (Ver. 1.63 or later) [NX502]	Automation Playback Startup Error	The automation play- back function cannot be started.	Settings to use the automation playback function are made for the CPU Unit that does not support the automation play- back function.			0			page 3-152
40130000 hex	PLC Func- tion Proc- essing Error	A fatal error was detected in part of the PLC Function Module.	An error occurred in the soft- ware.			0			page 3-153
95770000 hex (Ver.1.63 or later earlier than Ver.1.65) [NX502]	Upper Limit of Variable Sampling	The upper limit for variable sampling has been reached.	The maximum number of variable sampling has been reached or size or processing capacity has exceeded the upper limit.			0			page 3-154
95790000 hex (Ver.1.65 or later) [NX502]	Upper Limit of Variable Sampling	The upper limit for variable sampling has been reached.	The maximum number of variable sampling has been reached or size or processing capacity has exceeded the upper limit.			0	•		page 3-155
10230000 hex	Event Log Save Error	Saving the event log failed.	 A low battery voltage prevented retention of memory during a power interruption. Data in the event log area are invalid. 				0		page 3-156
10260000 hex	Trace Set- ting Transfer Failure	The power supply was interrupted while transferring the trace settings.	The power supply was inter- rupted while transferring the trace settings.				0		page 3-156

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
10290000 hex (Ver. 1.03 or later)	Backup Failed to Start	An error was detected in pre-execution checks for a backup operation.	 An SD Memory Card is not inserted. The SD Memory Card type is not correct. The format of the SD Memory Card is not correct. The SD Memory Card is write protected. The Prohibiting backing up data to the SD Memory Card parameter is set to prohibit backing up data to an SD Memory Card. Another backup operation is in progress. Synchronization, online editing, or the Clear All Memory operation is in progress. The backup was canceled by the user. The online connection with the Sysmac Studio was discon- 				0		page 3-157
			nected. • The SD Memory Card is damaged.						

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
102A0000 hex (Ver. 1.03 or later)	Backup Failed	The backup operation ended in an error.	 The capacity of the SD Memory Card is insufficient. It was not possible to save the data that was specified for backup. The SD Memory Card was removed during a backup operation. Failed to back up Unit or slave. The backup was canceled by the user. Execution of the Save Cam Table instruction or changing the CPU Unit name is in progress. The online connection with the Sysmac Studio was disconnected. It was not possible to save the data that was specified for backup to the computer. The SD Memory Card is damaged. Also check the following when you use the Robot Integrated CPU Unit. The SD Memory Card format is invalid The SD Memory Card is write protected. The /D folder, which is the data to be backed up, does not exist on the SD Memory Card. 				0		page 3-159

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
102B0000 hex (Ver. 1.03 or later)	Restore Operation Failed to Start	An error was detected in pre-execution checks for a restore operation.	 An SD Memory Card is not inserted. The SD Memory Card type is not correct. The format of the SD Memory Card is not correct. There are no backup files on the SD Memory Card. Either the backup files on the SD Memory Card are corrupted or required data is not in the backup files on the SD Memory Card. The unit version of the CPU Unit to which to restore the files is older than the unit version of the backup files on the SD Memory Card. The model of the CPU Unit to which to restore the files is not the same as the model of the CPU Unit of the backup files on the SD Memory Card. Recovery was executed for the SD Memory Card. The CPU Unit is write-protected. The settings in the restore command file (RestoreCommand.ini) are not correct. A backup operation is in progress. Synchronization, online editing, or the Clear All Memory operation is in progress. The online connection with the Sysmac Studio was disconnected. Reading the data for restoration failed because the SD Memory Card is faulty or not formatted correctly. The SD Memory Card is damaged. The database connection service version of the CPU Unit to which to restore the files is older than the database connection service version of the backup files on the SD Memory Card. 				0		page 3-161

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
			 The robot version of the CPU Unit to which to restore the files is older than the robot version of the backup files on the SD Memory Card. Check the followings for specification with system-defined variables. Restore by system-defined variable is set to Do not use in the Controller Setup. Password of Restore by system-defined variable in the Controller Setup does not agree with the _Card1Restor-eCmd.Password system-defined variable. The DIP switch on the CPU Unit is not set to allow starting the restore of SD Memory Card backups by specification with system-defined variables. There is no such folder as specified by the system-defined variable. Required files are not set to transfer in the setting of the system-defined variable. Also check the following when you use the Robot Integrated CPU Unit. The SD Memory Card is write protected. The capacity of the SD Memony Card is inputficient 						

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
102C0000 hex (Ver. 1.03 or later)	Restore Operation Failed	The restore operation ended in an error.	 It was not possible to read the data to restore. The SD Memory Card was removed during a restore operation. Failed to restore Unit or slave. The SD Memory Card is damaged. Also check the following when you use the Robot Integrated CPU Unit. The SD Memory Card is write protected. The capacity of the SD Memory Card is insufficient. The number of files or directories in the SD Memory Card exceeded the maximum number supported by the file system of the SD Memory Card. 				0		page 3-164

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
10320000 hex (Ver. 1.11 or later)	SD Memory Card Pro- gram Trans- fer Failed to Start	An error was detected in pre-start checks for transferring SD Memory Card programs.	 Program transfer by systemdefined variable is set to Do not use in the Controller Setup. Password of Program transfer by system-defined variable in the Controller Setup does not agree with theCard1PrgTransferCmd.Password system-defined variable. The DIP switch on the CPU Unit is not set to allow starting the SD Memory Card program transfer. An SD Memory Card is not inserted. The SD Memory Card type is not correct. The format of the SD Memory Card is not correct. There is no such folder on the SD Memory Card as specified by theCard1PrgTransferCmd.DirName system-defined variable. There are no backup files in such a folder on the SD Memory Card as specified by theCard1PrgTransferCmd.DirName system-defined variable. Either the backup files in the folder specified by theCard1PrgTransferCmd.DirName system-defined variable on the SD Memory Card are corrupted or required data is not in the backup files on the SD Memory Card. The unit version of the CPU Unit to which to transfer the files is older than the unit version of the backup files on the SD Memory Card. The model of the CPU Unit to which to transfer the files is not the same as the model of the CPU Unit of the backup files on the SD Memory Card. The CPU Unit is write-protected. Another backup operation is in progress. 				0		page 3-166

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
			 Synchronization, online editing, or the Clear All Memory operation is in progress. Required files are not set to transfer in the setting of the _Card1PrgTransferCmd system-defined variable. Reading the data for the SD Memory Card program transfer failed because the SD Memory Card is faulty or not formatted correctly. The SD Memory Card is damaged. The database connection service version of the CPU Unit to which to transfer the files is older than the database connection service version of the backup files on the SD Memory Card. The robot version of the CPU Unit to which to transfer the files is older than the robot version of the backup files on the SD Memory Card. 						

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
103E0000 hex (Version 1.14 or later)	Restore Pre- execution Check Fail- ure	An error was detected in preexecution checks for specification with system-defined variables for the SD Memory Card restore operation.	 An SD Memory Card is not inserted. The SD Memory Card type is not correct. The format of the SD Memory Card is not correct. There is no such folder on the SD Memory Card as specified by the _Card1RestoreCmd.DirName system-defined variable. There are no backup files in such a folder on the SD Memory Card as specified by the _Card1RestoreCmd.DirName system-defined variable. Either the backup files in the folder specified by the _Card1RestoreCmd.DirName system-defined variable on the SD Memory Card are corrupted or required data is not in the backup files on the SD Memory Card. The unit version of the CPU Unit to which to transfer the files is older than the unit version of the backup files on the SD Memory Card. The model of the CPU Unit to which to transfer the files is not the same as the model of the CPU Unit of the backup files on the SD Memory Card. The CPU Unit is write-protected. Required files are not set to transfer in the setting of the system-defined variable. Reading the data for the SD Memory Card program transfer failed because the SD Memory Card is faulty or not formatted correctly. The SD Memory Card is damaged. The database connection service version of the CPU Unit to which to transfer the files is older than the database connection service version of the backup files on the SD Memory Card. 				0		page 3-169

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
			The robot version of the CPU Unit to which to transfer the files is older than the robot version of the backup files on the SD Memory Card.						
103F0000 hex	Online Edits Transfer Failure	Transferring the on- line edits failed.	 The number of variables exceeded the upper limit of variables. The variable setting for Initial Value Specified/No Initial Value Specified was changed. 				0		page 3-171
152C0000Hex (Ver. 1.63 or later) [NX502]	Variable Log Save Failed	Variable logs were not saved.	Although the conditions for saving the variable log were satisfied, the variable log could not be generated due to the following factors. The storage to save the log is unavailable for some reason. The storage to save the log is write-protected. Number of files or directories in the storage has reached the maximum number.			•	0		page 3-172
10630000 hex (Ver. 1.31 or later) [NX102] (Ver. 1.60 or later) [NX502]	Safety Data Logging Failed to Start	Starting the safety data logging failed.	 An SD Memory Card is not inserted. There are no logging setting files. The logging settings number of the logging setting file is duplicated. The logging settings number of the logging setting file is outside of the specifications. The logging setting files are invalid. Not all of safety master connections are established. Impossible to access a logging target variable that is specified in the logging setting file. 				0		page 3-173

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
10640000 hex (Version 1.31 or later) [NX102] (Ver. 1.60 or later) [NX502]	Safety Data Log File Save Failed	Saving the log file for safety data logging failed.	 The SD Memory Card was removed after the start of logging. The SD Memory Card is write-protected. The capacity of the SD Memory Card is insufficient. The maximum number of files for an SD Memory Card was exceeded. The SD Memory Card is damaged. 				0		page 3-174
40140000 hex	PLC System Information	This event provides internal information from the PLC Function Module.	This event provides internal information from the PLC Function Module. It is recorded to provide additional information for another event.				0		page 3-175
40170000 hex (Ver. 1.03 or later)	Safe Mode	The Controller started in Safe Mode.	The Controller started in Safe Mode.				0		page 3-175
64050000Hex (Ver. 1.63 or later) [NX502]	Capacity Warning of Variable Log Save Destination	The free storage space for variable logs is less than the specified capacity.	The free storage space for variable logs has fallen below the specified capacity.			•	0		page 3-176
64060000Hex (Ver. 1.63 or later) [NX502]	No Variable Log Concur- rency	The task of the next task period started before variable sampling was completed. If the variable log is output in this status, the concurrency of the variable log data cannot be ensured.	Due to the following factors, the task of the next task period started before the variable sampling was completed. The number of variables to be sampled is too large. Task execution time as a ratio of overall task period is too high.			•	0		page 3-177
64070000Hex (Ver. 1.63 or later) [NX502]	Cycle with No Variable Sampling	A cycle occurred in which variable sampling was omitted.	Due to the following factors, a period in which variable sampling is not performed occurred. The number of variables to be sampled is too large. Unused time in task period is too short.			•	0		page 3-178
80230000 hex (Ver. 1.05 or later)	NX Message Communica- tions Error	An error has occurred in message communications.	 The communications cable is broken. The communications cable connector is disconnected. The NX message communications load is high. 				0		page 3-179

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
90470000 hex (Version 1.31 or later) [NX102] (Ver. 1.60 or later) [NX502]	Safety Data Logging Aborted	The execution of safety data logging was aborted.	 The execution of safety data logging was aborted by a service switch operation. Either a communication error on the safety master connections occurred or the Safety CPU Unit entered a operating mode where it could not continue safety process data communications. The NX bus was restarted. The Controller Setup or program was changed. 				0		page 3-180
95760000Hex (Ver. 1.63 or later) [NX502]	Variable Log Overwritten	Old variable logs were cleared and new variable logs were saved.	There is not enough free space in the storage, or it has fallen below the specified capacity.			•	0		page 3-181
40150000 hex	PLC System Information	This event provides internal information from the PLC Function Module.	This event provides internal information from the PLC Function Module. It is recorded to provide additional information for another event.					0	page 3-181
44430000 hex (Ver. 1.05 or later)	PLC System Information	This event provides internal information from the PLC Function Module.	This event provides internal information from the PLC Function Module. It is recorded to provide additional information for another event.					0	page 3-182
90010000 hex	Clock Changed	The clock time was changed.	The clock time was changed.					0	page 3-182
90020000 hex	Time Zone Changed	The time zone was changed.	The time zone was changed.					0	page 3-183
90030000 hex (Ver. 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Online Connection Started	Online connection with the Sysmac Studio was started.	Online connection with the Sysmac Studio was started.					0	page 3-183
90040000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Online Connection Ended	Online connection with the Sysmac Studio was terminated.	Online connection with the Sysmac Studio was terminat- ed.					0	page 3-184

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
90050000 hex (Ver. 1.10 or later)	User Program/ Controller Configurations and Setup Downloaded	The user program and the Controller configurations and setup were downloaded.	The user program and the Controller configurations and setup were downloaded.					0	page 3-185
90070000 hex (Ver. 1.10 or later)	Online Edits Transferred	The user program was edited online.	The user program was edited online and the edits were transferred to the Controller.					0	page 3-186
90080000 hex	Variable Changed to TRUE with Forced Re- freshing	Changing a variable to TRUE with forced refreshing was specified.	Changing a variable to TRUE with forced refreshing was specified by the user.					0	page 3-186
90090000 hex	Variable Changed to FALSE with Forced Re- freshing	Changing a variable to FALSE with forced refreshing was speci- fied.	Changing a variable to FALSE with forced refreshing was specified by the user.					0	page 3-187
900A0000 hex	All Forced Refreshing Cleared	Clearing all forced re- freshing values was specified.	Clearing all forced refreshing values was specified by the user.					0	page 3-187
900B0000 hex	Memory All Cleared	All memory was cleared.	A user with Administrator rights cleared all of the memo- ry.					0	page 3-188
900C0000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					0	page 3-189
900F0000 hex (Ver. 1.03 or later)	Automatic Transfer Completed	The automatic transfer was completed.	The automatic transfer was completed.					0	page 3-189
90110000 hex	Power Turned ON	The power supply was turned ON.	The power supply was turned ON.					0	page 3-190
90120000 hex	Power Inter- rupted	The power supply was interrupted.	The power supply was inter- rupted.					0	page 3-190
90130000 hex	Operation Started	Operation was start- ed.	A command to start operation was received.					0	page 3-190
90140000 hex	Operation Stopped	Operation was stopped.	A command to stop operation was received.					0	page 3-191
90150000 hex	Reset Exe- cuted	A reset was executed.	A reset command was received.					0	page 3-191
90160000 hex	User Program Execution ID Write	The user program execution ID was set or changed in the CPU Unit.	A user with Administrator rights changed the user pro- gram execution ID that is set in the CPU Unit.					0	page 3-192

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
90170000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Authentication Setting Transferred	The authentication setting was transferred.	The authentication setting was transferred.					0	page 3-193
90180000 hex	All Controller Errors Cleared	All current errors were cleared.	The user cleared all current errors.					0	page 3-193
90190000 hex	Forced Re- freshing Cleared	Clearing a forced re- freshing value was specified.	Clearing a forced refreshing value was specified by the user.					0	page 3-194
901A0000 hex (Ver. 1.03 or later)	Backup Started	A backup operation was started.	A backup operation was start- ed.					0	page 3-194
901B0000 hex (Ver. 1.03 or later)	Backup Completed	The backup operation ended normally.	The backup operation ended normally.					0	page 3-195
901C0000 hex (Ver. 1.03 or later)	Restore Op- eration Start- ed	A restore operation started.	A restore operation started.					0	page 3-195
901D0000 hex (Ver. 1.03 or later)	Restore Op- eration Com- pleted	The restore operation ended normally.	The restore operation ended normally.					0	page 3-196
90200000 hex (Ver. 1.11 or later)	SD Memory Card Pro- gram Trans- fer Started	Transferring the SD Memory Card pro- grams was started.	Transferring the SD Memory Card programs was started.					0	page 3-196
90210000 hex (Ver. 1.11 or later)	SD Memory Card Pro- gram Trans- fer Complet- ed	Transferring the SD Memory Card pro- grams was complet- ed.	Transferring the SD Memory Card programs was completed.					0	page 3-197
90290000 hex (Ver. 1.32 or later) [NX102] (Ver. 1.21 or later) [NX701-□□00, NX1P2, NJ501 (excluding NJ501-□□20), NJ301, NJ101-□□00]	Project Unit Version Changed	The project unit version was changed.	 The project unit version of the project in the Controller in the transfer or restore destination and that in the transfer or restore source project are different. The project was transferred or restored in the default or Clear All Memory state. 					0	page 3-197

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
902A0000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Change to RUN Mode Commanded	The Controller received a command to switch to RUN mode.	The Controller received a command to switch to RUN mode.					0	page 3-198
902B0000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Change to PROGRAM Mode Com- manded	The Controller received a command to switch to PROGRAM mode.	The Controller received a command to switch to PROGRAM mode.					0	page 3-198
902C0000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Access Rights Forci- bly Released	The access rights were forcibly released.	The access rights were forcibly released.					0	page 3-199
902D0000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	CPU Unit Name Changed	The CPU Unit name was changed.	The CPU Unit name was changed.					0	page 3-199
902E0000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	CPU Unit Write Pro- tected	The CPU Unit was write-protected.	The CPU Unit was write-protected.					0	page 3-200

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
902F0000 hex (Version 1.49 or later) [NJ-series, NX102, and NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Operation Mode Change Set- ting Written	Setting to change the operation mode was written.	Setting to change the operation mode was written.					0	page 3-200
90300000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Backup Start Commanded	The Controller received a command to start backup operation from Sysmac Studio.	The Controller received a command to start backup operation from Sysmac Studio.					0	page 3-201
90310000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Restore Start Com- manded	The Controller received a command to start restore operation from Sysmac Studio.	The Controller received a command to start restore operation from Sysmac Studio.					0	page 3-201
90320000 hex (Version 1.60 or later) [NJ-series, NX102, NX1P2] (Version 1.32 or later) [NX701]	Firmware Update Pro- hibition Set- ting Changed	Firmware update pro- hibition setting was changed.	Firmware update prohibition setting was changed.					0	page 3-202
90330000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Start Instruc- tion of Om- ron Mainte- nance	Maintenance by Omron maintenance personnel was begun.	Maintenance by Omron main- tenance personnel was begun.					0	page 3-202

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
90340000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	End Instruc- tion of Om- ron Mainte- nance	Maintenance by Omron maintenance personnel was ended.	Maintenance by Omron main- tenance personnel was ended.					0	page 3-203
90460000 hex (Version 1.31 or later) [NX102] (Ver. 1.60 or later) [NX502]	Safety Data Logging Started	Safety data logging was started.	Safety data logging was started because the start conditions were met.					0	page 3-203
90480000 hex (Version 1.31 or later) [NX102] (Ver. 1.60 or later) [NX502]	Safety Data Logging Completed	The execution of safety data logging was completed because the trigger conditions were met.	The trigger condition that is specified in the Safety Data Logging Settings is met, and safety data logging ends.					0	page 3-204
90A20000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Au- thentication Enabled	User authentication was enabled.	User authentication was enabled.					0	page 3-204
90A30000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Au- thentication Disabled	User authentication was disabled.	User authentication was disabled.					0	page 3-205
90A40000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Added	A user was added.	A user was added.					0	page 3-206

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
90A50000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Delet- ed	A user was deleted.	A user was deleted.					0	page 3-207
90A60000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Authority Changed	A user authority was changed.	A user authority was changed.					0	page 3-208
90A70000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Pass- word Changed	A user password was changed.	A user password was changed.					0	page 3-209
90A80000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Pass- word Validity Period Con- trol Enabled	Control of user pass- word validity period was activated.	Control of user password validity period was activated.					0	page 3-209
90A90000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Pass- word Validity Period Con- trol Disabled	Control of user password validity period was disabled.	Control of user password validity period was disabled.					0	page 3-210

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
90AA0000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Pass- word Validity Period Changed	A validity period of user password was changed.	A validity period of user password was changed.					0	page 3-210
90AB0000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Au- thentication Operation Lock Ena- bled	Operation lock of user authentication function was enabled.	Operation lock of user authentication function was enabled.					0	page 3-211
90AC0000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Au- thentication Operation Lock Disa- bled	Operation lock of user authentication function was disabled.	Operation lock of user authentication function was disabled.					0	page 3-211
90AD0000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Au- thentication Operation Lock Time Changed	Operation lock time of user authentication function was changed.	Operation lock time of user authentication function was changed.					0	page 3-212
90AE0000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Operation Authority Verification Enabled	Operation authority verification was enabled.	Operation authority verification was enabled.					0	page 3-213

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
90AF0000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Operation Authority Verification Disabled	Operation authority verification was disabled.	Operation authority verification was disabled.					0	page 3-214
90B00000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Operation Authority Password Changed	A operation authority password was changed.	A operation authority password was changed.					0	page 3-215
90B10000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Operation Authority for Password Input Omis- sion Changed	An operation authority used when password input is omitted was changed.	An operation authority used when password input is omitted was changed.					0	page 3-216
90B20000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Operation Authority Verification Operation Lock Ena- bled	Operation lock of operation authority verification function was enabled.	Operation lock of operation authority verification function was enabled.					0	page 3-217
90B30000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Operation Authority Verification Operation Lock Disa- bled	Operation lock of operation authority verification function was disabled.	Operation lock of operation authority verification function was disabled.					0	page 3-218

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
90B40000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Operation Authority Verification Operation Lock Time Changed	Operation lock time of operation authority verification function was changed.	Operation lock time of operation authority verification function was changed.					0	page 3-219
90B50000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Pass- word Expira- tion Notice Enabled	User password expiration notice was enabled.	User password expiration notice was enabled.					0	page 3-219
90B60000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	User Pass- word Expira- tion Notice Disabled	User password expiration notice was disabled.	User password expiration notice was disabled.					0	page 3-220
90B70000 hex (Version 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Days for Pri- or Notice of User Pass- word Expira- tion Changed	Number of days set to give prior notice of user password expi- ration was changed.	Number of days set to give pri- or notice of user password ex- piration was changed.					0	page 3-220
95720000Hex (Ver. 1.63 or later) [NX502]	Automation Playback Settings Changed	The settings for the automation playback function were changed.	The Controller is synchronized with a project with changed settings on Sysmac Studio.					0	page 3-221
95730000Hex (Ver. 1.63 or later) [NX502]	Variable Sampling Started	Variable sampling started.	Conditions to start variable sampling are met.					0	page 3-221
95740000Hex (Ver. 1.63 or later) [NX502]	Variable Sampling Stopped	Variable sampling stopped.	Conditions to end variable sampling are met.					0	page 3-222

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
95750000Hex (Ver.1.63 or later earlier than Ver.1.65) [NX502]	Variable Log Output Com- pleted	Variable log output has completed.	Save conditions of variable log are satisfied and output is completed.					0	page 3-222
95780000 hex (Ver.1.65 or later) [NX502]	Variable Log Output Com- pleted	Variable log output has completed.	Save conditions of variable log are satisfied and output is completed.					0	page 3-223

Errors Related to FINS Communications

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
14010000 hex [NJ-series]	CPU Bus Unit Setup Area Error	An error was detected in the memory check of the Setup Area for CPU Bus Units.	The power supply to the Controller was interrupted or communications with the Sysmac Studio were disconnected while downloading the CPU Bus Unit Settings.			0			page 3-224
34100000 hex [NJ-series, NX701-□ □20, NX502, NX102, NX1P2]	IP Address Table Setting Error	The IP address table settings are incorrect.	The IP address conversion method is set to the combined method or the IP address table method, but the IP address table settings are incorrect.			0			page 3-224
34130000 hex [NJ-series, NX701-□ □20, NX502, NX102]	FINS/TCP Connection Table Setting Error	The FINS/TCP connection table is incorrect.	The power supply to the Controller was interrupted or communications with the Sysmac Studio were disconnected while downloading the FINS/TCP connection table.			0			page 3-225
34110000 hex [NJ-series, NX701-□ □20, NX502, NX102, NX1P2]	Unknown Destination Node	The send destination node is not known.	The send destination node was not found when a FINS message was sent.				0		page 3-225
80100000 hex [NJ-series, NX701-□ □20, NX502, NX102, NX1P2]	Packet Discarded	One or more packets were discarded.	 A FINS response addressed to the CPU Unit was received. The send designation Unit for the FINS response does not exist. 				0		page 3-226
80110000 hex [NJ-series]	Packet Discarded	One or more packets were discarded.	 An attempt was made to send a FINS response with over 2002 bytes. An attempt was made to route a FINS response with over 2002 bytes. Packet was received with a No Such Unit routing error. Packet was received with a Routing Error routing error. Packet was received with a No Routing Table routing error. Packet was received with an Event Area Size Over Limit routing error. There is insufficient space in the internal buffer. FINS message routing failed because the communications load is too high. 				0		page 3-227

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
80120000 hex [NJ-series, NX701-□ □20, NX502, NX102, NX1P2]	Packet Discarded	One or more packets were discarded.	 A FINS response was received with the destination network address (DNA) set to the local network and the destination node address (DA1) not set to the local node. A FINS command or response was received with a hub network address specification for which the destination network address (DNA) was greater than or equal to 80 hex. There is insufficient space in the internal buffer. A FINS command that does not have the minimum command length was received. A FINS command that exceeded the maximum command length was received. Sending packets failed. FINS message routing failed because the communications load is too high. Or a command that was addressed to the built-in EtherNet/IP port was received with the source network address (SNA) set to 0. A FINS response that was addressed to the built-in EtherNet/IP port was received. A FINS response or a command for which a response is not required was received when the routing tables were not registered. A FINS response or a command for which a response is not required was received when there was an error in the routing tables. A FINS response or a command for which a response is not required was received when there was an error in the routing tables. A FINS response or a command for which a response is not required was received when there was an error in the routing tables. Transmission is not possible because the destination address is not set in the routing tables. Transmission is not possible because the destination address is not set in the routing tables. 				0		page 3-228

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
			Routing is not possible be- cause the FINS node address setting in the Built-in EtherNet/IP Port Settings is set to 0 or 255.						

Instructions

This section provides a table of errors (events) that occur for instructions. The lower four digits of the event code represent the error code (ErrorID) for the instruction. For descriptions of an error code, refer to the description of the corresponding event code. For example, if the error code of the instruction is 16#0400, refer to the description of event code 54010400 hex.

Event codes for instructions are supported by CPU Units with unit version 1.02 or later.

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54010415 hex	Firmware Error	An error was detected when an instruction was executed.	An error occurred in the soft- ware.		0				page 3-230
54010400 hex	Input Value Out of Range	An input parameter for an instruction exceeded the valid range for an input variable. Or, division by an integer of 0 occurred in division or remainder calculations.	An input parameter for an instruction exceeded the valid range for an input variable. Or, division by an integer of 0 occurred in division or remainder calculations.				0		page 3-231
54010401 hex	Input Mis- match	The relationship for the instruction input parameters did not meet required conditions. Or, a numeric value during or after instruction execution did not meet conditions.	 The relationship for an input parameter did not meet required conditions. A value when processing an instruction or in the result does not meet the conditions. 				0		page 3-232
54010402 hex	Floating- point Error	Non-numeric data was input for a float- ing-point number in- put parameter to an instruction.	Non-numeric data was input for a floating-point number in- put parameter to an instruc- tion.				0		page 3-233
54010403 hex	BCD Error	A value that was not BCD was input for a BCD input parameter to an instruction.	A hexadecimal digit of A, B, C, D, E, or F was input for a BCD input parameter to an instruction.				0		page 3-233

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54010404 hex	Signed BCD Error	An illegal value was input for the most significant digit for a signed BCD input parameter to an instruction.	 An illegal value was input for the most significant digit for a signed BCD input parameter to an instruction. The most-significant digit was 2 to F when _BCD0 was specified as the BCD format. The most-significant digit was A, B, C, D, or E when _BCD2 was specified as the BCD format. The most-significant digit was B, C, D, or E when _BCD3 was specified as the BCD3 was specified as the BCD3 was specified as the BCD3 was specified as the BCD format. 				0		page 3-234
54010405 hex	Illegal Bit Position Specified	The bit position specified for an instruction was illegal.	The bit position specified for an instruction exceeds the da- ta range.				0		page 3-235
54010406 hex	Illegal Data Position Specified	A memory address or data size that was specified for the in- struction is not suita- ble.	A memory address that was specified for an instruction was outside the valid range. The data size that was specified for an instruction exceeded the valid range. For example, the data type of a variable and the data size may not agree.				0		page 3-235
54010407 hex	Data Range Exceeded	The results of instruction processing exceeded the data area range of the output parameter.	The results of instruction proc- essing, such as the number of array elements, exceeded the data area range of the output parameter.				0		page 3-236
54010409 hex	No Errors to Clear	An instruction to clear a Controller error was executed when there was no error in the Controller.	An instruction to clear a Controller error was executed when there was no error in the Controller.				0		page 3-236
5401040B hex	No User Er- rors to Clear	An instruction to clear user-defined errors was executed when there was no user-defined error.	An instruction to clear user-de- fined errors was executed when there was no user-de- fined error.				0		page 3-237
5401040C hex	Limit Ex- ceeded for User-defined Errors	An attempt was made to use the Create User-defined Error instruction to create more than the maximum number of user-defined errors.	An attempt was made to use the Create User-defined Error instruction to create more than the maximum number of user- defined errors.				0		page 3-237

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
5401040D hex [NJ-series]	Illegal Unit Specified	The Unit specified for an instruction does not exist.	 A Unit that does not exist in the Unit configuration informa- tion was specified. A Unit that is in the Unit config- uration information was speci- fied, but the Units does not ac- tually exist in the Controller. 				0		page 3-238
5401040F hex [NJ-series]	Unit Restart Failed	Restarting a Special I/O Unit or CPU Bus Unit failed.	The Special Unit is operating.				0		page 3-238
54010410 hex	Text String Format Error	The text string input to an instruction is not correct.	The text string that is input to the instruction for conversion to a number does not represent a number or it does not represent a positive number. The input text string does not end in NULL.				0		page 3-239
54010411 hex	Illegal Pro- gram Speci- fied	The program speci- fied for an instruction does not exist.	The program specified by the function does not exist (e.g., it was deleted).				0		page 3-240
54010413 hex [NJ-series]	Undefined CJ-series Memory Ad- dress	The required specification is missing for a variable for which CJseries Unit memory must be specified.	The required AT specification is missing for a variable for which CJ-series Unit memory must be specified.				0		page 3-240
54010414 hex	Stack Un- derflow	There is no data in a stack.	An attempt was made to read data from a stack that contains no data.				0		page 3-241
54010416 hex	Illegal Num- ber of Array Elements or Dimensions	The valid range was exceeded for the number of array elements or dimensions in an array I/O parameter for an instruction.	The valid range was exceeded for the number of array ele- ments or dimensions in an ar- ray I/O parameter for an in- struction.				0		page 3-241
54010417 hex	Specified Task Does Not Exist	The task specified for the instruction does not exist.	The specified task does not exist.				0		page 3-242
54010418 hex	Unallowed Task Specification	An unallowed task was specified for an instruction.	The local task, the primary periodic task, or a periodic task was specified.				0		page 3-242
54010419 hex	Incorrect Data Type	A data type that cannot be used for an instruction is specified for an input or in-out variable.	A data type that cannot be used for an instruction is speci- fied for an input or in-out varia- ble.				0		page 3-243
5401041A hex	Multi-execu- tion of In- structions	Multi-execution was specified for an instruction that does not support it.	Execution of an instruction that does not support multi-execu- tion of instructions was speci- fied more than once.				0		page 3-243

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
5401041B hex (Ver. 1.02 or later)	Data Ca- pacity Ex- ceeded	Processing was not possible because the data that was passed to the instruction was too large.	Data that exceeded the size that can be processed was passed to an instruction.				0		page 3-244
5401041C hex (Version 1.04 or later)	Different Da- ta Sizes	The size of the data specified for instruction input or in-out data is different from the size of the target parameter.	Data of a size that is different from the size of the target pa- rameter was specified for the input or in-out data of an in- struction.				0		page 3-245
5401041D hex (Ver. 1.05 or later)	Exceeded Simultane- ous Instruc- tion Execut- ed Resour- ces	The maximum resources that you can use for the relevant instruction group at the same time was exceeded.	More than the maximum num- ber of relevant instructions were executed at the same time.				0		page 3-246
54010421 hex (Ver. 1.50 or later) [NJ-series, NX102, and NX1P2] (Ver.1.32 or later) [NX701]	Failed to Get The Pro- gram Hash Code	Retrieving program hash code failed.	 The transfer of the user program failed. The project downloaded to the CPU Unit does not contain the information required for the instruction. Non-volatile memory failure 				0		page 3-247
54010800 hex [NJ series, NX102, NX502]	FINS Error	An error occurred when a FINS command was sent or received.	An error occurred when a FINS command was sent or received.				0		page 3-248
54010801 hex [NJ series, NX102, NX502]	FINS Port Already in Use	The FINS port is being used.	The FINS port is being used.				0		page 3-248
54010C00 hex [NJ-series]	Illegal Serial Communica- tions Mode	The Serial Communications Unit is not in the serial communications mode required to execute an instruction.	The serial communications port for the Serial Communica- tions Unit is not set to the mode expected by the instruc- tion.				0		page 3-249
54010C03 hex (Ver. 1.11 or later)	Full Recep- tion Buffer	The reception buffer is full.	The reception buffer is full.				0		page 3-250
54010C04 hex (Ver. 1.11 or later)	Multi-execution of Ports	The serial communications instructions that cannot be executed simultaneously were executed.	An instruction was executed while another instruction that cannot be executed at the same time with the former instruction was executed.				0		page 3-251
54010C05 hex (Ver. 1.11 or later)	Parity Error	A parity error occurred in the data received.	The communications settings or baud rate settings are not compatible with the remote device. Noise				0		page 3-252

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54010C06 hex (Ver. 1.11 or later)	Framing Er- ror	A framing error occur- red in the data re- ceived.	The communications settings or baud rate settings are not compatible with the remote device. Noise				0		page 3-252
54010C07 hex (Ver. 1.11 or later)	Overrun Er- ror	An overrun error oc- curred in the data re- ceived.	The next data was received during processing of received data because the baud rate is too high.				0		page 3-253
54010C08 hex (Ver. 1.11 or later)	CRC Mis- match	The receive data had different CRC.	A wrong message was received. Noise				0		page 3-254
54010C0B hex (Ver. 1.11 or later)	Serial Communications Timeout	A timeout occurred in serial communications.	Wiring to the remote device is not connected. Power to the remote device is OFF. The communications settings or baud rate settings are not compatible with the remote device. Noise				0		page 3-255
54010C0C hex (Ver. 1.11 or later)	Instruction Executed to Inapplicable Port	An instruction was executed to an inapplicable port.	An instruction was executed to an inapplicable port.				0		page 3-256
54010C0D hex (Ver. 1.13 or later)	CIF Unit Initialized	A CIF Unit was initialized, so the communications data buffered in the CIF Unit was lost.	A CIF Unit was initialized.				0		page 3-256
54010C10 hex (Ver. 1.11 or later)	Exceptional Modbus Re- sponse	An exceptional code was returned from the Modbus slave.	An error was detected on the Modbus slave.				0		page 3-257
54010C11 hex (Ver. 1.11 or later)	Invalid Mod- bus Re- sponse	An unexpected response was returned from the Modbus slave.	The function code or data size of the response received from the Modbus slave was incor- rect.				0		page 3-258
54011400 hex	SD Memory Card Access Failure	SD Memory Card access failed when an instruction was executed.	An SD Memory Card is either not inserted or is not inserted properly. The SD Memory Card is broken. The SD Memory Card slot is broken.				0		page 3-259
54011401 hex	SD Memory Card Write- protected	An attempt was made to write to a write-protected SD Memory Card when an instruction was executed.	An attempt was made to write to a write-protected SD Memo- ry Card.				0		page 3-259

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54011402 hex	SD Memory Card Insuffi- cient Ca- pacity	The capacity of the SD Memory Card was insufficient when writing to the SD Memory Card for an instruction.	The SD Memory Card has run out of free space.				0		page 3-260
54011403 hex	File Does Not Exist	The file specified for an instruction does not exist. Or, the specified file is corrupted.	 The specified file does not exist. The specified file is corrupted. The SD Memory Card cannot be normally accessed due to a contact failure or other causes. 				0		page 3-260
54011404 hex	Too Many Files/Direc- tories	The maximum number of files/directories was exceeded when creating a file/directory for an instruction.	The number of files or directo- ries exceeded the maximum number.				0		page 3-261
54011405 hex	File Already in Use	A file specified for an instruction cannot be accessed because it is already being used.	An instruction attempted to read or write a file already be- ing accessed by another in- struction.				0		page 3-262
54011406 hex	Open Mode Mismatch	A file operation for an instruction was inconsistent with the open mode of the file.	The file open mode specified by the Open File instruction does not match the file opera- tion attempted by a subse- quent SD Memory Card in- struction.				0		page 3-262
54011407 hex	Offset Out of Range	Access to the address is not possible for the offset specified for an instruction.	An attempt was made to access beyond the size of the file.				0		page 3-263
54011408 hex	Directory Not Empty	A directory was not empty when the Delete Directory instruction was executed or when an attempt was made to change the directory name.	A directory was not empty when the Delete Directory instruction was executed. A directory contained another directory when an attempt was made to change the directory name.				0		page 3-263
54011409 hex	That File Name Al- ready Exists	An instruction could not be executed because the file name specified for the instruction already exists.	A file already exists with the same name as the name specified for the instruction to create.				0		page 3-264
5401140A hex	Write Access Denied	An attempt was made to write to a write-protected file or directory when an instruction was executed.	The file or directory specified for the instruction to write is write-protected.				0		page 3-264

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
5401140B hex	Too Many Files Open	The maximum number of open files was exceeded when opening a file for an instruction.	The maximum number of open files was exceeded when opening a file for an instruc- tion.				0		page 3-265
5401140C hex	Directory Does Not Exist	The directory speci- fied for an instruction does not exist.	The directory specified for an instruction does not exist.				0		page 3-265
5401140D hex	File or Directory Name Is Too Long	The file name or di- rectory name that was specified for an instruction is too long.	The file name or directory name that was specified for the instruction to create is too long.				0		page 3-266
5401140E hex	SD Memory Card Access Failed	SD Memory Card access failed.	The SD Memory Card is broken. The SD Memory Card slot is broken.				0		page 3-266
5401140F hex (Ver. 1.08 or later)	Backup Operation Already in Progress	Another backup operation is already in progress.	Another backup operation is already in progress.				0		page 3-267
54011410 hex (Ver. 1.08 or later)	Cannot Execute Backup	Execution of a back- up operation was not possible because ex- ecution of another op- eration was in prog- ress.	Execution of the instruction was attempted during execution of online editing. Execution of the instruction was attempted during execution of a Save Cam Table instruction. Execution of the instruction was attempted while a CPU Unit name change operation was in progress.				0		page 3-268
54011411 hex (Ver. 1.08 or later)	Unit/Slave Backup Failed	A Unit/slave backup operation failed.	A Unit/slave backup operation failed.				0		page 3-269
54011800 hex	EtherCAT Communica- tions Error	Accessing the Ether- CAT network failed when an instruction was executed.	The EtherCAT network is not in a usable status.				0		page 3-269
54011801 hex	EtherCAT Slave Does Not Re- spond	Accessing the target slave failed when an instruction was executed.	The target slave does not exist. The target slave is not in an operating condition.				0		page 3-270
54011802 hex	EtherCAT Timeout	A timeout occurred while trying to access an EtherCAT slave when an instruction was executed.	Communications with the target slave timed out.				0		page 3-270

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Event code	Event name	Meaning	Assumed cause	N a j	P	M i n	O b s	I n f o	Reference
54011803 hex	Reception Buffer Over- flow	The receive data from an EtherCAT slave overflowed the receive buffer when an instruction was executed.	ne receive data from the ave overflowed the recei uffer.	ve			0		page 3-271
54011804 hex	SDO Abort Error	An SDO abort error was received from an EtherCAT slave when an instruction was executed.	epends on the specificat the slave.	ions			0		page 3-271
54011805 hex	Saving Packet Mon- itor File	An instruction for packet monitoring was executed while saving an EtherCAT packet monitor file.	n instruction for packet m ring was executed while g an EtherCAT packet m r file.	sav-			0		page 3-272
54011806 hex	Packet Mon- itoring Func- tion Not Started	A Stop EtherCAT Packet Monitor in- struction was execut- ed when EtherCAT packet monitoring was stopped.	Stop EtherCAT Packet Nor instruction was executed the EtherCAT packet moving was stopped.	ed			0		page 3-272
54011807 hex	Packet Mon- itoring Func- tion in Oper- ation	A Start EtherCAT Packet Monitor instruction was executed when EtherCAT packet monitoring was already being executed.	ne Start EtherCAT Packer onitor instruction was ex d again while the EtherC acket monitoring function ready in operation.	ecut-			0		page 3-273

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54011808 hex	Communications Resource Over-flow	More than 32 Ether-CAT communications instructions/IO-Link communications instructions were executed at the same time.	More than 32 EtherCAT communications instructions/IO-Link communications instructions were executed at the same time. The EtherCAT communications instructions are listed below. EC_CoESDOWrite instruction EC_CoESDORead instruction EC_ConnectSlave instruction EC_ConnectSlave instruction EC_ChangeEnableSetting instruction EC_StartMon instruction EC_StopMon instruction EC_StopMon instruction EC_CopyMon instruction IOL_ReadObj instruction IOL_WriteObj instruction EC_GetMasterStatistics instruction EC_ClearMasterStatistics instruction EC_ClearMasterStatistics instruction EC_ClearSlaveStatistics instruction EC_ClearSlaveStatistics instruction				0		page 3-274
54011809 hex (Ver. 1.01 or later)	Packet Mon- itoring Func- tion Not Supported	Packets cannot be monitored.	An instruction for packet monitoring was executed for a CPU Unit that does not support packet monitoring.				0		page 3-275
5401180A hex (Ver. 1.40 or later)	Cannot Execute Instruction to Slave	An instruction was executed for a slave that cannot execute an instruction.	The EC_DisconnectSlave or EC_ConnectSlave instruction was executed for a disabled slave. The EC_ChangeEnableSetting instruction was executed for a disconnected slave. The EC_DisconnectSlave or EC_ChangeEnableSetting instruction was executed for a slave in the ring topology.				0		page 3-276

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
5401180D hex (Ver. 1.64 or later and Project Unit Ver. 1.64 or later)	Diagnosis/ Statistics Log Execut- ing	A master/slave diagnostic and statistical information instruction cannot be executed because the diagnosis/statistics log is in operation.	A master diagnostic and statistical information instruction (EC_GetMasterStatistics or EC_ClearMasterStatistics), or a slave diagnostic and statistical information instruction (EC_GetSlaveStatistics or EC_ClearSlaveStatistics) was executed while the diagnosis/statistics log was in operation.				0		page 3-277
5401180E hex (Ver. 1.64 or later and Project Unit Ver. 1.64 or later)	Master Diagnostic and Statistical Information Instruction Multi-execution Disabled	A master diagnostic and statistical information instruction cannot be executed because more than one master diagnostic and statistical information instruction was executed simultaneously.	A master diagnostic and statistical information instruction was executed during execution of the master diagnostic and statistical information instruction (EC_GetMasterStatistics or EC_ClearMasterStatistics).				0		page 3-278
5401180F hex (Ver. 1.64 or later and Project Unit Ver. 1.64 or later)	Slave Diagnostic and Statistical Information Instruction Multi-execution Disabled	A slave diagnostic and statistical information instruction cannot be executed because more than one slave diagnostic and statistical information instruction was executed simultaneously.	A slave diagnostic and statistical information instruction was executed during execution of the slave diagnostic and statistical information instruction (EC_GetSlaveStatistics or EC_ClearSlaveStatistics).				0		page 3-279
54011C00 hex	Explicit Message Error	An error response code was returned for an explicit message that was sent with a CIP communications instruction.	Depends on the nature of the error.				0		page 3-280
54011C01 hex	Incorrect Route Path	The format of the route path that is specified for a CIP communications instruction is not correct.	 The format of the route path that is specified for a CIP communications instruction is not correct. Address resolution failed for the host name that was specified in a CIP communications instruction. 				0		page 3-280
54011C02 hex	CIP Handle Out of Range	The handle that is specified for the CIP communications instruction is not correct.	The handle that is specified for the CIP communications in- struction is not correct.				0		page 3-281

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54011C03 hex	CIP Communications Resource Overflow	The maximum resources that you can use for CIP communications instructions at the same time was exceeded.	 More than 32 CIP communications instructions were executed at the same time. An attempt was made to use more than 32 handles at the same time. 				0		page 3-281
54011C04 hex	CIP Timeout	A CIP timeout occurred during execution of a CIP communications instruction.	 A device does not exist for the specified IP address. The CIP connection for the specified handle timed out and was closed. Power to the remote device is OFF. Communications are stopped at the remote device. CIP Message Communications are stopped at the remote device. The Ethernet cable connector for EtherNet/IP is disconnected. The Ethernet cable for EtherNet/IP is disconnected. Packets of the instruction are not allowed by the Firewall function or Packet Filter function of the remote device or devices on the communication path. Noise 				0		page 3-282
54011C05 hex (Ver. 1.06 or later)	Class-3 Connection Not Estab- lished	Establishing a class-3 connection failed for a CIP communications instruction.	The CIPOpen instruction was executed for a device that does not support class 3 (Large_Forward_Open). The CIPOpenWithDataSize instruction was executed with a specified data size of 510 bytes or larger for a device that does not support class 3 (Large_Forward_Open).				0		page 3-283
54011C06 hex (Ver. 1.06 or later)	CIP Communications Data Size Exceeded	An attempt was made to send a class-3 explicit message with a data size that is larger than the sendable size with a CIP communications instruction.	The data size that was specified for the input variable to the CIPRead, CIPWrite, or CIPSend instruction exceeded the data size that was specified with the CIPOpenWithDataSize instruction.				0		page 3-284
54012000 hex	Local IP Address Setting Error	An instruction was executed when there was a setting error in the local IP address.	An instruction was executed when there was a setting error in the local IP address.				0		page 3-285

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54012001 hex	TCP/UDP Port Already in Use	The UDP or TCP port was already in use when the instruction was executed.	The UDP or TCP port is already in use.				0		page 3-285
54012002 hex	Address Resolution Failed	Address resolution failed for a remote node with the host name that was specified in the instruction.	 The host name specified for the instruction is not correct. The hosts and DNS settings in the Controller are incorrect. The DNS server settings are incorrect. 				0		page 3-286
54012003 hex	Socket Status Error	The status was not suitable for execution of the socket service instruction.	 SktUDPCreate Instruction The UDP port specified with the SrcUdpPort input variable is in one of the following states. It is already open. It is being closed. SktUDPRcv Instruction The specified socket is receiving data. The specified socket is closed. SktUDPSend Instruction The specified socket is sending data. The specified socket is closed. SktTCPAccept Instruction The specified TCP port is in one of the following states. The port is being opened. The port is being closed. A connection is already established for this instruction for the same IP address and TCP port. SktTCPConnect Instruction The TCP port that is specified with the SrcTcpPort input variable is already open. The remote node that is specified with DstAdr input variable does not exist. The remote node that is specified with DstAdr and DstTcpPort input variables is not waiting for a connection. 				0		page 3-287

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
			 SktTCPRcv Instruction The specified socket is receiving data. The specified socket handle is already used for secure socket communications. SktTCPSend Instruction The specified socket is sending data. The specified socket is closed. The send buffer of the specified socket is full (because the power to the remote node is OFF, the line is disconnected, etc.) The specified socket handle is already used for secure socket communications. SktClearBuf Instruction The specified socket handle is already used for secure socket communications. [NX102 and NX1P2 CPU Units Ver. 1.50 or later and NX502 CPU Units Ver. 1.60 or later] SktTLSConnect Instruction The specified socket handle is already used for secure socket communications. [NX102, NX502] ModbusTCPCmd Instruction When the socket is being processed. When the socket is closed. The specified socket handle is already used for secure socket communications. [NX102, NX502] ModbusTCPRead Instruction When the socket is closed. The specified socket handle is already used for secure socket communications. [NX102, NX502] ModbusTCPRead Instruction When the socket is closed. The specified socket handle is already used for secure socket communications. [NX102, NX502] ModbusTCPRead Instruction When the socket is closed. The specified socket handle is already used for secure socket communications. 						

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
			[NX102, NX502] ModbusTCPWrite Instruction When the socket is being processed. When the socket is closed. The specified socket handle is already used for secure socket communications. SktSetOption instruction The specified socket already started communications. The option type not supported by the specified socket was specified.						
54012004 hex	Local IP Address Not Set	The local IP address was not set when a socket service instruction was executed.	 There is a BOOTP server setting error. The BOOTP server does not exist. The local IP address is not set because operation just started. 				0		page 3-289
54012006 hex	Socket Timeout	A timeout occurred for a socket service instruction.	SktTCPAccept instruction: There was no request for a connection from the remote node during the user-set timeout time. SktTCPRcv or SktUDPRcv instruction: Data was not received from the remote node during the user-set timeout time.				0		page 3-290
54012007 hex	Socket Han- dle Out of Range	The handle that is specified for the socket service instruction is not correct.	The handle that is specified for the socket service instruction is not correct.				0		page 3-291
54012008 hex	Socket Communications Resource Overflow	The maximum resources that you can use for socket service instructions at the same time was exceeded.	 More than 32 socket service instructions were executed at the same time (64 for NX102). More than 30 socket handles were used at the same time (60 for NX102, 16 for CPU Units with unit version 1.02 or earlier). 				0		page 3-292
5401200A hex (Ver. 1.46 or later) [NX102-□=00, NX1P2-□=0=0=0] (Ver.1.37 or later) [NX102-□=20] (Ver. 1.60 or later) [NX502-1□=00]	Invalid TLS Session Name	The specified TLS session name is not found in the secure socket setting.	The specified TLS session name is not set in the secure socket setting.				0		page 3-293

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
5401200B hex (Ver. 1.46 or later) [NX102-□□00, NX1P2-□□□□□] (Ver.1.37 or later) [NX102-□□20] (Ver. 1.60 or later) [NX502-1□00]	Access to the Certifi- cate Failed	Access to the certificate failed because the certificate and secure socket setting have not been transferred or the certificate has a password set.	 Client certificate has not been transferred to the Controller. A password is set for the forwarded client certificate. The secure socket setting does not exist or the contents of the secure socket setting are incorrect. 				0		page 3-294
5401200C hex (Ver. 1.46 or later) [NX102-□□00, NX1P2-□□□□] (Ver.1.37 or later) [NX102-□□20] (Ver. 1.60 or later) [NX502-1□00]	TLS Session Establish- ment Error	Establishment of a TLS session failed.	 Client certificate has not been transferred to the Controller. The contents of the client private key are incorrect. Establishment of secure socket communications failed. 				0		page 3-295
5401200E hex (Ver. 1.46 or later) [NX102-□□00, NX1P2-□□□□] (Ver.1.37 or later) [NX102-□□20] (Ver. 1.60 or later) [NX502-1□00]	Invalid TLS Session Handle	The TLS session handle specified by the secure socket service instruction is invalid.	The TLS session handle specified by the secure socket service instruction is invalid.				0		page 3-296
5401200F hex (Ver. 1.46 or later) [NX102-□□00, NX1P2-□□□□] (Ver.1.37 or later) [NX102-□□20] (Ver. 1.60 or later) [NX502-1□00]	TLS Error	An error occurred during secure socket communications.	An error occurred during secure socket communications.				0		page 3-296

				Level				Level	
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54012400 hex (Ver. 1.02 or later)	No Execution Right	An instruction to change the settings of an EtherNet/IP port was executed when execution was not possible.	 An instruction to change the settings of the EtherNet/IP port, Ethernet port, or a CJ-series EtherNet/IP Unit was executed when restart processing was in progress for the EtherNet/IP port or Ethernet port. An instruction to change the settings of a CJ-series EtherNet/IP Unit was executed when restart processing was in progress for the Unit. An instruction to change the settings of the EtherNet/IP port, Ethernet port, or a CJ-series EtherNet/IP Unit was executed while the settings for an EtherNet/IP port or Ethernet port are being changed by an instruction or CIP messages. An instruction to change the settings of a CJ-series EtherNet/IP Unit was executed when changing settings was in progress for an instruction or CIP message for the Unit. The Unit (or unit number) specified in the instruction does not specify an EtherNet/IP port, Ethernet port, or CJ-series EtherNet/IP Unit. 				0		page 3-297
54012401 hex (Ver. 1.02 or later)	Settings Up- date Failed	It was not possible to update the settings of the CJ-series Ether- Net/IP Unit that were changed.	Restart processing for a Unit or built-in EtherNet/IP port was started during execution of an instruction to change the set- tings of a CJ-series EtherNet/IP Unit.				0		page 3-298
54012402 hex (Ver. 1.02 or later)	Too Many Simultane- ous Instruc- tion Execu- tions	Too many instructions to change the communications setup of the Controller were executed at the same time.	Two or more instructions to change the communications setup of the Controller were executed at the same time.				0		page 3-298
54012403 hex (Ver. 1.08 or later)	FTP Client Execution Limit Ex- ceeded	Too many FTP client communications instructions were executed at the same time.	Four or more FTP client com- munications instructions were executed at the same time.				0		page 3-299

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54012404 hex (Ver. 1.08 or later)	File Number Limit Ex- ceeded	The number of files specified with a wild-card for an FTP client communications instruction exceeded 1,000.	The number of files specified with a file name that contained a wildcard for an FTP client communications instruction exceeded 1,000.				0		page 3-299
54012405 hex (Ver. 1.08 or later)	Directory Does Not Exist (FTP)	The directory specified for an FTP client communications instruction does not exist in the Controller or an incorrect path was specified.	The directory specified for an FTP client communications in- struction does not exist in the Controller or an incorrect path was specified.				0		page 3-300
54012406 hex (Ver. 1.08 or later)	FTP Server Connection Error	The destination FTP server that was specified for an FTP client communications instruction does not exist on the network or the specified FTP server is not operating.	The destination FTP server that was specified for an FTP client communications instruction does not exist on the network. The destination FTP server that was specified for an FTP client communications instruction is not operating. FTP communications are not allowed by the designated destination FTP server or the Firewall function or Packet Filter function of the devices on the communication path.				0		page 3-301
54012407 hex (Ver. 1.08 or later)	Destination FTP Server Execution Failure	The destination FTP server for an FTP client communications instruction returned an error.	The destination FTP server for the FTP client communications instruction failed to execute the requested processing. When the Controller's Packet Filter function is enabled, packets from the FTP server are not allowed.*1				0		page 3-302
54012408 hex (Ver. 1.08 or later)	SD Memory Card Access Failed for FTP	SD Memory Card access from the FTP client failed.	 An SD Memory Card is not inserted. The SD Memory Card was removed during execution of the FTP client communications instruction. The capacity of the SD Memory Card is insufficient. The SD Memory Card is write protected. 				0		page 3-303
54012409 hex (Ver. 1.08 or later)	Specified File Does Not Exist	A file specified for an FTP client communications instruction does not exist in the Controller.	A file specified for an FTP cli- ent communications instruction does not exist in the Controller.				0		page 3-304

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
5401240A hex (Ver. 1.08 or later)	Specified File Is Write Protected	The data was not transferred because the FTP client communications instruction was set to not overwrite files with the same name.	The data was not transferred because the FTP client communications instruction was set to not overwrite files with the same name and a file with the specified file name already existed at the destination.				0		page 3-304
5401240B hex (Ver. 1.08 or later)	Failed To Delete Specified File	A file was not deleted after it was transfer-red with an FTP client communications instruction.	The FTP client communications instruction was set to delete files after they are transferred, but it was not possible to delete the specified file because it had a read-only attribute. It was not possible to delete the file specified for the FTP client communications instruction because it was in use by another application.				0		page 3-305
5401240C hex (Ver. 1.08 or later)	Specified File Access Failed	An FTP transfer for an FTP client com- munications instruc- tion failed because file access failed.	 The file specified for the FTP client communications instruction was in use by another application. The file or directory specified for the FTP client communications instruction to write is write protected. 				0		page 3-306
5401240D hex (Ver. 1.10 or later)	IP Address Setting Inva- lid	Instruction execution was not possible because there is an error between the IP address setting of the port specified in the instruction and the other port settings.	 The network address of the port specified in the instruction is the same as the network address of another port. Both the port specified in the instruction and all other ports are set as unused ports. 				0		page 3-307
54012C00 hex (Ver. 1.05 or later)	NX Message Error	An error response code was returned for an NX message.	Depends on the nature of the error.				0		page 3-308
54012C01 hex (Ver. 1.05 or later)	NX Message Resource Overflow	The maximum resources that you can use for NX message instructions at the same time was exceeded.	More than 32 NX message in- structions were executed at the same time.				0		page 3-308

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54012C02 hex (Ver. 1.05 or later)	NX Message Timeout	A timeout occurred during execution of an NX message.	The specified NX Unit does not exist. The NX message was closed because it timed out. Power to the remote Unit is OFF. Communications are stopped at the remote Unit. The communications cable connector is disconnected. The communications cable is broken. Noise				0		page 3-309
54012C03 hex (Ver. 1.05 or later)	Incorrect NX Message Length	The length of the NX message is not correct.	The size that is specified for WriteDat or Path is too long.				0		page 3-310
54012C05 hex (Ver. 1.05 or later)	NX Message EtherCAT Network Er- ror	An error occurred in EtherCAT communications on the NX message path.	An error occurred in EtherCAT communications on the NX message path.				0		page 3-310
54012C06 hex (Ver. 1.05 or later)	External Restart Already Executed for Specified NX Units	A restart was already in execution from the Sysmac Studio when the instruction was executed.	A restart was already in execution from the Sysmac Studio when the instruction was executed.				0		page 3-311
54012C07 hex (Ver. 1.05 or later)	Unapplicable Unit Specified for Instruction	A slave that cannot be specified for the instruction was con- nected at the slave node address of the specified Unit.	A slave that cannot be speci- fied for the instruction was connected to the slave node address of the specified Unit.				0		page 3-311
54012C08 hex (Ver. 1.10 or later)	Invalid Total Power ON Time Record	Failed to read the to- tal power ON time.	Non-volatile memory failure				0		page 3-312
54013461 hex	Process Data Object Setting Missing	The PDO mapping is not correct.	The PDOs that are required for the motion control instruction are not mapped. The relevant instruction was executed for a device that does not have an object that supports the instruction. A motion control instruction that specifies phase Z (_mcEncoderMark) as the trigger conditions was executed for an axis that is mapped to an OM-RON GXEC02□□ EtherCAT Encoder slave.				0		page 3-313
54014800 hex (Ver. 1.12 or later)	Device Error Received	An error response from the device was received.	An error response from the device was received.				0		page 3-314

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54014801 hex (Ver. 1.12 or later)	Specified Unit Does Not Exist	The specified Unit does not exist.	The IO-Link master is not con- nected to or mounted on the specified position.				0		page 3-314
54014802 hex (Ver. 1.12 or later)	Message Processing Limit Ex- ceeded	An instruction cannot be executed because the IOLink master is processing the mes- sage from another application.	An instruction cannot be executed because the IO-Link master is processing the message from another application (an instruction execution or a tool connection).				0		page 3-315
54014803 hex (Ver. 1.12 or later)	Specified Unit Status Error	The specified Unit is not in a condition to receive messages.	The specified Unit is not in a condition to receive messages.				0		page 3-315
54014804 hex (Ver. 1.12 or later)	Too Many Simultane- ous Instruc- tion Execu- tions	The number of instructions that can be simultaneously executed was exceeded.	More than 32 NX message in- structions and EtherCAT com- munications instructions were executed at the same time.				0		page 3-316
54014805 hex (Ver. 1.12 or later)	Communications Timeout	A timeout occurred in communications.	The communications timeout time is shorter than the message response time. The cable for EtherCAT or for IO-Link is broken. Noise Device failure				0		page 3-317
54014806 hex (Ver. 1.12 or later)	Invalid Mode	The specified IO-Link master port is not the IO-Link mode.	The specified IO-Link master port is not the IO-Link mode.				0		page 3-317
54014807 hex (Ver. 1.12 or later)	I/O Power OFF Status	The I/O power is not supplied to the specified IOLink master port.	The I/O power is not supplied to the specified IOLink master port.				0		page 3-318
54014808 hex (Ver. 1.12 or later)	Verification Error	The specified IO-Link master port had a verification error or a communications error.	The specified IO-Link master port had a verification error or a communications error.				0		page 3-318
54014809 hex (Ver. 1.12 or later)	Incorrect Device Port Setting	The device port set- tings are not correct.	The device port settings are not correct.				0		page 3-319
54015420 hex	Electronic Gear Ratio Numerator Setting Out of Range	The parameter specified for the RatioNumerator input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-319
54015421 hex	Electronic Gear Ratio Denominator Setting Out of Range	The parameter specified for the RatioDenominator input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-320

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015422 hex	Target Ve- locity Setting Out of Range	The parameter specified for the <i>Velocity</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-320
54015423 hex	Acceleration Setting Out of Range	The parameter specified for the Acceleration input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-321
54015424 hex	Deceleration Setting Out of Range	The parameter specified for the Deceleration input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-321
54015425 hex	Jerk Setting Out of Range	The parameter specified for the <i>Jerk</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-322
54015427 hex	Torque Ramp Set- ting Out of Range	The parameter specified for the TorqueRamp input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-322
54015428 hex	Master Coef- ficient Scal- ing Out of Range	The parameter specified for the MasterScaling input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-323
54015429 hex	Slave Coefficient Scaling Out of Range	The parameter specified for the SlaveScaling input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-323
5401542A hex	Feeding Velocity Setting Out of Range	The parameter specified for the FeedVelocity input variable to a motion control instruction is out of range.	The Feed Velocity (input variable FeedVelocity) is still at the default (0).				0		page 3-324

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
5401542B hex	Buffer Mode Selection Out of Range	The parameter specified for the BufferMode input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-324
5401542C hex	Coordinate System Se- lection Out of Range	The parameter specified for the <i>CoordSystem</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-325
5401542D hex	Circular In- terpolation Mode Selec- tion Out of Range	The parameter specified for the <i>CircMode</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-325
5401542E hex	Direction Selection Out of Range	The parameter specified for the <i>Direction</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-326
5401542F hex	Path Selection Out of Range	The parameter specified for the PathChoice input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-326
54015430 hex	Position Type Selection Out of Range	The parameter specified for the ReferenceType input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-327
54015431 hex	Travel Mode Selection Out of Range	The parameter specified for the <i>MoveMode</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-327
54015432 hex	Transition Mode Selection Out of Range	The parameter specified for the TransitionMode input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable. _mcAborting or _mcBuffered was specified for <i>BufferMode</i> and_mcTMCornerSuperimposed was specified for <i>TransitionMode</i> .				0		page 3-328

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015433 hex	Continue Method Se- lection Out of Range	The value of the reserved input variable Continuous to a motion control instruction changed.	The value of the reserved input variable <i>Continuous</i> changed.				0		page 3-328
54015434 hex	Combine Mode Selec- tion Out of Range	The parameter specified for the CombineMode input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-329
54015435 hex	Synchroni- zation Start Condition Selection Out of Range	The parameter specified for the LinkOption input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-329
54015436 hex	Master and Slave De- fined as Same Axis	The same axis is specified for the <i>Master</i> and <i>Slave</i> input variables to a motion control instruction.	The parameter is the same for the <i>Master</i> and <i>Slave</i> input variables to the instruction.				0		page 3-330
54015437 hex	Master and Auxiliary De- fined as Same Axis	The same axis is specified for the Master and Auxiliary input variables to a motion control instruction.	The parameter is the same for the <i>Master</i> and <i>Auxiliary</i> input variables to the instruction.				0		page 3-330
54015438 hex	Master/ Slave Axis Numbers Not in As- cending Or- der	The axis numbers specified for the Master and Slave input variables to a motion control instruction are not in ascending order.	The parameters for the Master and Slave input variables to the instruction were not in ascending order when _mcLatestCommand was specified for the ReferenceType input variable to the instruction.				0		page 3-331
54015439 hex	Incorrect Cam Table Specification	The parameter specified for the <i>CamTable</i> input variable to a motion control instruction is out of range.	Something other than a cam data variable was specified for the CamTable input variable to the instruction.				0		page 3-331

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
5401543A hex	Synchronization Stopped	A synchronized control motion control instruction was executed, but conditions required for execution were not met.	 The MC_CamOut (End Cam Operation) instruction was executed even though the MC_CamIn (Start Cam Operation) instruction is not being executed. The MC_GearOut (End Gear Operation) instruction was executed even though the MC_GearIn (Start Gear Operation) or the MC_GearInPos (Positioning Gear Operation) instruction is not being executed. The MC_Phasing (Shift Master Axis Phase) instruction was executed even though the MC_CamIn (Start Cam Operation), MC_GearIn (Start Gear Operation), MC_GearInPos (Start Gear Operation), or MC_MoveLink (Synchronous Positioning) instruction is not being executed. 				0		page 3-332
5401543B hex	Motion Control Instruction Re-execution Disabled	An attempt was made to re-execute a motion control instruction that cannot be reexecuted.	A motion control instruction that cannot be re-executed was re-executed.				0		page 3-333
5401543C hex	Motion Control Instruction Multi-execution Disabled	Multiple functions that cannot be executed simultaneously were executed for the same target (MC common, axis, or axes group).	Multiple functions that cannot be executed simultaneously were executed for the same target (MC common or axis).				0		page 3-334
5401543D hex	Instruction Not Allowed for Encoder Axis Type	An operation instruction was executed for an encoder axis.	An operation instruction was executed for an encoder axis.				0		page 3-334

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
5401543E hex	Instruction Cannot Be Executed during Multi- axes Coordi- nated Con- trol	 An operation instruction was executed for an axis or an axes group that was in a coordinated multi-axes motion. A robot instruction that you cannot use for an axes group in a Group-Enable state was executed. 	An operation instruction was executed for an axis or an axes group that was in a coordinated multi-axes motion. The MC_SetKinTransform instruction was executed for an axes group in a GroupEnable state.				0		page 3-335
5401543F hex	Multi-axes Coordinated Control In- struction Executed for Disabled Ax- es Group	A multi-axes coordinated control instruction was executed for an axes group that was in a GroupDisable state.	A multi-axes coordinated control instruction was executed for an axes group that was in a GroupDisable state. One of the following instructions was executed for an axes group that was in a GroupDisable state. MC_MoveTimeAbsolute MC_SyncLinearConveyor MC_SyncOut MC_RobotJog				0		page 3-336
54015440 hex	Axes Group Cannot Be Enabled	Execution of the MC_GroupEnable (Enable Axes Group) instruction failed.	When the MC_GroupEnable (Enable Axes Group) instruction was executed, there was a composition axis that was not stopped. When the MC_GroupEnable (Enable Axes Group) instruction was executed, there was a composition axis for which the MC_TouchProbe (Enable External Latch) instruction was being executed.				0		page 3-337
54015441 hex	Impossible Axis Operation Specified when the Servo is OFF	An operation instruc- tion was executed for an axis for which the Servo is OFF.	An operation instruction was executed for an axis for which the Servo is OFF. Home was preset with the MC_Home or MC_HomeWith-Parameter instruction for an axis for which EtherCAT process data communications are not established.				0		page 3-338

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015442 hex	Composition Axis Stop- ped Error	A motion instruction was executed for an axes group while the MC_Stop instruction was being executed for a composition axis.	A motion instruction was executed for an axes group while the MC_Stop instruction was being executed for a composition axis.				0		page 3-339
54015443 hex	Motion Control Instruction Multi-execution Buffer Limit Exceeded	The number of motion control instructions that is buffered for Buffered or Blending Buffer Modes exceeded the buffer limit.	 An axis instruction was executed when there was already a current instruction and a buffered instruction for the same axis. An axes group instruction was executed when there was already eight current instructions and buffered instructions for the same axis. 				0		page 3-339
54015444 hex	Insufficient Travel Dis- tance	The specified motion cannot be executed for the deceleration rate or acceleration rate that was specified for multi-execution or re-execution of a positioning instruction.	Stopping at the target position was not possible for the specified acceleration/deceleration rate for multi-execution or reexecution of a positioning instruction when the Acceleration/Deceleration Over parameter was set to generate a minor fault and stop.				0		page 3-340
54015445 hex	Insufficient Travel Distance to Achieve Blending Transit Velocity	There is not sufficient travel distance to accelerate or decelerate to the transit velocity.	There was not sufficient travel distance to accelerate the current command to the transit velocity when the Acceleration/Deceleration Over parameter was set to generate a minor fault and stop.				0		page 3-341
54015446 hex	Move Link Constant Ve- locity Insuffi- cient Travel Distance	The constant-velocity travel distance of the master axis is less than zero.	The constant velocity travel distance of the master axis is below 0 for the MC_MoveLink (Synchronous Positioning) in- struction.				0		page 3-341
54015447 hex	Positioning Gear Opera- tion Insuffi- cient Target Velocity	For the MC_GearIn-Pos (Positioning Gear Operation) instruction, the <i>target velocity</i> of the slave axis is too small to achieve the required velocity.	For the MC_GearInPos (Positioning Gear Operation) instruction, the value of the Velocity (Target Velocity) input variable is smaller than the master axis velocity multiplied by the gear ratio when the instruction was executed.				0		page 3-342

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015448 hex	Same Start Point and End Point for Circular In- terpolation	The start point and end point were the same when the radius method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction. Or, the start point, end point, and border point were the same when the border point method was specified.	The start point and end point were the same when the radius method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction. The start point, end point, and border point were the same when the border point method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction.				0		page 3-343
54015449 hex	Circular Interpolation Center Specification Position Out of Range	The position specified for the center point exceeded the allowed range when the center method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction.	The difference between the distance from the start point to the center point and the distance between the end point to the center point exceeded the permitted value specified for the correction allowance ratio in the axes group settings when the center designation method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction.				0		page 3-344
5401544A hex	Instruction Execution Error Caused by Count Mode Setting	An instruction that cannot be used when the Count Mode is set to Rotary Mode was executed for an axis that was set to Rotary Mode.	An instruction that cannot be used when the Count Mode is set to Rotary Mode was executed for an axis that was set to Rotary Mode.				0		page 3-344
5401544C hex	Parameter Selection Out of Range	The parameter specified for the ParameterNumber input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-345
5401544D hex	Stop Method Selection Out of Range	The parameter specified for the StopMode input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-345

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
5401544E hex	Latch ID Selection Out of Range for Trigger Input Condition	The parameter specified for the TriggerInput::LatchID input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-346
5401544F hex	Setting Out of Range for Writing MC Setting	The parameter specified for the Setting Value input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. The parameter specification and the data type of the setting value do not agree. 				0		page 3-346
54015450 hex	Trigger Input Condition Mode Selec- tion Out of Range	The parameter specified for the TriggerInput:: Mode input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-347
54015451 hex	Drive Trigger Signal Se- lection Out of Range for Trigger Input Condition	The parameter specified for the TriggerInput::InputDri ve input variable to a motion control in- struction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-347
54015453 hex	Motion Control Instruction Re-execution Disabled (Axis Specification)	An attempt was made to change the parameter for the <i>Axis</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.				0		page 3-348
54015454 hex	Motion Control Instruction Re-execution Disabled (Buffer Mode Selection)	An attempt was made to change the parameter for the BufferMode input variable when re-executing a motion control instruction. (This input variable cannot be changed when reexecuting an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.				0		page 3-349

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015455 hex	Motion Control Instruction Re-execution Disabled (Direction Selection)	An attempt was made to change the parameter for the <i>Direction</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)	An input variable that cannot be changed for re-execution was changed.				0		page 3-350
54015456 hex	Motion Control Instruction Re-execution Disabled (Execution Mode)	An attempt was made to change the parameter for the <i>Periodic</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.				0		page 3-350
54015457 hex	Motion Control Instruction Re-execution Disabled (Axes Group Specification)	An attempt was made to change the parameter for the <i>AxesGroup</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when reexecuting an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.				0		page 3-351
54015458 hex	Motion Control Instruction Re-execution Disabled (Jerk Setting)	An attempt was made to change the parameter for the <i>Jerk</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.				0		page 3-352
54015459 hex	Motion Control Instruction Re-execution Disabled (Master Axis)	An attempt was made to change the parameter for the <i>Master</i> input variable when reexecuting a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.				0		page 3-353

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
5401545A hex	Motion Control Instruction Re-execution Disabled (MasterOffset)	An attempt was made to change the parameter for the MasterOffset input variable when re-executing a motion control instruction. (This input variable cannot be changed when reexecuting an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.				0		page 3-353
5401545B hex	Motion Control Instruction Re-execution Disabled (MasterScaling)	An attempt was made to change the parameter for the MasterScaling input variable when re-executing a motion control instruction. (This input variable cannot be changed when reexecuting an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.				0		page 3-354
5401545C hex	Motion Control Instruction Re-execution Disabled (MasterStartDistance)	An attempt was made to change the parameter for the MasterStartDistance input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.				0		page 3-354
5401545D hex	Motion Control Instruction Re-execution Disabled (Continuous)	An attempt was made to change the parameter for the Continuous input variable when re-executing a motion control instruction. (This input variable cannot be changed when reexecuting an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.				0		page 3-355

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
5401545E hex	Motion Control Instruction Re-execution Disabled (Move-Mode)	An attempt was made to change the parameter for the <i>MoveMode</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when reexecuting an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.				0		page 3-355
5401545F hex	Illegal Auxiliary Axis Specification	The axis specified for the <i>Auxiliary</i> input variable to a motion control instruction does not exist.	An axis does not exist for the variable specified for the Auxiliary input variable to the instruction.				0		page 3-356
54015460 hex	Illegal Axis Specification	The axis specified for the <i>Axis</i> input variable to a motion control instruction does not exist.	An axis does not exist for the variable specified for the Axis input variable to the instruction.				0		page 3-356
54015461 hex	Illegal Axes Group Spec- ification	The axes group specified for the AxesGroup input variable to a motion control instruction does not exist or is not a used group.	 An axes group does not exist for the variable specified for the AxesGroup input variable to the instruction. The axes group specified for the AxesGroup input variable to the instruction is not specified as a used group. 				0		page 3-357
54015462 hex	Illegal Master Axis Specification	The axis that is specified for the <i>Master</i> input variable to a motion control instruction is not correct.	 An axis does not exist for the variable specified for the Master input variable to the instruction. The axis that was specified for the Master input variable to the MC_Phasing (Shift Master Axis Phase) instruction is not the master axis for syncing. The master axis and a slave axis are not assigned to the same task. 				0		page 3-358
54015463 hex	Motion Control Instruction Re-execution Disabled (Slave-Offset)	An attempt was made to change the SlaveOffset input variable when re-executing a motion control instruction. (This input variable cannot be changed when reexecuting an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.				0		page 3-359

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015464 hex	Motion Control Instruction Re-execution Disabled (Slave-Scaling)	An attempt was made to change the SlaveScaling input variable when re-executing a motion control instruction. (This input variable cannot be changed when reexecuting an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.				0		page 3-359
54015465 hex	Motion Control Instruction Re-execution Disabled (Start-Position)	An attempt was made to change the StartPosition input variable when re-executing a motion control instruction. (This input variable cannot be changed when reexecuting an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.				0		page 3-360
54015466 hex	Instruction Execution Error with Undefined Home	High-speed homing or an interpolation instruction was executed when home was undefined.	High-speed homing was executed when home was undefined. An interpolation instruction was executed for an axes group that includes an axis with no defined home. One of the following robot instructions was executed for an axes group that includes a logical axis with no defined home. MC_SetKinTransform MC_MoveTimeAbsolute MC_SyncLinearConveyor MC_SyncOut MC_GroupMon MC_RobotJog				0		page 3-361
54015467 hex	Motion Control Instruction Re-execution Disabled (Position Type)	An attempt was made to change the Reference Type input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.				0		page 3-362
54015468 hex	Unused Axis Specification for Master Axis	The master axis specified for a motion control instruction is an unused axis.	The master axis specified for a motion control instruction is an unused axis.				0		page 3-362

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015469 hex	First Position Setting Out of Range	The parameter specified for the FirstPosition input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-363
5401546A hex	Last Position Setting Out of Range	The parameter specified for the LastPosition input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-363
5401546B hex	Illegal First/ Last Position Size Rela- tionship (Lin- ear Mode)	The parameter specified for the LastPosition input variable to a motion control instruction is smaller than the parameter specified for the FirstPosition input variable.	The value of the LastPosition input parameter is less than the value of the FirstPosition input variable for the instruction when the Count Mode is set to Linear Mode.				0		page 3-364
5401546C hex	Master Sync Start Posi- tion Setting Out of Range	The parameter specified for the MasterSyncPosition input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-364
5401546D hex	Slave Sync Start Posi- tion Setting Out of Range	The parameter specified for the SlaveSyncPosition input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-365
5401546E hex	Duplicate Latch ID for Trigger Input Condition	The same latch ID was specified for more than one motion control instruction.	The same latch ID is used simultaneously for more than one of the following instructions: MC_TouchProbe (Enable External Latch) instruction, MC_MoveLink (Synchronous Positioning) instruction, and MC_MoveFeed (Interrupt Feeding) instruction. The MC_AbortTrigger (Disable External Latch) instruction was executed to cancel a latch that was used by an instruction other than the MC_TouchProbe (Enable External Latch) instruction.				0		page 3-365

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
5401546F hex	Jerk Over- ride Factor Out of Range	The parameter specified for the <i>JerkFactor</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-366
54015470 hex	Acceleration/ Deceleration Override Factor Out of Range	The parameter specified for the <i>AccFactor</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-366
54015471 hex	First Position Method Specification Out of Range	The parameter specified for the <i>StartMode</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-367
54015472 hex	Motion Control Instruction Re-execution Disabled (First Position Method)	An attempt was made to change the StartMode input variable when re-executing a motion control instruction. (This input variable cannot be changed when reexecuting an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.				0		page 3-367
54015474 hex	Unused Axis Specification for Auxiliary Axis	The axis specified for the <i>Auxiliary</i> input variable to a motion control instruction is an unused axis.	The axis specified for the Auxiliary input variable to the instruction is an unused axis.				0		page 3-368
54015475 hex	Position Gear Value Error	Synchronized motion is not possible for the velocity, acceleration rate, and deceleration rate that were input to a motion control instruction.	The specified synchronized motion cannot be performed at the velocity, acceleration rate, or deceleration rate that is input to the instruction.				0		page 3-368
54015476 hex	Position Gear Master Axis Zero Velocity	The velocity of the master axis was zero when a motion control instruction was started.	The velocity of the master axis was 0 when the instruction was started.				0		page 3-369
54015478 hex	Target Position Setting Out of Range	The parameter specified for the <i>Position</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. The target position of a Rotary Mode axis is not within the ring setting range. 				0		page 3-369

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015479 hex	Travel Distance Out of Range	The parameter that was specified for the <i>Distance</i> input variable to a motion control instruction is out of range or the target position with the value of <i>Distance</i> added is out of range.	 The absolute value of the instruction input parameter exceeded the range of 40-bit data when it is converted to pulses. For a Linear Mode axis, the target position with the travel distance added exceeded signed 40-bit data when the absolute value is converted to pulses. 				0		page 3-370
5401547A hex	Cam Table Start Point Setting Out of Range	The parameter specified for the StartPosition input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-370
5401547B hex	Cam Master Axis Follow- ing First Po- sition Setting Out of Range	The parameter specified for the MasterStartDistance input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-371
5401547C hex	Circular In- terpolation Radius Set- ting Error	It was not possible to create a circular path for the specified radius when the radius method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction.	For the MC_MoveCircular2D (Circular 2D Interpolation) instruction, it was not possible to create a circular path for the specified radius when the radius method was specified for circular interpolation.				0		page 3-371
5401547D hex	Circular In- terpolation Radius Overflow	For the MC_MoveCircular2D (Circular 2D Interpolation) instruction, the radius of the circle exceeded the maximum value for the border point or center specification method.	For the MC_MoveCircular2D (Circular 2D Interpolation) instruction, the radius of the circle exceeded 40-bit data when converted to pulses for the border point or center specification method.				0		page 3-372
5401547E hex	Circular In- terpolation Setting Out of Range	The parameter specified for the <i>CircAxes</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. The axes that were specified in <i>CircAxes</i> are not included in the composition axes in the Axes Group Settings. The same axis was specified for both axes of <i>CircAxes</i>. 				0		page 3-373

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
5401547F hex	Auxiliary/ Slave Axis Numbers Not in As- cending Or- der	The values of the parameters for the Auxiliary and Slave input variables to a motion control instruction are not in ascending order.	The parameters for the Auxiliary and Slave input varia- bles to the instruction are not in ascending order.				0		page 3-373
54015480 hex	Cam Table Property As- cending Da- ta Error at Update	A phase that was not in ascending order was found during calculating the number of valid data. Or, after calculations, the number of valid data is 0.	 A phase that was not in ascending order was found when calculating the number of valid data. After calculations, the number of valid data is 0. 				0		page 3-374
54015481 hex	MC_Write Target Out of Range	The parameter specified for the <i>Target</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-374
54015482 hex	Master Travel Distance Specification Out of Range	The parameter specified for the MasterDistance input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-375
54015483 hex	Master Distance in Acceleration Specification Out of Range	The parameter specified for the MasterDistanceACC input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-375
54015484 hex	Master Distance in Deceleration Specification Out of Range	The parameter specified for the MasterDistanceDEC input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-376
54015487 hex	Execution Mode Selec- tion Out of Range	The parameter specified for the ExecutionMode input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-376
54015488 hex	Permitted Following Error Out of Range	The parameter specified for the PermittedDeviation input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-377

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015489 hex	Border Point/Center Position/ Radius Specification Out of Range	The parameter specified for the <i>AuxPoint</i> input variable to a motion control instruction is out of range.	 The value of AuxPoint exceeded signed 40-bit data when converted to pulses for the border point or center specification method. For a radius specifications, the absolute value of AuxPoint[0] exceeded 40-bit data when converted to pulses. 				0		page 3-377
5401548A hex	End Point Specification Out of Range	The parameter specified for the <i>EndPoint</i> input variable to a motion control instruction is out of range.	The instruction input parameter exceeded the range of signed 40-bit data when it was converted to pulses.				0		page 3-378
5401548B hex	Slave Travel Distance Specification Out of Range	The parameter specified for the SlaveDistance input variable to a motion control instruction is out of range.	The instruction input parameter exceeded the range of 40-bit data when it is converted to pulses.				0		page 3-378
5401548C hex	Phase Shift Amount Out of Range	The parameter specified for the PhaseShift input variable to a motion control instruction is out of range.	The absolute value of the instruction input parameter exceeded the range of 40-bit data when it is converted to pulses.				0		page 3-379
5401548D hex	Feeding Distance Out of Range	The parameter specified for the FeedDistance input variable to a motion control instruction is out of range.	The absolute value of the instruction input parameter exceeded the range of 40-bit data when it is converted to pulses.				0		page 3-379
5401548E hex	Auxiliary and Slave De- fined as Same Axis	The same axis was specified for the Auxiliary and Slave input variables to a motion control instruction.	The parameter is the same for the Auxiliary and Slave input variables to the instruction.				0		page 3-380
5401548F hex	Relative Position Selection Out of Range	The parameter specified for the <i>Relative</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-380
54015490 hex	Cam Transi- tion Specifi- cation Out of Range	The parameter specified for the CamTransition input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-381

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015491 hex	Synchron- ized Control End Mode Selection Out of Range	The parameter specified for the <i>OutMode</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-381
54015492 hex	Enable Ex- ternal Latch Instruction Execution Disabled	_mcImmediateStop was specified for the StopMode input vari- able when the MC_TouchProbe (En- able External Latch) instruction was exe- cuted in Drive Mode for an encoder axis.	_mcImmediateStop was specified for the <i>StopMode</i> input variable when the MC_TouchProbe (Enable External Latch) instruction was executed in Drive Mode for an encoder axis.				0		page 3-382
54015493 hex	Master Axis Offset Out of Range	The parameter specified for the MasterOffset input variable to a motion control instruction is out of range.	The instruction input parameter exceeded the range of signed 40-bit data when it was converted to pulses.				0		page 3-382
54015494 hex	Slave Axis Offset Out of Range	The parameter specified for the SlaveOffset input variable to a motion control instruction is out of range.	The instruction input parameter exceeded the range of signed 40-bit data when it was converted to pulses.				0		page 3-383
54015495 hex	Command Current Position Count Selection Out of Range	The parameter specified for the CmdPosMode input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-383
54015496 hex	Master Axis Gear Ratio Numerator Out of Range	The parameter specified for the RatioNumeratorMast er input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-384
54015497 hex	Master Axis Gear Ratio Denominator Out of Range	The parameter specified for the RatioDenominatorMa ster input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-384

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015498 hex	Auxiliary Axis Gear Ratio Numerator Out of Range	The parameter specified for the RatioNumeratorAuxili ary input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-385
54015499 hex	Auxiliary Axis Gear Ratio Denominator Out of Range	The parameter specified for the RatioDenominatorAu xiliary input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-385
5401549A hex	Master Axis Position Type Selec- tion Out of Range	The parameter specified for the ReferenceTypeMaste r input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-386
5401549B hex	Auxiliary Axis Position Type Selection Out of Range	The parameter specified for the ReferenceTypeAuxilia ryinput variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-386
5401549C hex	Target Position Ring Counter Out of Range	Operation is not possible because the target position is out of range for the ring counter of the executed instruction.	High-speed homing was exe- cuted when 0 was not included in the ring counter.				0		page 3-387
5401549D hex (Ver. 1.01 or later)	Axes Group Composition Axis Setting Out of Range	The parameter specified for the Axes input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. The composition axes in the axes group are not assigned to the same task. 				0		page 3-387
5401549E hex (Version 1.04 or later)	Axis Use Setting Out of Range	The parameter specified for the <i>AxisUse</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-388
54015700 hex (Ver. 1.03 or later)	Homing Parameter Setting Out of Range	The parameter specified for the HomingParameter input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-388

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015702 hex (Version 1.04 or later)	Axis Use Change Er- ror	The MC_ChangeAxisUse (Change AxisUse) instruction was executed when the axis was not stopped or when the command velocity of the axis was saturated.	The MC_ChangeAxisUse (Change Axis Use) instruction was executed when the axis was not stopped or when the command velocity of the axis was saturated.				0		page 3-389
54015703 hex (Ver. 1.06 or later)	Cannot Change Axis Use	The MC_ChangeAxisUse (Change AxisUse) instruction was executed in a way that would cause the maximum number of used real axes or the maximum number of used motion control servo axes to be exceeded.	The MC_ChangeAxisUse (Change Axis Use) instruction was executed in a way that would cause the maximum number of used real axes to be exceeded. The MC_ChangeAxisUse (Change Axis Use) instruction was executed in a way that would cause the maximum number of used motion control servo axes to be exceeded.				0		page 3-390
54015720 hex (Version 1.04 or later)	Motion Control Parameter Setting Error When Changing Axis Use	The motion control parameter settings for the axis that was changed to a used axis are incorrect.	 The MC_ChangeAxisUse (Change Axis Use) instruction was used to change an unused axis to a used axis, but the motion control parameter settings of the axis are not correct. The power supply was interrupted while a download of the motion control parameter settings was in progress. The non-volatile memory is faulty or the life of the non-volatile memory has been exceeded. 				0		page 3-391

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015721 hex (Version 1.04 or later)	Required Process Da- ta Object Not Set When Changing Axis Use	The objects that are required for the axis type of the axis that was changed to a used axis are not set.	The objects that are required for the axis type of the axis that was changed to a used axis are not set in the PDO map settings. The power supply was interrupted while a download of the motion control parameter settings was in progress. The non-volatile memory is faulty or the life of the non-volatile memory has been exceeded. The MC_ChangeAxisUse (Change Axis Use) instruction was executed for an axis that is set to Unused axis (unchangeable to used axis).				0		page 3-392
54015722 hex (Ver. 1.06 or later)	Actual Position Over- flow/Under- flow	An instruction was executed that is not supported during an actual position over-flow/underflow.	An instruction was executed that is not supported during an actual position overflow or un- derflow.				0		page 3-393
54015723 hex (Ver. 1.06 or later)	Switch Structure Track Number Setting Out of Range	The value of TrackNumber that is specified in the Switches in-out varia- ble to a motion con- trol instruction is out of range.	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.				0		page 3-393
54015724 hex (Ver. 1.06 or later)	Switch Structure First ON Po- sition Setting Out of Range	The value of FirstOnPosition that is specified in the Switches in-out variable to a motion control instruction is out of range.	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.				0		page 3-394
54015725 hex (Ver. 1.06 or later)	Switch Structure Last ON Po- sition Setting Out of Range	The value of LastOnPosition that is specified in the Switches in-out varia- ble to a motion con- trol instruction is out of range.	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.				0		page 3-394
54015726 hex (Ver. 1.06 or later)	Switch Structure Axis Direc- tion Out of Range	The value of AxisDirection that is specified in the Switches in-out varia- ble to a motion con- trol instruction is out of range.	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.				0		page 3-395

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015727 hex (Ver. 1.06 or later)	Switch Structure Cam Switch Mode Out of Range	The value of CamSwitchMode that is specified in the Switches in-out variable to a motion control instruction is out of range.	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.				0		page 3-395
54015728 hex (Ver. 1.06 or later)	Switch Structure Duration Setting Out of Range	The value of <i>Duration</i> that is specified in the <i>Switches</i> in-out variable to a motion control instruction is out of range.	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.				0		page 3-396
54015729 hex (Ver. 1.06 or later)	Track Option Structure ON Com- pensation Setting Out of Range	The value of OnCompensation that is specified in the TrackOptions in-out variable to a motion control instruction is out of range.	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.				0		page 3-396
5401572A hex (Ver. 1.06 or later)	Track Option Structure OFF Com- pensation Setting Out of Range	The value of OffCompensation that is specified in the TrackOptions in-out variable to a motion control instruction is out of range.	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.				0		page 3-397
5401572B hex (Ver. 1.06 or later)	Number of Array Ele- ments in Switch Structure Variable Out of Range	The number of elements in an array in the structure variable that is specified in the <i>Switches</i> in-out variable to a motion control instruction is out of range.	The number of elements in an array of the structure variable that was specified for the inout variable of the instruction is out of range.				0		page 3-397
5401572C hex (Ver. 1.06 or later)	Number of Array Ele- ments in Output Sig- nal Structure Variable Out of Range	The number of elements in an array in the structure variable that is specified in the <i>Outputs</i> in-out variable to a motion control instruction is out of range.	The number of elements in an array of the structure variable that was specified for the inout variable of the instruction is out of range.				0		page 3-398
5401572D hex (Ver. 1.06 or later)	Number of Array Ele- ments in Track Option Structure Variable Out of Range	The number of elements in an array in the structure variable that is specified in the <i>TrackOptions</i> in-out variable to a motion control instruction is out of range.	The number of elements in an array of the structure variable that was specified for the inout variable of the instruction is out of range.				0		page 3-398

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
5401572E hex (Ver. 1.06 or later)	Numbers of Elements in Output Sig- nals and Track Option Arrays Not Matched	The arrays in the structure variables that are specified for the <i>Outputs</i> and <i>Track- Options</i> in-out variables to a motion control instruction do not have the same number of elements.	The arrays in the output signal structure variable and track option structure variable that are specified for the in-out variables to the instruction do not have the same number of elements.				0		page 3-399
5401572F hex (Ver. 1.06 or later)	Motion Control Instruction Multi-execution Disabled (Master Axis)	A <i>Master</i> in-out variable that cannot be changed during multiexecution of instructions was changed.	A Master in-out variable that cannot be changed during mul- tiexecution of instructions was changed.				0		page 3-399
54015730 hex (Ver. 1.06 or later)	Motion Control Instruction Multi-execution Disabled (Position Type Selection)	A ReferenceType in- out variable that can- not be changed dur- ing multi-execution of instructions was changed.	A ReferenceType inout variable that cannot be changed during multi-execution of instructions was changed.				0		page 3-400
54015731 hex (Ver. 1.06 or later)	Same Track Number Set- ting in Switch Structure Out of Range	The same track number was specified more than the allowable number of times for the <i>TrackNumber</i> in the <i>Switches</i> in-out variable to a motion control instruction.	The same track number was specified more than the allowable number of times for the <i>TrackNumber</i> in the Switches in-out variable to a motion control instruction.				0		page 3-400
5401573A hex (Ver. 1.08 or later)	Cannot Write Axis Param- eters	The instruction was executed for an axis that is not an unused axis.	The instruction was executed for a used axis or an undefined axis.				0		page 3-401
5401573B hex (Ver. 1.08 or later)	Axis Parameter Setting Out of Range	The parameter specified for the AxisParameter input variable to a motion control instruction is outside of the valid range.	The parameter specified for the AxisParameter input varia- ble to the instruction is out of range for the input variable.				0		page 3-401
5401573C hex (Ver. 1.08 or later)	Cam Property Setting Out of Range	The parameter specified for the CamProperty input variable to a motion control instruction is outside of the valid range.	The parameter specified for the CamProperty input variable to the instruction is out of range for the input variable.				0		page 3-402

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
5401573D hex (Ver. 1.08 or later)	Cam Node Setting Out of Range	The parameter specified for the CamNodes input variable to a motion control instruction is outside of the valid range.	The parameter specified for the <i>CamNodes</i> input variable to the instruction is out of range for the input variable.				0		page 3-402
5401573E hex (Ver. 1.08 or later)	Incorrect Cam Node Type Specifi- cation	The parameter specified for the CamNodes input variable to a motion control instruction is not an _sMC_CAM_NODE array variable.	The parameter specified for the <i>CamNodes</i> input variable to the instruction is not an _sMC_CAM_NODE array variable.				0		page 3-403
5401573F hex (Ver. 1.08 or later)	Insufficient Nodes in Cam Table	The array variable of the parameter specified for the CamNodes input variable to a motion control instruction has a Phase value of 0 for element number 0.	The array variable of the parameter specified for the CamNodes input variable to the instruction has a Phase (master axis phase) value of 0 for element number 0.				0		page 3-403
54015740 hex (Ver. 1.08 or later)	Cam Node Master Axis Phase Not in Ascending Order	The values of Phase in the array variable of the parameter specified for the CamNodes input variable to a motion control instruction are not in ascending order according to the element numbers.	The values of Phase (master axis phase) in the array variable of the parameter specified for the CamNodes input variable to the instruction are not in ascending order according to the element numbers. Or, truncating the digits that are not effective more than seven digits caused the phases not to be in ascending order.				0		page 3-404
54015741 hex (Ver. 1.08 or later)	Too Many Data Points in Cam Ta- ble	The number of generated cam data points exceeded the number of elements in the array in the cam data variable that is specified for the <i>CamTable</i> input variable to a motion control instruction.	The number of cam data points in the generated cam table exceeded the number of elements in the array in the cam data variable that is specified for the CamTable input variable to the instruction.				0		page 3-405
54015742 hex (Ver. 1.08 or later)	Cam Table Displace- ment Over- flow	Distance in the generated cam table exceeded the range of REAL data.	Distance in the generated cam table exceeded the range of REAL data.				0		page 3-406

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015743 hex (Ver. 1.08 or later)	Aborted Cam Table Used	A cam data variable that was aborted during generation was specified for the <i>CamTable</i> input variable to an instruction.	A cam data variable that was aborted during generation due to an error in the MC_GenerateCamTable (Generate Cam Table) instruction was specified for the CamTable input variable to the instruction.				0		page 3-407
54015749 hex (Ver. 1.10 or later)	Execution ID Setting Out of Range	The parameter specified for the <i>ExecID</i> input variable to a motion control instruction is out of range.	The parameter specified for the ExecID input variable to the instruction is out of range for the input variable.				0		page 3-407
5401574A hex (Ver. 1.10 or later)	Position Off- set Out of Range	The parameter specified for the OffsetPosition input variable to a motion control instruction is out of range.	The position offset exceeded the range of signed 40-bit data when it was converted to pulses.				0		page 3-408
5401574B hex (Ver. 1.10 or later)	PDS State Transition Command Selection Out of Range	The parameter specified for the TransitionCmd input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		page 3-408
5401574C hex (Ver. 1.13 or later)	Single-axis Position Control Axis Motion Control Instruction Execution Disabled	An operation instruction was executed for a single-axis position control axis.	An operation instruction was executed for a single-axis posi- tion control axis.				0		page 3-409
54015751 hex (Ver. 1.32 or later) [NX102] (Ver. 1.21 or later) [NX701-□□00, NX1P2, NJ501 (excluding NJ501-□□20), NJ301, NJ101-□□00]	Cam Monitor Mode Selec- tion Out of Range	The cam monitor mode selection specified for the CamMonitorMode input variable to a motion control instruction is out of range.	The cam monitor mode selection is out of the valid range.				0		page 3-409
54015752 hex (Ver. 1.32 or later) [NX102] (Ver. 1.21 or later) [NX701-□□00, NX1P2, NJ501 (excluding NJ501-□□20), NJ301, NJ101-□□00]	Data Type of Cam Monitor Values Mis- match	The data type of the cam monitor values specified for the CamMonitorValue inout variable to a motion control instruction does not match the cam monitor mode selection.	The data type of the variable specified for the cam monitor values does not match the cam monitor mode selection.				0		page 3-410
54015800 hex [NX502]	X Bus Unit Does Not Exist	The specified Unit does not exist.	The specified X Bus Unit does not exist.				0		page 3-410

					ı	_eve	ı		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015801 hex [NX502]	Response Timeout	No response was received from the specified Unit.	Communications with the specified Unit stopped due to either an X Bus Unit Startup Error, X Bus Unit Communications Error, or X Bus Function Processing Error. The set response monitoring time is too short.				0		page 3-411
54015C00 hex [NX502]	Cannot Execute at Specified Unit/Port	A tag data link control instruction was executed when execution was not possible. Or, the EtherNet/IP port designated by the specified Unit and port number does not exist.	An instruction was executed while the EtherNet/IP port is being restarted or tag data link settings are being downloaded from Network Configurator. The EtherNet/IP port designated by the specified Unit and port number does not exist.				0		page 3-412
54015C01 hex [NX502]	Too Many Simultane- ous Instruc- tion Execu- tions	Tag data link control instructions were executed and the number of instructions exceeded the maximum number that can be executed simultaneously.	Two or more tag data link control instructions were executed simultaneously.				0		page 3-412
54015C03 hex [NX502]	Target Node IP Address Does Not Exist	Connection settings with the target node IP address do not exist on the Ethernet/IP port specified by the specified Unit and port number.	Connection settings with the target node IP address do not exist on the Ethernet/IP port specified by the specified Unit and port number.				0		page 3-413
54015C04 hex [NX502]	Connection Communica- tions Error	Communications can not be established with the target node specified by target node IP address.	 Target node is not connected properly. The power supply to the target node is OFF. The Ethernet cable is broken, or loose. Noise 				0		page 3-414
54015C05 hex [NX502]	Connection Setting Error	An abnormal response from the target node was received.	Connection settings are incorrect.				0		page 3-414

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54016440 hex	Target Position Positive Software Limit Exceeded	The specified position exceeds the positive software limit.	The parameter specified for the <i>Position</i> input variable to the instruction is beyond the positive software limit. The first position is beyond the positive software limit and an instruction that specifies motion in the opposite direction of the software limit was executed. The parameter that was specified for the <i>AuxPoint</i> input variable to a border point MC_MoveCircular2D (Circular 2D Interpolation) instruction is beyond the positive software limit.				0		page 3-415
54016441 hex	Target Position Negative Software Limit Exceeded	The specified position exceeds the negative software limit.	 The parameter specified for the <i>Position</i> input variable to the instruction is beyond the negative software limit. The first position is beyond the negative software limit and an instruction that specifies motion in the opposite direction of the software limit was executed. The parameter that was specified for the <i>AuxPoint</i> input variable to a border point MC_MoveCircular2D (Circular 2D Interpolation) instruction is beyond the negative software limit. 				0		page 3-416
54016442 hex	Command Position Overflow/ Underflow	Positioning, an instruction in the underflow/overflow direction, or an instruction for which the direction is not specified was executed when there was an underflow/overflow in the command position.	One of the following was executed when there was a command position overflow/underflow. A positioning instruction A continuous control instruction in the underflow/overflow direction An instruction for which the direction is not specified (syncing or torque control)				0		page 3-417

					L	_eve	el .		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54016443 hex	Positive Limit Input	An instruction was executed for a motion in the positive direction when the positive limit input was ON.	An instruction for a motion in the positive direction was executed when the positive limit input was ON, or an instruction for a motion with no direction specification was executed when the positive limit input was ON. An axes group motion control instruction was executed when the positive limit input was ON.				0		page 3-418
54016444 hex	Negative Limit Input	An instruction for a motion in the negative direction was executed when the negative limit input was ON.	An instruction for a motion in the negative direction was executed when the negative limit input was ON, or an instruction for a motion with no direction specification was executed when the negative limit input was ON. An axes group motion control instruction was executed when the negative limit input was ON.				0		page 3-419
54017422 hex	Servo Main Circuits OFF	An attempt was made to turn ON the Servo when the main circuit power supply to the Servo Drive was OFF.	ON the Servo when the main circuit power supply to the Servo Drive was OFF.				0		page 3-420

^{*1.} Assumed cause for the following CPU Units.

[•] NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

[•] NX502 CPU Unit: Version 1.60 or later

NX701 CPU Unit: Version 1.29 or later

3-2-2 Error Descriptions

Errors for Self Diagnosis

Event name	DIP Switch Settin	a Frror		Event code	00090000 hex		
Meaning		ected in the DIP sw	itch setting.	210111 0000	- COCCOCCO HOX		
Source	PLC Function Module		Source details	None	Detection tim-	At power ON or Controller reset	
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category System		
Effects	User program	Stops.	Operation	Stops.*1			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	There is an error	in the DIP switch	Turn OFF all pins on the DIP		Make sure that the DIP switch set-		
	setting.		switch.		tings are correct.		
Attached infor-	Attached informat	tion 1: DIP switch re	eadout value (0000	00000 hex to 00000	00F hex)		
mation							
Precautions/	None						
Remarks							

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Internal Bus Che	ck Error		Event code	000D0000 hex				
Meaning	A fatal error was	detected on the int	ernal bus.						
Source	PLC Function Mc	dule	Source details	None	Detection tim- ing	Continuously			
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System			
Effects	User program	Stops.	Operation	Stops.*1 A connection be possible.	ction to the Sysmac Studio may no				
System-de-	Variable		Data type		Name				
fined variables	None								
Cause and cor-	Assumed cause		Correction		Prevention				
rection	A conductive material has gotten inside.		If there is conductive material nearby, blow out the CPU Unit with air.		Do not do any metal working in the vicinity of the control panel. Also, make sure that the operating environment is free of dirt and dust. Close the control panel.				
	 Noise There is data corruption in bus signals. There is malfunctioning in bus interface circuits. 		If the error occurs even after making the above correction, check the FG, and power supply lines, and other noise entry paths, and implement noise countermeasures as required.						
		The CPU Unit has failed. The internal bus is disconnected.		If this error persists even after you make the above two corrections, replace the CPU Unit.					
Attached infor- mation	Attached informa	tion 1: System info	rmation		,				
Precautions/ Remarks	the Controller cle	ars the error, you v	When this error occurs, the CPU Unit stops and the error is recorded in the event log. If cycling the power to the Controller clears the error, you will be able to see whether this error occurred by checking the event log. However, a restart is sometimes not possible depending on the error location.						

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Non-volatile Mem	ory Life Exceeded		Event code	000E0000 hex			
Meaning	· .	nber of deletions fo d the specified valu	or non-volatile mem ue.	ory was exceeded.	Or, the number of	bad blocks in		
Source	PLC Function Module Source details No		None	Detection tim- ing	At power ON, at Controller reset, or periodically			
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System		
Effects	User program	Stops.	Operation	Stops.*1				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Non-volatile mem	ory life expired.	Correction Replace the CPU Unit.		Prevention Depending on a user program or application, the non-volatile memory life may be shortened. Check the following 1 and 2. 1. Frequency of SD Memory Card backup processing by system-defined variables and special instructions 2. Frequency of instructions to write to non-volatile memory such as MC_SaveCamTable and ChangelPAdr instructions If the execution of 1 or 2 above fails, re-execute after you remove the cause of the error. If you retry before you remove the cause of error, the number of deletions for non-volatile memory increases and the non-volatile memory life may be shortened.			
Attached infor- mation	None							
Precautions/ Remarks	None							

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	CPU Unit Overhe	eat (Operation Stop	oped)	Event code	00110000 hex		
Meaning	Operation was st	opped because the	e temperature inside	the CPU Unit was	too high.		
Source	PLC Function Mo	odule	Source details	None	Detection tim- ing	Continuously	
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	reset		
Effects	User program	Stops.	Operation	Stops.*1 A connection to the Sysmac Studio is no possible.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The ambient operating temperature is too high.		 and 55°C. Provide enoug air flow. Do not install the rectly above edgenerates a land heat, such as heat heat heat heat heat heat heat heat	 ing temperature stays between 0 and 55°C. Provide enough space for good air flow. Do not install the Controller directly above equipment that generates a large amount of heat, such as heaters, transformers, or high-capacity resis- 		Make sure that the ambient temperature stays between 0 and 55°C.	
Attached infor- mation	None						
Precautions/ Remarks	None						

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Main Memory Ch	eck Error		Event code	00130000 hex*1		
Meaning	An error was dete	ected in the memor	y check of the main	memory in the CP	U Unit.		
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	Continuously	
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Stops.	Operation	Stops.*2			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Noise Data corruption in memory Microcomputer malfunctioning Memory write circuit malfunctioning		If there is conductive material nearby, blow out the CPU Unit with air. If the error did not result from the above causes, cycle the power to the Controller and see if that clears the error. If the error occurs frequently, check the FG, power supply lines, and other noise entry paths, and implement noise countermeasures as required.		Do not do any metal working in the vicinity of the control panel. Use the control panel only when it is closed.		
					Implement noise countermeasures		
	There is a soft en Data corruption cosmic rays or	n was caused by	If the error did not above causes, an power to the Cont	d cycling the troller or resetting	None		
	The CPU Unit has Memory eleme Memory periph	nt failure	the Controller does not clear the error, replace the CPU Unit.		Perform regular inspections.		
Attached infor- mation		tion 1: System infor tion 2: System infor					
Precautions/	None						
Remarks							

^{*1.} This event code occurs for the following CPU Units.

- NX102, NX1P2 CPU Unit: Version 1.13 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701, NJ5 with the hardware revision B: Version 1.16 or later
- NJ3 with the hardware revision A: Version 1.17 or later
- NJ1 with the hardware revision A: Version 1.17 or later
- *2. For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Non-volatile Mem	ory Restored or Fo	rmatted	Event code	10010000 hex		
Meaning		ected in the non-vol y have been delete	latile memory checl ed.	k and file system re	covery or formattir	ng was executed.	
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Stops.	Operation	Stops.*1			
System-de-	Variable	1	Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The Controller power supply was turned OFF while the BUSY indicator was lit.		Compare the proj project on the Sys they match, cycle	smac Studio. If	Do not turn OFF the power supply while the BUSY indicator is lit.		
	was interrupted n	or was lit.	they match, cycle the power supply to the Controller or reset the Controller to see if that clears the error. If the error is cleared, check that the device operates correctly. If the comparison shows a mismatch, if the error is not cleared, or if the device does not operate correctly, clear all of memory and then download the project from the Sysmac Studio again. If cycling the power supply to the Controller or resetting the Controller does not clear the error, the memory is corrupted. Replace the CPU Unit. Unexpected operation may occur and can be very dangerous if the power to the Controller is cycled or the Controller is reset before you download the project again.		Take appropriate sure that the spe the rated voltage supplied in place supply is unstable	cified power with and frequency is s where the power	
Attached infor- mation		tion 1: Recovered o					
mation	00000000 nex 000000001 hex	<: File system reco\ : Formatted)	rery successiul,				
Precautions/ Remarks	Make sure that th	ne projects match a the Controller or i	nd that the device or reset the Controller				

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Non-volatile Mem	ory Data Corrupted	<u> </u>	Event code	10020000 hex		
Meaning		<u> </u>	mory is missing or	corrupted.			
Source	PLC Function Mo		Source details	None	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Stops.	Operation	Stops.*1			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The Controller power supply was turned OFF while the BUSY indicator was lit.		Clear all of memory and then download the project from the Sysmac Studio.		Do not turn OFF the power supply while the BUSY indicator is lit.		
	The power supply to the Controller was interrupted momentarily while the BUSY indicator was lit. The CPU Unit has failed. If this error remains even after making the above corrections, place the CPU Unit.				Take appropriate measures to ensure that the specified power with the rated voltage and frequency is supplied in places where the power supply is unstable.		
			e corrections, re-	None			
Attached information	None						
Precautions/ Remarks	None						

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Main Memory Ch	eck Error		Event code	10080000 hex		
Meaning			y check of the mair	n memory in the CP	PU Unit.		
Source	PLC Function Mo	odule	Source details	None	Detection tim- ing	Continuously	
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program	Stops.	Operation	Stops.*1			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause)	Correction		Prevention		
rection	A conductive material has gotten inside.		If there is conductive material nearby, blow out the CPU Unit with air.		Do not do any metal working in the vicinity of the control panel. Use the control panel only when it is closed.		
	Noise • Data corruption in memory • Microcomputer malfunctioning • Memory write circuit malfunctioning		the error. If the error occurs the FG, power su	ccle the power to d see if that clears is frequently, check apply lines, and paths, and imple-	Implement noise	countermeasures.	
	There is a soft er Data corruptio cosmic rays or	n was caused by	If the error did not result from the above causes, and cycling the power to the Controller or resetting		None		
	The CPU Unit has failed. • Memory element failure • Memory peripheral circuit failure		the Controller does not clear the error, replace the CPU Unit.		Perform regular inspections.		
Attached infor- mation	Attached informa	tion 1: System info	rmation				
Precautions/	None						
Remarks							

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Data Not Saved to	o Battery-backup N	/lemory	Event code	100A0000 hex*1			
Meaning	An error occurred processing.	in the software an	d data could not be	saved in battery-b		ing power-OFF		
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	At power ON or Controller reset		
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System		
Effects	User program	Stops.	Operation	memory for CJ-se ing Areas do not of the power supply processing countor mal user program	ables with a Retain eries Units in the Di contain the values was turned OFF. U ermeasures are im a execution or norm ble when the power	M, EM, and Hold- from just before Inless suitable plemented, nor- al Unit operation		
System-de-	Variable		Data type		Name			
fined variables	_RetainUnexec*3		BOOL		Retention Inexect	ution Flag		
Cause and cor- rection	Assumed cause An error occurred	in the coffware	Correction Perform the follow		Prevention None			
			Check the value variables and to in the memory ies Units and control the correct value. If the system unwith an absolute ON the power sturn ON the Sethe actual currents. After you performance.	es of retained he retained areas used for CJ-ser- hange them to ues. ses a Servomotor te encoder, turn supply, and then ervo and check ent position of the trm the correc- tetention Inexecu-				
Attached information	None							
Precautions/ Remarks	If this error occurs, the values of the following will be the values from the previous time the power supply was turned ON. Retained variables (variables with a Retain attribute or variables in retained areas with AT specifications) Retained areas in the memory used for CJ-series Units Absolute encoder home offset data After you perform the corrections, set the Retention Inexecution Flag (_RetainUnexec) to FALSE. To prevent the user program from operating with an unintended value in the retained variables or the retained areas in the memory used for CJ-series Units or in the absolute encoder home offset position data, use the Retention Inexecution Flag (_RetainUnexec) in the user program as an interlock condition as required.							

^{*1.} This event code occurs for a CPU Unit with unit version 1.10 or later.

- NJ-series, NX502, NX102, NX1P2 CPU Unit: Version 1.64 or later
- NX701 CPU Unit: Version 1.35 or later

^{*2.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

^{*3.} This system-defined variable is available only for the following CPU Units.

Event name	Non-volatile Mem	ory Data Corrupted	d	Event code	100B0000 hex		
Meaning	A file that must be	e in non-volatile me	emory is missing or	corrupted.			
Source	PLC Function Mo	dule	Source details	Source details None		At power ON or Controller reset	
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Stops.	Operation	Stops.*1			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Cause and cor- Assumed cause		Correction		Prevention		
rection	The Controller power supply was turned OFF while the BUSY indicator was lit.		Clear all of memory and then download the project from the Sysmac Studio.		Do not turn OFF the power supply while the BUSY indicator is lit.		
	The power supply to the Controller was interrupted momentarily while the BUSY indicator was lit.				Take appropriate measures to ensure that the specified power with the rated voltage and frequency is supplied in places where the power supply is unstable.		
	The CPU Unit has failed.		If this error remains even after making the above corrections, replace the CPU Unit.		None		
Attached infor- mation	None						
Precautions/ Remarks	None						

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Event Level Setti	ng Error		Event code	100C0000 hex		
Meaning	The settings in the	e event level settin	g file are not correc	it.			
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Stops.	Operation	Stops.*1			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	tion The event level settings are not correct because the power supply to the Controller was interrupted or communications with the Sysmac Studio were disconnected during a		Perform a Memor	ry All Clear opera-	Do not interrupt the power supply		
			tion and then transfer the event level setting file again.		to the Controller or disconnect communications with the Sysmac Studio during a download of the event level settings.		
	download of the	•			event level settings.		
	tings.	ovent level set-					
	The event level se	ettings are not	-		Do not interrupt the power supply		
	correct because t	•			to the Controller		
	to the Controller v	was interrupted			Memory operation	n.	
	during a Clear All	Memory opera-					
	tion.						
	Non-volatile mem	ory failed.	If the error persis	•	None		
			make the above of the CPU Unit.	correction, replace			
Attached infor-	None		the CPU Unit.				
mation	None						
Precautions/	None						
Remarks							

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Present Values of ror	Retained Variable	s Restoration Er-	Event code	100F0000 hex	
Meaning	The present value	es of retained varia	bles could not be re	estored at startup a	nd the values were	initialized.
Source	PLC Function Module Source details		Source details	None	Detection tim- ing	At power ON or Controller reset
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Stops.	CJ-series Units in were corrupted. N		h a Retain attribute and memory for n the DM, EM, and Holding Areas Normal user program execution or ation may not be possible.	
System-de-	Variable		Data type		Name	
fined variables	_RetainFail		BOOL		Retention Failure	Flag
	_RetainUnexec*2		BOOL		Retention Inexecution Flag	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An error occurred in the software. Backup memory failure		 Perform the following: Check the values of the retained variables and the retained areas in the memory used for CJ-series Units and change them to the correct values. After you perform the corrections, set the Retention Inexecution Flag (_RetainUnexec) to FALSE. (NX502, NX102 and NX1P2 CPU Unit) If this error persists, replace the CPU Unit. 		None	
Attached infor-	None					
mation	The fall of the first					
Precautions/ Remarks	_	ues are initialized.	n Retain attribute or	variables with AT s	enecification in the	retained area)
Remains	1		d for CJ-series Unit		specification in the	icianicu aica)
	After you perfo To prevent the tained areas in	rm the corrections, user program from the memory used	set the Retention I operating with an office CJ-series Units k condition as requ	nexecution Flag (_ unintended value in , use the Retention	the retained varial	oles or the re-

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

- NX502, NX102, NX1P2 CPU Unit: Version 1.64 or later
- NX701 CPU Unit: Version 1.35 or later

^{*2.} This system-defined variable is available only for the following CPU Units.

Event name	Present Values of	f Retained Variable	es Not Saved	Event code	10100000 hex			
Meaning	formed because a Control Unit) The process of sa	The process of saving the current value of the retained variable during power interruptions could not be performed because the Controller was forcibly shut down or an error occurred in the software. (NY-series Controller value)						
Source	PLC Function Mo	dule	Source details None		Detection tim-	At power ON or Controller reset		
Error attributes	Level	Major fault	Recovery Cycle the power supply.		Log category	System		
Effects	User program	Stops.	Operation Stops.*1 The values of the memory for CJ-se ing Areas were no power interruption		e variables with a Retain attribute and eries Units in the DM, EM, and Holdot same as the values just before the n. Normal user program execution or ation may not be possible.			
System-de-	Variable		Data type		Name			
fined variables	_RetainUnexec*2		BOOL		Retention Inexed	cution Flag		
Cause and cor-	Assumed cause		Correction		Prevention			
rection	_RetainUnexec*2				Prevention Perform a shutdown with other method than the forced shutdown. (NY-series Controllers) None			
Attached infor- mation	None							
Precautions/ Remarks	 Absolute encode Retained varia Retained area After you perform To prevent the tained areas in 	in the memory use rm the corrections user program from the memory used	ta n Retain attribute or d for CJ-series Unit , set the Retention I n operating with an officer CJ-series Units ag (_RetainUnexec)	ts Inexecution Flag (_ unintended value ir or in the absolute e	RetainUnexec) to the retained varia encoder home offs	FALSE. ables or the re- et position data,		

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

- *2. This system-defined variable is available only for the following CPU Units.
 - NX502, NX102, NX1P2 CPU Unit: Version 1.64 or later

Event name	PLC System Prod	essing Error		Event code	40010000 hex			
Meaning	A fatal error was	detected in the PLC	C Function Module.					
Source	PLC Function Module		Source details	None	Detection tim- ing	Continuously		
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System		
Effects	User program	Stops.	Operation	Stops.*1 A connect possible.	nection to the Sysmac Studio is not			
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	An error occurred	in the software.	Contact your OM tive.	RON representa-	None			
Attached infor- mation	None		•					
Precautions/	None	None						
Remarks								

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	PLC System Prod	essing Error		Event code	40020000 hex	
Meaning	A fatal error was	detected in the PLC	Function Module.			
Source	PLC Function Module		Source details	None	Detection tim- ing	Continuously
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System
Effects	User program	Stops.	Operation Stops.*1			
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An error occurred in the software.		Contact your OMRON representative.		None	
Attached infor- mation	None					
Precautions/ Remarks	None					

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	PLC System Prod	cessing Error		Event code	40030000 hex			
Meaning	A fatal error was	detected in the PLC	C Function Module.					
Source	PLC Function Module		Source details	None	Detection tim- ing	Continuously		
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System		
Effects	User program	Stops.	Operation Stops.*1					
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	An error occurred	in the software.	Contact your OMRON representa-		None			
			tive.					
Attached infor-	Attached informa	tion 1: System infor	mation					
mation								
Precautions/	None	None						
Remarks								

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	PLC System Prod	essing Error		Event code	40040000 hex		
Meaning	A fatal error was	detected in the PLC	Function Module.				
Source	PLC Function Module		Source details	None	Detection tim- ing	Continuously	
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program	Stops.	Operation	Stops.*1 A connect possible.	s.*1 A connection to the Sysmac Studio is not ble.		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	An error occurred	in the software.	Contact your OM tive.	RON representa- None			
Attached information	None						
Precautions/	None						
Remarks							

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	PLC System Prod	cessing Error		Event code	40050000 hex		
Meaning	A fatal error was	detected in the PLO	Function Module.				
Source	PLC Function Module		Source details	None	Detection tim- ing	Continuously	
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program	Stops.	Operation	Stops.*1 A connection to the Sysmac Studio is not possible.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	An error occurred	I in the software.	Contact your OM tive.	RON representa-	None		
Attached infor-	None						
mation							
Precautions/ Remarks	None						

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Real-Time Clock	Stopped		Event code	00070000 hex			
Meaning	The oscillation of	the real-time clock	k stopped. The real-	time clock is set to	an illegal time.			
Source	PLC Function Mo	odule	Source details	Source details None		At power ON or Controller reset		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	Operation The System Time tion recorded by C				
System-de-	Variable		Data type		Name			
fined variables	_CurrentTime		DATE_AND_TIME		System Time			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The battery voltage is low.		'	Replace the Battery. Then adjust the real-time clock time.		Regularly replace the Battery.		
	The battery connector has come loose.		make sure it is m	Reconnect the connector and make sure it is mated correctly. Then adjust the real-time clock time.		on and shock.		
	The Battery is missing.		Install a Battery. Then adjust the real-time clock time.		Install a Battery.			
Attached infor- mation	None	None						
Precautions/ Remarks		the event level to t	power is turned ON he observation level		level to the observ	ration level, recov-		

Event name	Real-Time Clock	Failed		Event code	00080000 hex			
Meaning	The real-time clo	k in the CPU Unit	failed.					
Source	PLC Function Module		Source details	None	Detection tim- ing	At power ON or Controller reset		
Error attributes	Level	Minor fault	Recovery	Cycle the power supply.	Log category	System		
Effects	User program	Continues.	Operation	1	m Time is not defined. The clock informaled by CJ-series Units is also not defined.			
System-de-	Variable		Data type		Name			
fined variables	_CurrentTime		DATE_AND_TIME		System Time			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The CPU Unit clo	ck has failed.	Replace the CPU Unit.		None			
Attached infor-	None							
mation								
Precautions/	None	None						
Remarks								

Event name	Low Battery Volta	ge		Event code	000B0000 hex	
Meaning	The voltage of the	e Battery has dropp	ped.	,		
Source	PLC Function Module		Source details	None	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	No affected.		
System-de-	Variable		Data type		Name	
fined variables	_SelfTest_LowBa	ttery	BOOL		Low Battery Flag	
Cause and cor- rection	Assumed cause		Correction		Prevention	
	The battery voltage is low.		Replace the Batte	Replace the Battery.		e the Battery.
	The battery connector has come		Reconnect the connector and		Check for vibration and shock.	
	loose.		make sure it is mated correctly.			
	The Battery is mi	ssing.	Install a Battery.		Install a Battery.	
Attached infor-	None					
mation						
Precautions/	For the NJ-series	CPU Units and NX	(701 CPU Units, yo	u may lose the use	er data the next tim	e that the power
Remarks	supply is interrup	ted.				
	For the NX1P2 C	PU Units and NX10	02 CPU Units, you i	may lose the clock	data the next time	that the power
	supply is interrup	ted.				
	You can change t	he event level to th	e observation level	. If you change the	level to the observ	vation level, recov-
	ery procedures a	re not required.				

Event name	CPU Unit Overheat			Event code	000C0000 hex	
Meaning	The temperature	inside the CPU Ur	nit exceeded the spe	ecified value.		
Source	PLC Function Mo	PLC Function Module Source d		None	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Continues.	Operation	Not affected.		•
System-de-	Variable		Data type		Name	
fined variables	_SelfTest_HighTe	emperature	BOOL		CPU Unit High Te	emperature Flag
Cause and cor-	se and cor- Assumed cause		Correction		Prevention	
rection	The ambient operating temperature is too high.		 Make sure that the ambient operating temperature stays between 0 and 55°C. Provide enough space for good air flow. Do not install the Controller above equipment that generates a large amount of heat, such as heaters, transformers, or high-capacity resistors. If the ambient temperature exceeds 55 °C, install a cooling fan or air conditioner. 		Make sure that the perature stays be 55°C.	
Attached infor-	None					
Precautions/ Remarks	None					

Event name	Slow Fan			Event code	00120000 hex	
Meaning	The speed of the	fan dropped to a s	pecified level or low	ver.		
Source	PLC Function Module		Source details	None	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_SelfTest_LowFa	nRevolution	BOOL		Low FAN Revolu	tion Flag
Cause and cor-	ise and cor- Assumed cause		Correction		Prevention	
rection	There is an obstacle that prevents		Remove the material that is inter-		Make sure that nothing is interfer-	
	the operation of the fan.		fering with fan operation.		ing with the fan during operation.	
	The fan has reached the end of its		NX701 CPU Unit: Replace the Fan		NX701 CPU Unit: Perform regular	
	service life.		Unit. *1		Fan Unit replacements.	
	The fan is faulty.		NX502 CPU Unit: Replace the		NX502 CPU Unit: None	
	_		CPU Unit.			
				ler: Replace the		
			fan unit. Errors fo	r Self Diagnosis		
			on page 3-94			
Attached information	None					
Precautions/ Remarks	None					

^{*1.} Refer to the NX-series CPU Unit Hardware User's Manual (Cat. No. W535) for the Fan Unit replacement procedure and life.

Event name	Non-volatile Mem	nory Life Warning		Event code	00150000 hex*1	
Meaning		ber of deletions for d the warning value	r non-volatile memo e.	ory was exceeded.	Or, the number of b	oad blocks in
Source	PLC Function Module		Source details	None	Detection tim- ing	At power ON, at Controller reset, or periodically
Error attributes	Level	Minor fault	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_StorageDeterior	ated	BOOL		Non-volatile Mem	nory Life Warning
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Non-volatile mem	nory life expired.	Non-volatile mem Replace the CPU	nory life is ending. I Unit.	Prevention Depending on a user program or application, the non-volatile memory life may be shortened. Check the following 1 and 2. 1. Frequency of SD Memory Carbackup processing by system-defined variables and special instructions 2. Frequency of instructions to write to non-volatile memory such as MC_SaveCamTable and ChangelPAdr instructions If the execution of 1 or 2 above fails, re-execute after you remove the cause of the error. If you retry before you remove the cause of error, the number of deletions for non-volatile memory increases and the non-volatile memory life may	
Attached infor- mation	None					
Precautions/ Remarks	· ·		, reading or writing ontroller or a user p			may cause prob-

^{*1.} This event code occurs for the following CPU Units.

[•] NJ-series, NX102, NX1P2, NX502 CPU Unit: Version 1.60 or later

[•] NX701 CPU Unit: Version 1.32 or later

Event name	Battery-backup M	lemory Check Erro		Event code	10090000 hex	
Meaning			y check of the batte			
Source	PLC Function Module or Motion Control Function Module		Source details	PLC Function Module: None Motion Control Function Mod- ule: MC Com- mon	Detection timing	At power ON or Controller reset
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation The variables with CJ-series Units in were corrupted. N		h a Retain attribute n the DM, EM, and Normal user progral ation may not be po	Holding Areas m execution or
System-de-	Variable		Data type		Name	
fined variables	_RetainFail		BOOL		Retention Failure	Flag
	_RetainUnexec ^{*1}		BOOL		Retention Inexecution Flag	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The battery connector has come loose. The Battery is missing.		 Replace the Battery. Check the values of the retained variables and the retained areas in the memory used for CJ-series Units and change them to the correct values. After you perform the corrections, set the Retention Inexecution Flag (_RetainUnexec) to FALSE. 		Regularly replace the Battery. Check the impact of shock and vi-	
			connector. Check the valu variables and to in the memory ies Units and content the correct value. After you perform	es of the retained he retained areas used for CJ-ser-hange them to ues. In the correctetention Inexecu-	nined reas ser- to	
			 Install a Battery. Check the values of the retained variables and the retained areas in the memory used for CJ-series Units and change them to the correct values. After you perform the corrections, set the Retention Inexecution Flag (_RetainUnexec) to FALSE. 		Install a Battery.	
Attached information	None					

Precautions/ Remarks

The values are initial values in the following area:

- Retained variables (variables with Retain attribute or variables with AT specification in the retained area)
- · Retained area in the memory used for CJ-series Units

After you perform the corrections, set the Retention Inexecution Flag (_RetainUnexec) to FALSE. To prevent the user program from operating with an unintended value in the retained variables or the retained areas in the memory used for CJ-series Units, use the Retention Inexecution Flag (_RetainUnexec) in the user program as an interlock condition as required.

- 1. This system-defined variable is available only for the following CPU Units.
 - NJ-series, NX502, NX102, NX1P2 CPU Unit: Version 1.64 or later
 - NX701 CPU Unit: Version 1.35 or later

Event name	SD Memory Card	Invalid Type		Event code	000F0000 hex	
Meaning	The current SD M	lemory Card is not	supported.			
Source	PLC Function Module		Source details	None	Detection timing	At power ON, at Controller reset, or when SD Memory Card is inserted
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	SD PWR indicato ory Card is stoppe	ator is not lit. Power supply to SD Mem	
System-de-			Data type		Name	
fined variables			BOOL		SD Memory Card Ready Flag	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An SD Memory Card that is not supported was inserted into the CPU Unit.		Replace with an HMC-SD291 SD Memory Card, an HMC-SD491 SD Memory Card, or an HMC-SD1A1 SD Memory Card. In the following case, replace with an HMC-SD491 SD Memory Card or an HMC-SD1A1 SD Memory Card. • For NJ501-□□□□ CPU Units, the hardware revision is "A" and the unit version is 1.15 or later.		Use an HMC-SD291 SD Memory Card, an HMC-SD491 SD Memory Card, or an HMC-SD1A1 SD Memory Card. In the following case, use an HMC-SD491 SD Memory Card or an HMC-SD1A1 SD Memory Card. • For NJ501-□□□□ CPU Units, the hardware revision is "A" and the unit version is 1.15 or later.	
Attached infor- mation	Attached information	tion 1: "Not UHS-I"	is displayed when t	the SD Memory Ca	rd does not suppor	t UHS-I.
Precautions/ Remarks	None					

Event name	SD Memory Card	Life Exceeded		Event code	00100000 hex		
Meaning	,	nber of deletions fo	or the SD Memory (f bad blocks ex-	
Source	PLC Function Module		Source details	None	Detection tim- ing	At power ON, at Controller reset, or periodically	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation Not affected.			•	
System-de-	Variable		Data type		Name		
fined variables	_Card1Deteriorat	ed	BOOL		SD Memory Card Life Warning Flag		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The service life of Card was exceed	,	Back up necessary files in the SD Memory Card. Or replace the SD Memory Card.		Regularly replace the SD Memory Card.		
Attached infor- mation	None		-				
Precautions/ Remarks	Normal user pr You can chang Recovery colur Combination or expiration dete	The data on the SD Memory Card may be corrupted. Normal user program operation may not be possible. You can change the event level to the minor fault level. If you change the level to the minor fault level, the Recovery column above will be changed to "Error reset." Combination of the CPU Unit version and SD Memory Card determines whether the SD memory card life expiration detection function can be used or not. Refer to Specification of Supported SD Memory Cards, Folders, and Files in the NJ/NX-series CPU Unit Software User's Manual (Cat. No. W501) for details.					

Event name	SD Memory Card	Invalid Format		Event code	10030000 hex		
Meaning	The file format of	the SD Memory C	ard is not FAT16 or	FAT32.			
Source	PLC Function Module		Source details	None	Detection timing	At power ON, at Controller reset, or when SD Memory Card is inserted	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	SD PWR indicate	or is not lit. You can	format the SD	
				Memory Card fro	m the Sysmac Stu	dio.	
System-de-	Variable		Data type	Data type		Name	
fined variables	_Card1Ready		BOOL	BOOL		SD Memory Card Ready Flag	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The file format of the SD Memory		Make sure that th	Make sure that the correct SD		SD Memory Card.	
	Card inserted in the CPU Unit is		Memory Card is inserted in the		Do not format the	Do not format the SD Memory	
	not FAT16 or FAT32.		CPU Unit.		Card on a computer.		
			If an incorrect SD Memory Card is				
			inserted, replace	it with the correct			
			one.				
				If the correct SD Memory Card is inserted, format it correctly before			
			you use it.				
Attached infor- mation	None						
Precautions/	None						
Remarks							

Event name	SD Memory Card	Restored or Forma	atted	Event code	10040000 hex		
Meaning	An error was dete	ected during the file	system check and	the file system wa	s restored. Files m	ay have been de-	
Source	PLC Function Module		Source details	None	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	If the file is delete may not be possi	ed, normal user pro ble.	ogram operation	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The Controller power supply was turned OFF while the SD BUSY indicator was lit.		Check that the correct file is on the SD Memory Card, or that the device operates correctly.		Do not turn OFF the power supply while the SD BUSY indicator is lit.		
	The power supply to the Controller was interrupted momentarily while the SD BUSY indicator was lit.		If the correct file is not on the SD Memory Card, or if the device does not operate correctly, download the correct file to the SD Memory Card. Cycle the power supply to the Con-		Take appropriate measures to ensure that the specified power with the rated voltage and frequency is supplied in places where the power supply is unstable.		
	The SD Memory Card was removed while the SD PWR indicator was lit.		troller or reset the Controller and confirm that the system operates correctly.		Do not remove the SD Memory Card while the SD PWR indicator is lit.		
	The SD Memory	The SD Memory Card is damaged.		If this error occurs even though the above problem does not exist, replace the SD Memory Card and download the correct files to it.			
Attached information	None						
Precautions/ Remarks	enabled. You can change t	The error is detected at power ON or at a Controller reset only when SD Memory Card diagnosis at startup is enabled. You can change the event level to the minor fault level. If you change the level to the minor fault level, the Recovery column above will be changed to "Error reset."					

Event name	SD Memory Card	Data Corrupted		Event code	10060000 hex	10060000 hex	
Meaning	A file that must be	e in the SD Memory	/ Card is missing o	r corrupted.			
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	SD PWR indicator is not lit. You can format Memory Card from the Sysmac Studio. Normal user program operation may not be		dio.	
System-de-	Variable		Data type		Name		
fined variables	_Card1Ready		BOOL		SD Memory Card	l Ready Flag	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The Controller power supply was turned OFF while the SD BUSY indicator was lit.		Format the SD Memory Card and download the correct file.		Do not turn OFF the power supply while the SD BUSY indicator is lit.		
	The power supply to the Controller was interrupted momentarily while the SD BUSY indicator was lit.				Take appropriate measures to ensure that the specified power with the rated voltage and frequency is supplied in places where the power supply is unstable.		
	The SD Memory Card was removed while the SD PWR indicator was lit.				Do not remove the SD Memory Card while the SD PWR indicator is lit.		
	The SD Memory Card is damaged.		If the error cannot be cleared with the above corrections, replace the SD Memory Card with one that operates normally.		None		
Attached infor- mation	None						
Precautions/ Remarks	enabled. You can change t	he event level to th	r at a Controller res e minor fault level. nged to "Error reset	If you change the I		-	

Event name	SD Memory Card	Access Power OF	F Error	Event code	10070000 hex	
Meaning	The power supply	to the Controller w	vas interrupted duri	ng access to the Sl	D Memory Card.	
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	At power ON or Controller reset
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation Operation is controlled by the user program w file is corrupted.			rogram when the
System-de-	Variable		Data type	Data type		
fined variables	_Card1PowerFail		BOOL		SD Memory Card tion Flag	Power Interrup-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The Controller power supply was turned OFF while the SD BUSY indicator was lit.		Check that the correct file is on the SD Memory Card, or that the device operates correctly.		Do not turn OFF the power supply while the SD BUSY indicator is lit.	
	The power supply to the Controller was interrupted momentarily while the SD BUSY indicator was lit.		If the correct file is not on the SD Memory Card, or if the device does not operate correctly, download the correct file to the SD Memory Card. Cycle the power supply to the Controller or reset the Controller and confirm that the system operates correctly. When you have finished the corrections, change the _Card1PowerFail (SD Memory Card Power Interruption Flag) system-defined variable to FALSE.		Take appropriate measures to ensure that the specified power with the rated voltage and frequency is supplied in places where the power supply is unstable.	
Attached information	None		1		1	
Precautions/ Remarks	When the measu	re is completed, ch	ange the SD Memo	ory Card Power Inte	erruption Flag to FA	LSE.

Event name	PLC System Information			Event code	10130000 hex		
Meaning	This event provid	es internal informa	tion from the PLC F	unction Module.			
Source	PLC Function Module		Source details	None	Detection tim- ing	Continuously	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation Not affected.				
System-de- fined variables	Variable		Data type		Name	Name	
	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	This event provides internal information from the PLC Function Module. It is recorded to provide additional information for another event.						
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Incorrect SD Memory Card Removal			Event code	10310000 hex		
Meaning	SD Memory Card	SD Memory Card removal processing failed.					
Source	PLC Function Module		Source details	None	Detection tim- ing	At SD Memory Card removal	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable None		Data type	•	Name		
fined variables							
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The SD Memory Card was removed while the SD PWR indicator was lit.		Check the files on the SD Memory Card to see if they are correct. If the files on the SD Memory Card are not correct, download the cor- rect files to the SD Memory Card.		supply switch and	or goes out before	
Attached information	None						
Precautions/ Remarks	None						

Errors Related to CJ-series Unit Configuration

Event name	I/O Bus Check Er	ror		Event code	04010000 hex		
Meaning	1	II Special I/O Units	mission between th and CPU Bus Units				
Source	PLC Function Mo	odule	Source details	I/O bus master	Detection tim- ing	Continuously	
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program	Stops.	Operation	Stops. *1			
System-de-	Variable	•	Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The I/O Connecti connected or wire broken.	-	Make sure that the nector is mated preconnect the corcable is broken, r	roperly and then nnector. If the I/O	Make sure the ca erly during operation Check for vibration		
	A conductive material has gotten inside.		If there is conductive material nearby, blow out the Units with air.		Do not do any metal working in the vicinity of the control panel. Use the control panel only when it is closed.		
	1	ntact is faulty due al in the connector.	If foreign material connector, take o and remove the fo	ff the connector	Make sure that the operating envi- ronment is free of dirt and dust.		
	signals. • There is malful	There is data corruption in bus		If the error did not result from the above causes, cycle the power to the Controller and see if that clears the error. If the error occurs frequently, check the FG, power supply lines, I/O Connecting Cables, and other noise entry paths, and implement noise countermeasures as required.			
	CPU Bus Unit	CPU Unit Special I/O Unit		If the error did not result from the above causes, and cycling the power to the Controller or resetting the Controller does not clear the error, replace the attached Unit or the CPU Unit.		nspections.	
Attached infor- mation	None						
Precautions/ Remarks	None						

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Unsupported Unit	Detected		Event code	24010000 hex		
Meaning	An unsupported 0	J-series Unit or Po	ower Supply Unit is	mounted.			
Source	PLC Function Module		Source details	I/O bus master	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program	Stops.	Operation Stops. *1				
System-de-	Variable		Data type	Data type		Name	
fined variables	None			-			
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An unsupported CJ-series Unit or		Remove the unsupported CJ-ser-		Use a Unit that is supported by this		
	Power Supply Un	it was detected.	ies CPU Unit or P	ower Supply Unit	CPU Unit.		
			and replace it with	n a supported			
			one.				
Attached infor-	Attached informat	ion 1: Rack numbe	r where error was	detected, 0 to 3			
mation	Attached informat	ion 2: Slot number	where error was de	etected, 0 to 9			
	Attached informat	ion 3: Profile code	that gives the Unit	type			
Precautions/	This error will not	occur for unsuppor	ted Power Supply	Units that are mour	nted on Expansion	Rack. Make sure	
Remarks	that the Power Su	ipply Units connect	ed to the Expansio	n Racks are suppo	rted before using th	nem.	

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Too Many I/O Poi	nts		Event code	24020000 hex			
Meaning	The total number CPU Unit.	The total number of I/O points in the connected CJ-series Units exceeds the maximum specified value of the CPU Unit.						
Source	PLC Function Module		Source details	I/O bus master	Detection tim- ing	At power ON or Controller reset		
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System		
Effects	User program	Stops.	Operation	Stops. *1				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The total number	of I/O points in	Set the total num	ber of I/O points	Set the total num	ber of I/O points		
	the connected CJ	-series Basic I/O	in the CJ-series E	Basic I/O Units to	in the CJ-series E	Basic I/O Units to		
	Units exceeds 2,5	560.	2,560 or less.		2,560 or less.			
Attached infor-	Attached information	tion 1: Total numbe	r of I/O points in th	e CJ-series Basic I	O Units			
mation								
Precautions/	None							
Remarks								

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	End Cover Missing			Event code	24030000 hex		
Meaning	The End Cover is	The End Cover is not connected to right end of the CPU Rack or an Expansion Rack.					
Source	PLC Function Module		Source details	I/O bus master	Detection tim- ing	Continuously	
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program	Stops.	Operation Stops. *1				
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The End Cover is right end of the C Expansion Rack.		Check that the End Cover is correctly connected and firmly attached. If it is not, connect it properly.		Design a Unit cor cludes the End C	nfiguration that in- over.	
	The End Cover is properly.	not connected			Confirm that End ed correctly wher the Controller.	Cover is connect- you assemble	
Attached infor- mation	None						
Precautions/	None						
Remarks							

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Incorrect Unit/Exr	pansion Rack Conn	ection	Event code	24040000 hex		
						11-4	
Meaning			Racks exceeds the r			Unit.	
	<u>'</u>	•	ited to a unsupporte				
Source	PLC Function Mo	dule	Source details	I/O bus master	Detection tim-	At power ON or	
				ing	Controller reset		
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program	Stops.	Operation	Stops. *1			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	More than 10 Units are connected		Reduce the numb	er of Units con-	Check the maximum number of		
	to one Rack.		nected to the Rac	ck to 10 or fewer.	connections allow	ved and design a	
	More than three Expansion Racks		Reduce the number of Expansion		configuration that fits within those		
	are connected.	•	Racks to three or fewer.		ranges.		
	More than two Int	More than two Interrupt Input Units		Reduce the number of Interrupt In-		1	
	are mounted.		put Units to two or fewer.				
	An Interrupt Input	Unit was mount-	Mount the Interrupt Input Units to				
	ed to a unsupport	ted slot or to an	slots 0 to 4 on the	slots 0 to 4 on the CPU Rack (i.e.,			
	Expansion Rack.		as one of the five	Units to the right			
			of the CPU Unit).				
Attached infor-	None				1		
mation							
Precautions/	None						
Remarks							

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Duplicate Unit Nu	mber		Event code	24050000 hex		
Meaning	The same unit nu	mber is set for mor	e than one Special	I/O Unit or more th	nan one CPU Bus l	Jnit.	
Source	PLC Function Mo	dule	Source details	I/O bus master	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program	Stops.	Operation	ration Stops. *1			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The same unit nu more than one Sp more than one Cf The same unit nu to a Special I/O U more than one un another Special I/	mber is assigned Init that uses sit number and	is not used for moderal I/O Unit or CF checking the rotal same unit number than once for the uration, change the check whether a or CPU Bus Unit than one unit number the configuration. To see if one of the assigned to it is used to the configuration of the conf	ck that the same unit number of used for more than one Spe- I/O Unit or CPU Bus Unit by cking the rotary switches. If the ne unit number is used more on once for the same Unit config- ion, change the unit number. It is whether a Special I/O Unit cPU Bus Unit that uses more on one unit number is included in configuration. If there is, check the if one of the unit numbers is gned to it is used by another is included I/O Unit or CPU Bus Unit. If		ne same unit num- or more than one Also, make sure it number is not an one CPU Bus	
Attached information	Attached informat	Attached information 1: Rack number where error was detected, 0 to 3 Attached information 2: Slot number where error was detected, 0 to 9 Attached information 3: Special I/O Unit: Duplicated unit number + +20 hex CPU But Unit: Duplicated unit num-					
Precautions/ Remarks	Check the model	of the Special I/O l	Jnit. Some Special	I/O Units use up to	four unit numbers		

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	I/O Setting Check	Error		Event code	34010000 hex		
Meaning	There is an incon that is mounted ir	•	u Unit model in the	Unit Configuration i	n the CPU Unit and	d the Unit model	
Source	PLC Function Module		Source details	I/O bus master	Detection timing	At power ON, Controller reset, or Unit Configu- ration and Setup transfer	
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Stops.	Operation Stops. *1				
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A Unit model or Special Unit unit		Correct the Unit C	•	Make sure that th	•	
	number in the Un	_	the CPU Unit or the physical Unit			nit and the physi-	
	the CPU Unit is d Unit model or the		configuration so that there are no inconsistencies.		cal Unit configuration are consis-		
	number of the Un		inconsistencies.	inconsistencies.		tent.	
	in the Controller.	it that is mounted					
Attached infor-	Attached informat	tion 1:The lowest s	lot number where a	n error was detecte	ed on the CPU Rac	k: 0 to 9, When	
mation	the CPU Rack is	normal: 10					
				n error was detecte	ed on Expansion R	ack 1: 0 to 9,	
		Rack 1 is normal:					
				n error was detecte	ed on Expansion R	ack 2: 0 to 9,	
		Rack 2 is normal:		n arrar was dataats	nd on Evnancian D	aak 2: 0 ta 0	
		Rack 3 is normal:		n error was detecte	eu on Expansion R	aun 3. 0 10 9,	
Precautions/	None	. to the meridian					
Remarks							

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	PLC Function Pro	cessing Error		Event code	44400000 hex		
Meaning	A fatal error was	detected in the PLC	C Function Module.				
Source	PLC Function Module		Source details	I/O bus master	Detection tim- ing	Continuously	
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program	Stops.	Operation Stops. *1				
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An error occurred	in the software.	Contact your OM	Contact your OMRON representa-		None	
			tive.				
Attached infor-	Attached informat	tion 1: System infor	mation				
mation	Attached informat	tion 2: System infor	mation				
	Attached informat	tion 3: System infor	mation				
	Attached informat	tion 4: System infor	rmation				
Precautions/	None						
Remarks							

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Impossible to Acc	ess Special Unit		Event code	64010000 hex		
Meaning	An error occurred	in data exchange	between the CPU	Unit and a Special	Unit.		
Source	PLC Function Mo	dule	Source details	CJ-series Unit	Detection tim-	Continuously	
Error attributes	Level	Minor fault	Recovery	Reset error, cycle power supply, or reset Controller.	Log category	System	
Effects	User program	Continues.	Operation	The Special Unit	stops.		
System-de-	Variable	Variable			Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection		Correct the setting of the rotary switches or DIP switch pin on the Special Unit. You can check the setting error on the seven-segment display on the Special Unit.		Set the rotary sw switch pins on the correctly.			
U T	An error occurred Unit.			Refer to the relevant manual to troubleshoot the error.		Refer to the Unit manual and use the Unit correctly.	
	The Unit connecti	ion is faulty.	Connect the Unit so that the connectors mate correctly and slide the yellow sliders on the top and on the bottom toward the back to lock them into place.		Make sure that the Units are connected correctly. Check for vibration and shock.		
	Noise • There is data corruption in bus signals.		If the error did not result from the above causes, cycle the power to the Controller and see if that clears the error. If the error occurs frequently, check the FG, power supply lines, and other noise entry paths, and implement noise countermeasures as required.		Implement noise countermeasures.		
	A Unit has failed.		If the error did not result from the above causes, and cycling the power to the Controller or resetting the Controller does not clear the error, replace the Special Unit.		Perform regular i	nspections.	
Attached information							
Precautions/ Remarks	None						

Event name	CJ-series Unit Ba	ckup Failed		Event code	102D0000Hex *1	
Meaning	The backup opera	ation for a CJ-serie	s Unit ended in an	error.	_	
Source	PLC Function Mo	dule	Source details	I/O bus master	Detection tim- ing	During backup operation
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An error occurred in the Unit Configuration. (when 4 is given for attached information 1 (Error Details))		Eliminate the erro	Eliminate the error in the Unit Configuration.		when there are Init Configuration.
	An error occurred for a Special Unit. (when 2 is given for attached information 1 (Error Details))		Eliminate the erro	or for the Special	Eliminate the erro	or for the Special
	A restart is in progress for the Special Unit. (when 2 is given for attached information 1 (Error Details))		Back up the data when there is no restart command for the Special Unit.		Do not restart the Special Unit when a backup operation is in progress. Do not attempt to back up data during a restart.	
	A Unit model or Special Unit unit number in the Unit Configuration in the CPU Unit is different from the Unit model or the Special Unit unit number of the Unit that is mounted in the Controller. (when 5 is given for attached information 1 (Error Details)).		Correct the Unit Configuration in the CPU Unit or the physical Unit configuration so that there are no inconsistencies.			
	has failed. (when	The CPU Unit or CJ-series Unit has failed. (when 1 is given for attached information 1 (Error De-		If none of the above causes applies, replace the CPU Unit or the CJ-series Unit.		
Attached information	Attached Informat 1: It was not po 2: Communicat 4: The CJ-serie 5: The Unit Cor Attached informat Attached informat	ion 2: Rack numbe ion 3: Slot number	e backup file. I Unit failed. e detected. PU Unit and the pher where error was where error was d	detected, 0 to 3 (w etected, 0 to 9 (wh	hen 2 is given for E en 2 is given for Er	Error Details)
Precautions/ Remarks	None None	ion 4. System mio	rmation (when 2 is	given for Error Det	alis)	

^{*1.} This event code occurs for unit version 1.03 or later of the CPU Unit.

Event name	C I-series Unit Re	estore Operation Fa	iled	Event code	102E0000Hex *1	
		· · · · · · · · · · · · · · · · · · ·			102E0000Hex 1	
Meaning		ation for a CJ-series				
Source	PLC Function Mo	dule	Source details	I/O bus master	Detection tim- ing	During restore operation
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program		Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An error occurred in the Unit Configuration. (when 4 is given for attached information 1 (Error Details))		Eliminate the error figuration.	Eliminate the error in the Unit Configuration.		when there are Jnit Configuration.
	An error occurred Unit. (when 2 is given f mation 1 (Error D	for a Special	Eliminate the erro	or for the Special	Restore the data no errors for the	
	The Unit Configuration in the back- up file does not agree with the physical Unit configuration. (when 5 is given for attached infor- mation 1 (Error Details)).		Make sure that th tion in the backup the physical Unit	file agrees with	Make sure that U in the backup file physical Unit con you attempt to re	agrees with the figuration before
	A restart is in program to a restart in program to a restart is in program to a restart in progr		Restore the data when there is no restart command for the Special Unit.		Do not restart the Special Unit when a restore operation is in progress. Do not attempt to restore data during a restart.	
	The restore conditions that are required by the Special Unit are not met. (when 3 is given for attached information 1 (Error Details))		Check the restore conditions in the manual for the Special Unit and make sure that they are met.		Check the restord manual for the Si make sure that the	
	The backup files are corrupted. (when 3 is given for attached information 1 (Error Details))		Format the SD Memory Card with the Sysmac Studio and then place the backup file on it.		while the SD BUS	the power supply SY indicator is lit. Memory Card peri- g to the write life
	The CPU Unit or has failed. (when 1 is given f mation 1 (Error D	for attached infor-	If none of the above causes applies, replace the CPU Unit or the CJ-series Unit.		None	
Attached information	Attached Information 1: It was not potential 2: Communication 3: The restore 4: The CJ-serie 5: The Unit Conductation Attached information	tion 1: Error Details ossible to read the lations with a Special operation for a Special operation for a Special Unit could not be infiguration in the batton 2: Rack number tion 3: Slot number tion 4: System Infor	packup file. I Unit failed. I Unit failed. I detected. I deckup file does not on where error was deckup where error was deckup file does not on the control of the cont	detected, 0 to 3 (whetected, 0 to 9 (whetected)	hen 2 or 3 is given en 2 or 3 is given fo	for Error Details)
Precautions/ Remarks	None					

^{*1.} This event code occurs for unit version 1.03 or later of the CPU Unit.

Event name	Unsupported Unit Setting			Event code	30200000Hex *1	
Meaning	A setting in the S	pecial Unit is not su	ipported.			
Source	PLC Function Module		Source details	I/O bus master	Detection tim- ing	Continuously
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A setting in the Special Unit is not supported by the CPU Unit.		Change the setting of the Special Unit where the error occurred so that all Special Unit settings are supported by the CPU Unit.		Refer to the manual for the CPU Unit and use only Special Unit set- tings that are supported.	
	supported by the	CPO Unit.	that all Special Ur	nit settings are	1	•
Attached infor-	None Supported by the	CPO Unit.	that all Special Ur	nit settings are	1	•
Attached information	, ,	CPO Unit.	that all Special Ur	nit settings are	1	•
	, ,	CPO Unit.	that all Special Ur	nit settings are	1	•

^{*1.} This event code occurs for unit version 1.03 or later of the CPU Unit.

Event name	Illegal Packet Discarded			Event code	80010000 hex	
Meaning	An illegal packet	was received durin	g message commu	nications. The illeg	al packet was disc	arded.
Source	PLC Function Module		Source details	I/O bus master	Detection tim- ing	Continuously
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Noise There is data corruption in bus signals.		and see if this cle the error occurs fi the FG, power su other noise entry	Cycle the power to the Controller and see if this clears the error. If the error occurs frequently, check the FG, power supply lines, and other noise entry paths, and implement noise countermeasures as		countermeasures.
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	PLC System Info	mation		Event code	04020000 hex		
Meaning	This event provid	es internal informat	ion from the PLC F	unction Module.	•		
Source	PLC Function Module		Source details	I/O bus master	Detection tim- ing	Continuously	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	This event provides internal information from the PLC Function Module. It is recorded to provide additional information for another event.						
Attached information	Attached informated Attached informated	Attached information 1: System information Attached information 2: System information Attached information 3: System information Attached information 4: System information					
Precautions/ Remarks	None						

Event name	PLC System Info	mation		Event code	44410000 hex	
					444 10000 Hex	
Meaning	I his event provid	es internal informat	ion from the PLC F	unction Module.		
Source	PLC Function Mo	dule	Source details	I/O bus master	Detection tim-	Continuously
					ing	
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	This event provid	es internal infor-				
	mation from the F	LC Function				
	Module. It is reco	rded to provide				
	additional informa	ation for another				
	event.					
Attached infor-	Attached informat	tion 1: System infor	mation			
mation	Attached informat	tion 2: System infor	mation			
	Attached informat	tion 3: System infor	mation			
	Attached informat	tion 4: System infor	mation			
Precautions/	None					
Remarks						

Built-in I/O and Option Boards

Event name	Option Board Erro	or		Event code	05440000 hex	
Meaning	An Option Board	was removed or m	ounted during oper	ation, or an Option	Board hardware e	rror occurred.
Source	PLC Function Mo	odule	Source details	Option Board: Slot1, Slot2	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Continues.	Operation Operation is not p curred.		possible for slots w	here the error oc-
System-de-	Variable	ariable Data type		Name		
fined variables	_PLC_OptBoard\$	Sta	ARRAY[12] OF _sOPT- BOARD_STA		Option Board Status	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An Option Board was removed or mounted during operation.		Turn OFF the power supply to the Controller, then mount the Option Board correctly.		Do not remove or mount Option Boards during operation.	
	A hardware error was detected in an Option Board.		Controller, then m Board correctly. It sists, replace the	Turn OFF the power supply to the Controller, then mount the Option Board correctly. If this error persists, replace the Option Board in the slot where the error occurred.		
Attached infor-	Attached Informa	tion 1: Cause of the	e error			
mation	1. An Option B	oard was removed	during operation.			
	2. An Option B	oard was mounted	during operation.			
	3. A hardware	error was detected	in an Option Board	d.		
	Attached informa	tion 2: System info	rmation			
Precautions/	None					
Remarks						

Event name	Option Board Cor	nfiguration Verificat	tion Error	Event code	35940000 hex	
Meaning	The Option Board	d configuration setu	ıp does not agree w	vith the actual confi	iguration.	
Source	PLC Function Mo	dule	Source details	Option Board: Slot1, Slot2	Detection tim- ing	At power ON or at download
Error attributes	Level	Minor fault	Recovery Error reset		Log category	System
Effects	User program	Continues.	Operation	Operation Operation is not positive ment of configuration		here the disagree-
System-de-	Variable		Data type		Name	
fined variables	: - :		ARRAY[12] OF BOARD_STA	_sOPT- Option Board Status		tus
Cause and cor-	Assumed cause	ned cause Correction		Prevention		
rection	The Option Board configuration setup does not agree with the actual configuration.		tion or change the ration so that the configuration setu actual configuration	Option Board up agrees with the on. If you change configuration set-	Same as at the le	eft.
	An Option Board is not mounted correctly.		Turn OFF the power supply to the Controller, then mount the Option Board correctly.		Same as at the le	eft.
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Unsupported Opt	ion Board Mounted	I	Event code	35950000 hex			
Meaning	There is an unsu	There is an unsupported Option Board in the actual configuration.						
Source	PLC Function Module		Source details	Option Board: Slot1, Slot2	Detection tim- ing	At power ON		
Error attributes	Level	Minor fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System		
Effects	User program	Continues.	Operation	Operation is not pourred.	oossible for slots wl	ossible for slots where the error oc-		
System-de-	Variable		Data type		Name			
fined variables	_PLC_OptBoards	Sta	ARRAY[12] OF BOARD_STA	ARRAY[12] OF _sOPT- BOARD STA		Option Board Status		
Cause and cor-	Assumed cause		Correction	Correction		Prevention		
rection	There is an unsupported Option Board in the actual configuration.		Remove the unsupported Option Board.		Use a supported Option Board.			
Attached infor- mation	Attached information 1: System information							
Precautions/ Remarks	None							

Event name	Analog Option Bo	ard Startup Error		Event code	88130000 hex		
Meaning	An error occurred	when an Analog C	Option Board is star	ted.			
Source	PLC Function Mo	PLC Function Module		Option Board: Slot1, Slot2	Detection tim- ing	At power ON	
Error attributes	Level	Minor fault	Recovery Cycle the power supply or reset the Controller.		Log category	System	
Effects	User program	Continues.	Operation Operation is not po curred.		ossible for slots where the error oc-		
System-de-			Data type		Name		
fined variables			ARRAY[12] OF BOARD_STA	SOPT- Option Board Status		tus	
Cause and cor-	Assumed cause	Assumed cause		Correction			
rection	An Analog Option mounted correctly Option Board faile	/. Or an Analog	Turn OFF the pov Controller, then m Board correctly. It sists, replace the the slot where the	nount the Option f this error per- Option Board in	Same as at the le	eft.	
Attached infor-	Attached informat	tion 1: System info	rmation				
mation							
Precautions/	None						
Remarks							

Event name	Analog Option Bo	oard Communicatio	ons Error	Event code	88140000 hex	
Meaning	A communication	s error occurred du	uring Analog Option	Board operation.	•	
Source	PLC Function Mo	odule	Source details	Option Board: Slot1, Slot2	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery Cycle the power supply or reset the Controller.		Log category	System
Effects	User program	Continues.	curred. Reset the		possible for slots where the error oc- error. Operation is resumed when cations are restored.	
System-de-	Variable		Data type		Name	
fined variables	_PLC_OptBoard	_PLC_OptBoardSta ARRAY[12] OF _sO BOARD STA		sOPT-	Option Board Status	
Cause and cor-	7100411104104		Correction		Prevention	
rection			even after you res OFF the power so troller, then moun Board correctly. If curs, replace the	Reset the error. If this error occurs even after you reset the error, turn OFF the power supply to the Controller, then mount the Option Board correctly. If this error still occurs, replace the Option Board in the slot where the error occurred.		eft.
	If the indicator on an Analog Option Board is lit, it means that a WDT error occurred in the Analog Option Board.		Turn OFF the power supply to the Controller, then mount the Option Board correctly. If this error persists, replace the Option Board in the slot where the error occurred.		Same as at the le	eft.
Attached infor- mation	Attached informa	tion 1: System info	rmation			
Precautions/ Remarks	None					

Errors Related to Tasks

Event name	Task Execution Timeout			Event code	code 60020000 hex		
Meaning	Task execution ex	ceeded the timeou	it detection time.				
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	Continuously	
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Stops.	Operation Stops.*1				
System-de-	Variable		Data type		Name		
fined variables	_ <task_name>_Exceeded</task_name>		BOOL		Task Period Exce	eded Flag	
	_ <task_name>_E</task_name>	ExceedCount	UDINT		Task Period Exce	eded Count	
	_ <task_name>_LastExecTime</task_name>		TIME		Last Task Execut	ion Time	
	_ <task_name>_N</task_name>	MaxExecTime	TIME		Maximum Task E	xecution Time	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The timeout detection is too short.	ction time setting	Increase the time time.	out detection	Design the tasks considering the corrections that are given on the		
	The task period s	The task period setting is too short.		period.	left.		
	A user program is too large.		Separate the processes into different tasks, for example move processes that do not need a short execution period to a periodic task with a lower priority.				
The number of times the ing is repeated is large pected.		•	If there is a program with an extremely high number of repetition correct the program to achieve the correct number of repetitions. Se trap in the user program that most ors the number of times a proce is executed to check the number repetitions.				
	Task Priority Error	Task Priority Error		ity of the periodic e the priorities of			
	Frequent Event Task Execution		Lower the frequency of event task execution. Or, decrease the priorities of the event tasks.				
Attached infor- mation	Attached Informat	tion 1: Name of tas	k where error occur	red			
Precautions/ Remarks	None						

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	I/O Refreshing Tir	meout Error		Event code	60030000 hex	
Meaning	Consecutive I/O r	efresh failures occi	urred during the pri	mary periodic task	or periodic task pei	riod.
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	Continuously
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Stops.	Operation	Stops.*1		
System-de-	Variable		Data type		Name	
fined variables	_ <task_name>_E</task_name>	Exceeded	BOOL		Task Period Exce	eded Flag
	_ <task_name>_E</task_name>	ExceedCount	UDINT		Task Period Exce	eded Count
	_ <task_name>_L</task_name>	astExecTime	TIME		Last Task Execution Time	
	_ <task_name>_N</task_name>	MaxExecTime	TIME		Maximum Task Execution Time	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The task period setting is too short.		Check the task execution time and change the task period to an appropriate value.		Design the tasks considering the corrections that are given on the left.	
	Task Priority Error for Periodic Tasks and Event Tasks		odic tasks. Or, de ties of the event to	Increase the priorities of the periodic tasks. Or, decrease the priorities of the event tasks so that they are lower than the priorities of the periodic tasks		
	There are too many Units and slaves that perform I/O refresh in the task period.		Move the I/O refresh processes to other tasks, for example move I/O refresh processes within the task to other tasks.			
	Frequent Event Task Execution		Lower the frequency of event task execution. Or, decrease the priorities of the event tasks.			
Attached information	Attached Informa	tion 1: Name of tas	k where error occui	rred		
Precautions/ Remarks	None					

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Insufficient Syste	m Service Time Err	or	Event code	60040000 hex	60040000 hex	
Meaning	The specified sys	stem service execut	tion time could not l	be obtained.			
Source	PLC Function Module		Source details	None	Detection tim- ing	Continuously	
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Stops.	Operation	Stops.*1			
System-de-	Variable		Data type		Name		
fined variables	_ <task_name>_Exceeded</task_name>		BOOL		Task Period Exce	eded Flag	
	_ <task_name>_ExceedCount</task_name>		UDINT		Task Period Exce	eded Count	
	_ <task_name>_LastExecTime</task_name>		TIME		Last Task Execution Time		
	_ <task_name>_I</task_name>	MaxExecTime	TIME		Maximum Task Execution Time		
Cause and cor-	Assumed cause Correction		Correction	Prevention			
rection	ecute the tasks and tag data link service. the data time tag The system service execution interval is too short or the system service execution time ratio is too long in the System Service Monither the system service execution time ratio is too long in the System Service Monither the service makes and tag data link execution time tag the data time tag tag the system service execution in the system service Monither tag		tings. Increase the the packet interval data link settings time for execution tag data link service. Check the effect of executed by the swith this operation the system service.	execution and the tag data link settings. Increase the task periods or the packet intervals (RPI) in the tag data link settings to obtain enough time for execution of the tasks and tag data link service. Check the effect on the processes executed by the system services with this operation and increase the system service execution interval or reduce the system service		Service Monitoring ag to the correc- en on the left.	
Attached information	None		execution time ra				
Precautions/ Remarks	None						

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Task Period Exce	eded		Event code	60010000 hex		
Meaning			uring the set task p	eriod for the primary periodic task or a periodic task.			
Source	PLC Function Mo		Source details	None	Detection tim-	Continuously	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	period, the I/O refi • CJ-series Units task execution next period is e • EtherCAT slave Units, Built-in I/		be as follows: executed. When efreshing for the e CPU Unit, X Bus vious period are the input data is program. within the set task	
System-de-	Variable		Data type		Name		
fined variables	_ <task_name>_E</task_name>	Exceeded	BOOL		Task Period Exce	eded Flag	
	_ <task_name>_E</task_name>	ExceedCount	UDINT TIME		Task Period Exceeded Count		
	_ <task_name>_L</task_name>	_astExecTime			Last Task Execution Time		
	_ <task_name>_N</task_name>	MaxExecTime	TIME		Maximum Task Execution Time		
Cause and cor-	Assumed cause		Correction	Correction			
rection	The task period s A user program is		Check the task execution time and change the task period to an appropriate value. Separate the processes into different tasks, for example move processes that need a short execution period to a periodic task with a low-		Design the tasks considering the corrections that are given on the left.		
	The number of times that processing is repeated is larger than expected.		er priority. If there is a program with an extremely high number of repetitions, correct the program to achieve the correct number of repetitions. Set a trap in the user program that monitors the number of times a process is executed to check the number of repetitions.				
	Task Priority Error for Periodic Tasks and Event Tasks		Increase the priorities of the periodic tasks. Or, decrease the priorities of the event tasks so that they are lower than the priorities of the periodic tasks.				
	Frequent Event Task Execution		Lower the frequency of event task execution. Or, decrease the priorities of the event tasks.				
Attached infor- mation	Attached Informa	tion 1: Name of tas	k where error occu	rred			
Precautions/ Remarks	You can change t	he level of the erro	r to an observation	in the task settings			

Event name	Task Period Exce	eded		Event code	60050000 hex		
Meaning			uring the set task p			ived periodic	
Wiearing	task.	as not completed d	uning the set task p	eriod for the prima	y periodic task of i	ixed periodic	
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	Continuously	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	period, the I// • CJ-series task exect next perio • EtherCAT Units, Buil Outputs: Toutput. Inputs: Inputo not update If the task exect		period, the I/O ref CJ-series Units task execution next period is e EtherCAT slave Units, Built-in I/Outputs: The voutput. Inputs: Inputs a not updated in If the task executiperiod, overall contact the contact in the contact in the task executiperiod, overall contact in the	laves, NX Units on the CPU Unit, X Bus		
System-de-	Variable		Data type		Name		
fined variables	_ <task_name>_E</task_name>	Exceeded	BOOL		Task Period Exce	eded Flag	
	_ <task_name>_E</task_name>	ExceedCount	UDINT		Task Period Exceeded Count		
			TIME		Last Task Execution Time		
	_ <task_name>_N</task_name>	MaxExecTime	TIME		Maximum Task Execution Time		
Cause and cor-	Assumed cause		Correction		Prevention		
rection			Check the task execution time and change the task period to an appropriate value. Separate the processes into different tasks, for example move processes that need a short execution period to a periodic task with a lower priority.		Design the tasks corrections that a left.	_	
	The number of times that processing is repeated is larger than expected.		If there is a program with an extremely high number of repetitions, correct the program to achieve the correct number of repetitions. Set a trap in the user program that monitors the number of times a process is executed to check the number of repetitions.				
	Task Priority Error for Periodic Tasks and Event Tasks		Increase the priorities of the periodic tasks. Or, decrease the priorities of the event tasks so that they are lower than the priorities of the periodic tasks.				
	Frequent Event T	ask Execution	Lower the frequency of event task execution. Or, decrease the priorities of the event tasks.				
Attached infor- mation	Attached Informa	tion 1: Name of tas	k where error occu	rred			
Precautions/ Remarks	This error can occ	cur if you change th	ne level of the error	to an observation i	n the task settings.		

Errors Related to Controller Operation

Event name	User Program/Co Transfer Error	ontroller Configurati	ons and Setup	Event code	10200000 hex	
Meaning	The user program	n or Controller Conf	figurations and Setu	up were not transfe	erred correctly.	
Source	PLC Function Mo NX Bus Function EtherCAT Master	Module	Source details	None or I/O bus master	Detection tim- ing	At power ON or Controller reset
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Stops.	Operation	Stops.*1		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The user program or Controller Configurations and Setup are not correct because the power supply to the Controller was interrupted during a download of the user pro- gram or the Controller Configura- tions and Setup.		download the promac Studio. If attached inform tered, cycle the puthe Controller and the above correct	If attached information is registered, cycle the power supply to the Controller and then implement		the power supply during a download am or the Control- s and Setup.
	The user program or Controller Configurations and Setup are not correct because the power supply to the Controller was interrupted during online editing.		If you cannot perform a Clear All Memory operation from the Sysmac Studio, transfer the project to the Controller with a restore operation from an SD Memory Card.		Do not interrupt the power supply to the Controller during online editing.	
	The user program or Controller Configurations and Setup are not correct because the power supply to the Controller was interrupted during a Clear All Memory opera- tion.				Do not interrupt t to the Controller Memory operatio	during a Clear All
	The user program or Controller Configurations and Setup are not correct because the power supply to the Controller was interrupted during a restore operation.				Do not interrupt to the Controller operation.	
		y to the Controller ough it is required Λemory operation.	Cycle the power supply to the Controller and then transfer the project to the Controller.		If you execute Clear All Memory or the Controller containing a downloaded project in the unit version 1.40 or later and then download a project in the unit version earlier than 1.40 on Sysmac Studio lower than 1.29, make sure to cycle the power supply of the Controller after executing the Clear All Memory operation.	
	Non-volatile memory failed.		If the error persists even after you make the above correction, replace the CPU Unit.		None	

Attach	ned infor-	Attached Information 1: Cause Details
mation	None: Power was interrupted during a download, during online editing, or during restoration.	
		Downloading/Predownloading: For other causes, the timing of error occurrence (during download or during download preparations) is given.
Precau	utions/	None
Remar	rks	

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Illegal User Progr	am Execution ID		Event code	10210000 hex	
Meaning	The user program	n execution IDs set	Init do not match.			
Source	PLC Function Module		Source details	None	Detection timing	At user program download, pow- er ON, or Con- troller reset
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Stops.	Operation	Stops.*1		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The user program execution IDs set in the user program and in the CPU Unit do not match.		Set the same user program execution ID in the user program and CPU Unit.		Set the same user program execution ID in the user program and CPU Unit. Keep a record of the user program execution IDs set in the user program and in the CPU Unit. They are not displayed.	
	A user program execution ID is set in the CPU Unit but not in the user program.		If user program execution ID is not set in the user program, clear the user program execution ID set in the CPU Unit by clearing all memory in the CPU Unit.			
Attached infor- mation	None				•	
Precautions/ Remarks	None					

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Illegal User Progr	ram		Event code	10240000 hex			
Meaning	The user program is not correct.							
Source	PLC Function Module		Source details	None	Detection tim- ing	At download, At power ON, or Controller reset		
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System		
Effects	User program	Stops.	Operation	Stops.*1				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	There are more than 8 nesting levels for functions or function blocks.		Find the location in the user program with more than 8 nesting levels for functions or function blocks and reduce the number of nesting levels to 8 or fewer. Then, download the user program again.		Write the user program so that there is never more than 8 nesting levels for functions or function blocks. Use the program check on the Sysmac Studio to confirm that there are not more than 8 nesting levels.			
Attached infor- mation								
Precautions/ None Remarks								

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Illegal User Progr	am/Controller Con	figurations and	Event code	10250000 hex		
	Setup						
Meaning	The upper limit of up is corrupted.	The upper limit of the usable memory was exceeded or the user program or Controller Configurations and Set- up is corrupted.					
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	At download, power ON, or Controller reset	
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Stops.	Operation	Stops.*1			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Assumed cause The upper limit of the data size was exceeded. The main memory capacity was exceeded.		If an event on restrictions on the number of items used occurred at the same time as this event, correct the user program and settings so that the number of items used is not exceeded and then download the data again. If an event on restrictions on the number of items used did not occur at the same time as this event, perform the Clear All Memory operation, cycle the power supply, and then confirm that this event was cleared. If it was cleared, reduce the size of the project, e.g., by sharing programming, and then download the project again.		None		
	Non-volatile memory is deteriorating or has failed.		If this error persists even after you implement the above two corrections, replace the CPU Unit.				
Attached information	None						
Precautions/ Remarks	None						

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Error in Starting A	utomatic Transfer		Event code	10270000 hex*1	
Meaning	An error was dete	cted in pre-executi	on checks for auto	matic transfer.		
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	At power ON
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Stops.	Operation	Stops.*2		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An SD Memory C ed.	ard is not insert-	Insert an SD Men	nory Card.	Insert an SD Mer	mory Card.
	The SD Memory (correct.	Card type is not	Replace the SD Man SD or SDHC of	Memory Card with card.	Use an SD or SD	HC card.
	The format of the is not correct.	SD Memory Card	Format the SD M the Sysmac Studi an autoload folde backup files in it.	io and then create	Use a formatted screate an autoloa SD Memory Card backup files in it.	
	There is no autoload folder on the SD Memory Card.		Create an autoload folder on the SD Memory Card and place the backup files in it.		Also, do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit.	
	There are no backup files in the autoload folder on the SD Memory Card.		Place the backup files in the autoload folder on the SD Memory Card.			
	Either the backup files in the autoload folder on the SD Memory Card are corrupted or required data is not in the backup files on the SD Memory Card.		Replace the backup files in the autoload folder on the SD Memory Card. If this error occurs again even after replacing the files, create the backup files again and place them in the autoload folder.			
	The unit version of the CPU Unit to which to transfer the files is older than the unit version of the backup files on the SD Memory Card.		Unit that has a ur the same as or no version of the CP to create the back place the backup rect unit version f	Replace the CPU Unit with a CPU Make Unit that has a unit version that is the C		ne unit version of d the unit version s are compatible.
	The model of the CPU Unit to which to transfer the files is not the same as the model of the CPU Unit of the backup files on the SD Memory Card.		Replace the CPU Unit with a CPU Unit that has the same model as the CPU Unit that was used to create the backup files. Or, place the backup files with the same model of CPU Unit in the autoload folder.		Make sure that the model of the CPU Unit is the same as the mode of the CPU Unit that was used to create the backup files.	
	Recovery was executed for the SD Memory Card.		If there are no backup files or no automatic transfer command file in the autoload folder, place the files in the folder again.		None	
	The CPU Unit is write-protected.		If you use automatic transfers, select the <i>Do not use</i> Option for the Write protection at startup setting of the CPU Unit.		If you use automated the Do not use Write protection ting of the CPU L	se Option for the at startup set-

	The settings in the automatic trans-	Make sure that the required files	Make sure that the required files
	fer command file (AutoloadCom-	are set to "Yes" in the automatic	are set to "Yes" in the automatic
	mand.ini) are not correct.	transfer command file.	transfer command file.
	Reading the data for automatic	Perform the same corrective meas-	Perform the same preventive
	transfer failed because the SD	ures as for when the format of the	measures as for the following
	Memory Card is faulty or not for-	SD Memory Card is not correct or	events: SD Memory Card Invalid
	matted correctly.	the SD Memory Card is damaged.	Format or Faulty SD Memory Card.
	The SD Memory Card is damaged.	If none of the above causes applies, replace the SD Memory Card.	Do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit. Or, replace the SD Memory Card periodically according to the write life of the SD Memory Card.
	The database connection service	Replace the CPU Unit with a CPU	Make sure that the database con-
	version of the CPU Unit to which to	Unit that has a database connec-	nection service version of the CPU
	transfer the files is older than the	tion service version that is the	Unit and the database connection
	database connection service ver-	same as or newer than the data-	service version of the backup files
	sion of the backup files on the SD	base connection service version of	are compatible.
	Memory Card.	the CPU Unit that was used to cre-	·
	_	ate the backup files. Or, place the	
		backup files with the correct data-	
		base connection service version	
		for the CPU Unit in the autoload	
		folder.	
	The robot version of the CPU Unit	Replace the CPU Unit with a CPU	Make sure that the robot version of
	to which to transfer the files is older	Unit that has a robot version that is	the CPU Unit and the robot version
	than the robot version of the back-	the same as or newer than the ro-	of the backup files are compatible.
	up files on the SD Memory Card.	bot version of the CPU Unit that	
		was used to create the backup	
		files. Or, place the backup files with	
		the correct robot version for the	
		CPU Unit in the autoload folder.	
Attached infor-	Attached Information 1: Error Details		
mation	0001 hex: An SD Memory Card is		
		s faulty, the format of the SD Memory	Card is not correct, or the SD Mem-
	ory Card is not the correct type of		
	0004 hex: Recovery was executed0101 hex: There is no autoload fo		
		es in the autoload folder on the SD M	omory Card
	0102 flex. There are no backup file 0103 hex: The backup files are co		enlory Card.
	•	mupted. omatic transfer command file are not (correct
	0105 hex: The required transfer days		correct.
	0201 hex: The unit version of the	-	
	0202 hex: The model numbers of		
	0203 hex: The CPU Unit is write-p		
		on service or robot version of the CPU	Unit is old
		natic transfer failed or the SD Memory	
Precautions/	None	z or u.o ob momory	
Remarks			
	I		

- *1. This event code occurs for unit version 1.03 or later of the CPU Unit.
- *2. For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Error in Executing	g Automatic Transfe	er	Event code	10280000 hex*1	
Meaning	The automatic tra	nsfer ended in an e	error.			
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	At power ON
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Stops.	Operation	Stops.*2		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	It was not possibl for automatic tran	e to read the data sfer.	Format the SD Methe Sysmac Studi an autoload folde backup files in it.	io and then create	while the SD BUS	the power supply SY indicator is lit. Memory Card peri- g to the write life
	The SD Memory Card was removed during an automatic transfer.		Insert an SD Memory Card that contains the backup files in an autoload folder, and then cycle the power supply to execute the automatic transfer again.		Do not remove the SD Memory Card during the automatic transfer.	
	There are no bac autoload folder or Card.	-	Create an autoload folder in the SD Memory Card and store the backup files in it.		Use a formatted SD Memory Card, create an autoload folder in the SD Memory Card, and store the back-	
	The backup files in the autoload folder on the SD Memory Card are corrupted.		Store the backup files in the autoload folder again. If this error occurs again even after replacing the files, create the backup files again and place them in the autoload folder.		up files in the folder. Do not turn OFF the power supply or remove the SD Memory Card while the SD BUSY indicator is lit.	
	The SD Memory Card is damaged.		If none of the above causes applies, replace the SD Memory Card.		Do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit. Replace the SD Memory Card periodically according to the write life of the SD Memory Card.	
	Also check the fo	llowing when you u	se the Robot Integ	rated CPU Unit.		
	The SD Memory (tected.	·	Remove write pro		Make sure that th	
	The capacity of the Card is insufficien	nt.	Replace the SD Memory Card for one with sufficient available space.		Use an SD Memo sufficient availabl	=
	The number of files or directories in the SD Memory Card exceeded the maximum number supported by the file system of the SD Memory Card.		Delete unnecessary files or directories from the SD Memory Card.		Periodically delet files and directori Memory Card.	•

	Attached Information 1: Error Details
	0001 hex: The SD Memory Card was removed.
	0003 hex: The SD Memory Card is write protected (when the Robot Integrated CPU Unit is used).
	0005 hex: There is not sufficient space available on the SD Memory Card (when the Robot Integrated CPU
	Unit is used).
	0006 hex: Too many files or directories (when the Robot Integrated CPU Unit is used).
	0102 hex: There are no backup files in the autoload folder on the SD Memory Card.
	0103 hex: The backup files are corrupted.
	0301 hex: Reading data for automatic transfer failed or the SD Memory Card is damaged.
Precautions/	None
Remarks	

^{*1.} This event code occurs for unit version 1.03 or later of the CPU Unit.

^{*2.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

				1		
Event name	SD Memory Card Check Error	l Program Transfer	Pre-execution Event code		10330000 hex*1	
Meaning	An error was dete	ected in pre-executi	/ Card programs.			
Source	PLC Function Module		Source details	None	Detection timing	Before SD Memory Card programs are transferred after a Controller re- set
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Stops.	Operation	Stops.*2		
System-de-	Variable		Data type		Name	
fined variables	_Card1PrgTransf	erSta	_sPRGTRANSFE	R_STA	SD Memory Card fer Status	Program Trans-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An SD Memory Card is not inserted.		Insert an SD Memory Card.		Insert an SD Memory Card.	
	The SD Memory Card type is not correct.		Replace the SD Memory Card with an SD or SDHC card.		Use an SD or SDHC card.	
	The format of the SD Memory Card is not correct.		Format the SD Memory Card with the Sysmac Studio, create a folder specified by theCard1PrgTransferCmd.DirName system-defined variable on the card, and store the backup files in the folder.		Use a formatted SD Memory Card, create a folder specified by theCard1PrgTransferCmd.DirName system-defined variable on the card, and store the backup files in the folder specified by theCard1PrgTransferCmd.DirName system-defined variable. Also, do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit.	
	There is no such folder on the SD Memory Card as specified by the _Card1PrgTransferCmd.DirName system-defined variable. There are no backup files in such a folder on the SD Memory Card as specified by the _Card1PrgTransferCmd.DirName system-defined variable. Either the backup files in the folder		Create a folder specified by the _Card1PrgTransferCmd.DirName system-defined variable on the SD Memory Card and store the backup files in the folder. Replace the backup files in the			
	specified by theCard1PrgTransferCmd.DirName system-defined variable on the SD Memory Card are corrupted or re- quired data is not in the backup files on the SD Memory Card.		folder specified by theCard1PrgTransferCmd.DirName system-defined variable. If this error occurs again even after replacing the files, create the back- up files again and place them in the folder specified by theCard1PrgTransferCmd.DirName systemdefined variable.			

The unit version of the CPU Unit to which to transfer the files is older than the unit version of the backup files on the SD Memory Card.	Replace the CPU Unit with a CPU Unit that has a unit version that is the same as or newer than the unit version of the CPU that was used to create the backup files. Or, place the backup files with the correct unit version for the CPU Unit, in the folder specified by the _Card1PrgTransferCmd.DirName system-defined variable.	Make sure that the unit version of the CPU Unit and the unit version of the backup files are compatible.
The model of the CPU Unit to which to transfer the files is not the same as the model of the CPU Unit of the backup files on the SD Memory Card.	Replace the CPU Unit with a CPU Unit that has the same model as the CPU Unit that was used to create the backup files. Or, place the backup files with the correct model for the used CPU Unit, in the folder specified by the _Card1PrgTransferCmd.DirName system-defined variable.	Make sure that the model of the CPU Unit is the same as the model of the CPU Unit that was used to create the backup files.
The CPU Unit is write-protected.	If you transfer SD Memory Card programs, select the <i>Do not use</i> Option for the Write protection at startup setting of the CPU Unit.	If you transfer SD Memory Card programs, select the <i>Do not use</i> Option for the Write protection at startup setting of the CPU Unit.
Required files are not set to transfer in the setting of the _Card1PrgTransferCmd systemdefined variable.	Make sure that <i>TRUE</i> is set in the _ <i>Card1PrgTransferCmd</i> system-defined variable to transfer required files.	Make sure that <i>TRUE</i> is set in the _ <i>Card1PrgTransferCmd</i> system-defined variable to transfer required files.
Reading the data for the SD Memory Card program transfer failed because the SD Memory Card is faulty or not formatted correctly.	Perform the same corrective measures as for when the format of the SD Memory Card is not correct or the SD Memory Card is damaged.	Perform the same preventive measures as for the following events: SD Memory Card Invalid Format or Faulty SD Memory Card.
The SD Memory Card is damaged.	If none of the above causes applies, replace the SD Memory Card.	Do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit. Or, replace the SD Memory Card periodically according to the write life of the SD Memory Card.
The database connection service version of the CPU Unit to which to transfer the files is older than the database connection service version of the backup files on the SD Memory Card.	Replace the CPU Unit with a CPU Unit that has the same or a newer database connection service version than the database connection service version of the CPU Unit that was used to create the backup files. Or, place the backup files with the correct database connection service version for the CPU Unit, in the folder specified by theCard1PrgTransferCmd.DirName system-defined variable.	Make sure that the database connection service version of the CPU Unit and the database connection service version of the backup files are compatible.

	The robot version of the CPU Unit	Replace the CPU Unit with a CPU	Make sure that the robot version of				
	to which to transfer the files is older	Unit that has the same or a newer	the CPU Unit and the robot version				
	than the robot version of the back-	robot version than the robot ver-	of the backup files are compatible.				
	up files on the SD Memory Card.	sion of the CPU Unit that was used					
		to create the backup files. Or,					
		place the backup files with the cor-					
		rect robot version for the CPU Unit,					
		in the folder specified by the					
		_Card1PrgTransferCmd.DirName					
		system-defined variable.					
Attached infor-	Attached Information 1: Error Details	;					
mation	0001 hex: An SD Memory Card is	not inserted.					
	0002 hex: The SD Memory Card i	s faulty, the format of the SD Memory	Card is not correct, or the SD Mem-				
	ory Card is not the correct type of	card.					
	0004 hex: Recovery was executed	d for the SD Memory Card.					
	0101 hex: There is no such folder	on the SD Memory Card as specified	by the				
	_Card1PrgTransferCmd.DirName	system-defined variable.					
	0102 hex: There are no backup files in such a folder on the SD Memory Card as specified by the						
	_Card1PrgTransferCmd.DirName system-defined variable.						
	0103 hex: The backup files are corrupted.						
	· ·	et to transfer in the setting of the _Cal	rd1PrgTransferCmd system-defined				
	variable.						
	0105 hex: The required transfer d	<u>.</u>					
	0201 hex: The unit version of the						
	0202 hex: The model numbers of						
	• 0203 hex: The CPU Unit is write-ր						
	0211 hex: The database connection	on service or robot version of the CPU	Unit is old.				
	0214 hex: The DIP switch on the	CPU Unit is not set to allow starting th	e SD Memory Card program trans-				
	fer.						
	0301 hex: Reading data for transf	erring the programs failed or the SD ${ t N}$	lemory Card is faulty.				
Precautions/	None						
Remarks							

- *1. This event code occurs for unit version 1.11 or later of the CPU Unit.
- *2. For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Front name	iti	. CD M C	D T	Front code		
Event name	fer Executing	SD Memory Card	Program Trans-	Event code	10340000 hex*1	
Meaning	The SD Memory (Card program trans	fer ended in an err	or.		
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	During SD Memory Card program trans- fers
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Stops.	Operation	Stops.*2		
System-de-	Variable		Data type		Name	
fined variables	_Card1PrgTransfe	erSta	_sPRGTRANSFE	R_STA	SD Memory Card fer Status	Program Trans-
Cause and cor-	Assumed cause		Correction		Prevention	
rection			Format the SD Memory Card with the Sysmac Studio, create a folder specified by theCard1PrgTransferCmd.DirName system-defined variable on the card, and store the backup files in the folder specified by theCard1PrgTransferCmd.DirName system-defined variable. Insert an SD Memory Card that contains the backup files in the folder specified by theCard1PrgTransferCmd.DirName system-defined variable, and then cycle the power supply to execute the SD Memory Card program transfer again.		Do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit. Or, replace the SD Memory Card periodically according to the write life of the SD Memory Card. Do not remove the SD Memory Card during the SD Memory Card program transfer.	
	There are no backup files in such a folder on the SD Memory Card as specified by theCard1PrgTransferCmd.DirName system-defined variable. The backup files in such a folder on the SD Memory Card as specified by theCard1PrgTransferCmd.DirName system-defined variable are corrupted.		Create a folder specified by theCard1PrgTransferCmd.DirName system-defined variable on the SD Memory Card and store the backup files in the folder. Replace the backup files in the folder specified by theCard1PrgTransferCmd.DirName system-defined variable. If this error occurs again even after replacing the files, create the backup files again and place them in the folder specified by theCard1PrgTransferCmd.DirName		card, and store the backup files in the folder specified by theCard1PrgTransferCmd.DirName system-defined variable. Also, do not remove the SD Memory Card or turn OFF the power sup-	
	systemdefined variable. The SD Memory Card is damaged. If none of the above cause plies, replace the SD Mem Card.		•	Do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit. Or, replace the SD Memory Card periodically according to the write life of the SD Memory Card.		

	Also check the following when you u	Also check the following when you use the Robot Integrated CPU Unit.						
	The SD Memory Card is write protected.	Remove write protection from the SD Memory Card.	Make sure that the SD Memory Card is not write protected.					
	The capacity of the SD Memory Card is insufficient.	Replace the SD Memory Card for one with sufficient available space.	Use an SD Memory Card that has sufficient available space.					
	The number of files or directories in the SD Memory Card exceeded the maximum number supported by the file system of the SD Memory Card.	Delete unnecessary files or directories from the SD Memory Card.	Periodically delete unnecessary files and directories on the SD Memory Card.					
Attached infor-	Attached Information 1: Error Details							
mation	0001 hex: The SD Memory Card v	vas removed.						
	0003 hex: The SD Memory Card i	s write protected (when the Robot Inte	egrated CPU Unit is used).					
		pace available on the SD Memory Ca	rd (when the Robot Integrated CPU					
	Unit is used).							
	1	ories (when the Robot Integrated CPL	,					
	· ·	es in such a folder on the SD Memory	Card as specified by the					
	Card1PrgTransferCmd.DirName • 0103 hex: The backup files are co							
	· ·	erring the SD Memory Card programs	failed or the SD Memory Card is					
	faulty.	3, c pg	, -					
Precautions/	None							
Remarks								

^{1.} This event code occurs for unit version 1.11 or later of the CPU Unit.

^{*2.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	PLC Function Processing Error			Event code	40110000 hex			
Meaning	A fatal error was	A fatal error was detected in the PLC Function Module.						
Source	PLC Function Mo	dule	Source details	None	Detection tim-	Continuously		
					ing			
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category	System		
Effects	User program	Stops.	Operation Stops.*1					
System-de-	Variable Data type		Data type	Name				
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	An error occurred	in the software.	Contact your OM	RON representa-	None			
			tive.					
Attached infor-	Attached informat	tion 1: System infor	mation					
mation	Attached informat	tion 2: System infor	mation					
	Attached informat	tion 3: System infor	mation					
	Attached informat	Attached information 4: System information						
Precautions/	None	None						
Remarks								

^{*1.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Safe Mode			Event code	40160000 hex*1	
Meaning	The Controller sta	arted in Safe Mode.				
Source	PLC Function Module		Source details	None	Detection tim- ing	At power ON, or Controller reset
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Stops.	Operation Stops.*2			
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The power supply to the Controller was set on the DI CPU Unit.	vhen Safe Mode				
Attached infor-	None					
mation						
Precautions/	If the Controller is	started when the	CPU Unit is in Safe	Mode, the user pro	ogram is not execu	ted even if the
Remarks	startup mode is s	et to RUN mode.				

^{1.} This event code occurs for unit version 1.02 or earlier of the CPU Unit.

^{2.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	PLC Function Processing Error			Event code	44420000Hex *1		
Meaning	A fatal error was	detected in the PLC	Function Module.				
Source	PLC Function Module		Source details	None	Detection tim- ing	Continuously	
Error attributes	Level	Major fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Stops.	Operation Stops.*2				
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Prevention			
rection	An error occurred	in the software.	Contact your OM	RON representa-	None		
			tive.				
Attached infor-		tion 1: System infor					
mation	Attached information	tion 2: System infor	mation				
	Attached information	Attached information 3: System information					
	Attached informa	tion 4: System infor	mation				
Precautions/	None						
Remarks							

^{*1.} This event code occurs for unit version 1.05 or later of the CPU Unit.

^{*2.} For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	Automation Playb	ack Startup Error		Event code	35EF0000Hex *1		
Meaning	The automation p	The automation playback function. cannot be started.					
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	When CPU Unit starts running	
Error attributes	Level	Minor fault	Recovery	Change the set- tings to disable automation playback func- tion, and trans- fer the settings using the syn- chronization function of Sys- mac Studio.	Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	_APB_Status		_sAPB_STATUS		APB Service Status		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Settings to use the automation playback function are made for the CPU Unit that does not support the automation playback function.		Change the settings so that the automation playback function is not used, and transfer the settings from Synchronization of Sysmac Studio. Use the CPU Unit that supautomation playback function configure it to use the automation playback function with it.		ack function and the automation		
Attached infor-		ion 1: CPU Unit mo					
mation	Attached informat	ion 2: Unit version	of CPU Unit				
Precautions/	None						
Remarks							

^{*1.} This event code occurs for an NX502 CPU Unit with unit version 1.63 or later.

Event name	PLC Function Processing Error			Event code	40120000 hex		
Meaning	A fatal error was	A fatal error was detected in the PLC Function Module.					
Source	PLC Function Module		Source details	None	Detection tim- ing	Continuously	
Error attributes	Level	Partial fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program	Stops.	Operation Stops.*1				
System-de-	Variable Data type Name						
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An error occurred	in the software.	Contact your OM	RON representa-	None		
			tive.				
Attached infor-	Attached informa	tion 1: System infor	mation				
mation	Attached informa	tion 2: System infor	mation				
	Attached informa	tion 3: System infor	mation				
	Attached informa	Attached information 4: System information					
Precautions/	None				<u> </u>		
Remarks							

^{*1.} Operation is the same as for a major fault level error. For details, refer to I/O Operation for Major Fault Level Controller Errors on page 1-23.

Event name	PLC Function Pro	cessing Error		Event code	40130000 hex		
Meaning	A fatal error was	A fatal error was detected in part of the PLC Function Module.					
Source	PLC Function Module		Source details	None	Detection tim- ing	Continuously	
Error attributes	Level	Minor fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Continues.	Operation Not affected.				
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	orrection			
rection	An error occurred	in the software.	Contact your OM tive.	RON representa-	None		
Attached information	Attached information 1: System information*1 Attached information 2: System information Attached information 3: System information Attached information 4: System information						
Precautions/ Remarks	None						

^{*1.} If a devb-mmcsd is stored, replace the SD Memory Card and cycle the power supply of the CPU Unit.

Event name	Upper Limit of Va	riable Sampling		Event code	95770000Hex *1	
Meaning	The upper limit fo	r variable sampling	has been reached		•	
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	When variable sampling starts
Error attributes	Level	Minor fault	Change the settings of variables to be collected by the automation playback function and transfer the settings from Synchronization of Sysmac Studio.		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_APB_Status		_sAPB_STATUS		APB Service Status	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The maximum number of variable sampling has been reached or size or processing capacity has exceeded the upper limit.		task only).	the sampling set- ble sampling is tly. m POUs set for et. sk period time. ariables from rimary periodic	POUs containing need to be record log.	n only for program variables that ded in the variable
Attached infor- mation	Attached informat0: Primary peri	= = =	or which sampling o	cannot be performe	ed	
	 1: Periodic task Attached information 2: Type of factor 0: The total number of variables exceeded the upper limit. 1: The total size of the variable exceeded the upper limit. 2: Processing capacity exceeded the upper limit. Attached information 3 Attached information 2 is 0: Total number of variables that are set for sampling Attached information 2 is 1: Total size (bytes) of the variable that is set for sampling Attached information 2 is 2: Fixed to 0 Attached information 4: Sampling setting number when the error occurred 					
Precautions/ Remarks	Variable sampl		3			

^{*1.} This event code occurs for an NX502 CPU Unit with unit version 1.63 or later earlier than version 1.65.

Event name	Upper Limit of Va	riable Sampling		Event code	95790000 hex *1	
Meaning	The upper limit fo	r variable sampling	has been reached			
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	When variable sampling starts
Error attributes	Level	Minor fault	Recovery Change the settings of variables to be collected by the automation playback function and transfer the settings from Synchronization of Sysmac Studio.		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_APB_Status		_sAPB_STATUS		APB Service Status	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The maximum number of variable sampling has been reached or size or processing capacity has exceeded the upper limit.		 Implement the following modifications and modify the sampling setting so that variable sampling is performed correctly. Reduce program POUs set for collection target. Set a longer task period time. Exclude axis variables from sampling (for primary periodic task only). 		POUs containing	n only for program variables that ded in the variable
Attached infor-	Attached informat	tion 1: Task types fo		cannot be performe	ed	
mation	Attached information 1: Task types for which sampling cannot be performed 0: Primary periodic task 1: Periodic task Attached information 2: Type of factor 0: The total number of variables exceeded the upper limit. 1: The total size of the variable exceeded the upper limit. 2: Processing capacity exceeded the upper limit. Attached information 3 Attached information 2 is 0: Total number of variables that are set for sampling Attached information 2 is 1: Total size (KB) of the variable that is set for sampling Attached information 2 is 2: Fixed to 0 Attached information 4: Sampling setting number when the error occurred					
Precautions/	Variable sampl	- '				
Remarks		e the event level to dures are not requi	the observation le	vel. If you change t	he level to the obs	ervation level,

^{*1.} This event code occurs for an NX502 CPU Unit with unit version 1.65 or later.

Event name	Event Log Save B	Error		Event code	10230000 hex	
Meaning	Saving the event	log failed.				
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	At power ON, or Controller reset
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Starts.	Operation	Not affected. How cannot be read.	vever, part or all of	the past event log
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A low battery voltatention of memory interruption. (NJ/N	during a power	Replace the Batte	ery.	Replace the batte	ry periodically.
	A forced shutdown was performed. (NY-series) Data in the event log area are invalid. (NY-series)		None		Perform a shutdown with other method than the forced shutdown.	
			If the error persist cycle the power to PC, a hardware fain the event log al Industrial PC if yo logs in the Industrial	o the Industrial ailure may occur rea. Replace the u use the event	None	
	Data in the event log area are invalid. (NJ/NX-series)		If this error persis cycle the power s Unit, a hardware to the event log at CPU Unit if you used in the CPU Unit.	upply to the CPU failure may occur rea. Replace the	None	
Attached infor-	Attached Informati	tion 1: Error Details	;			
mation	0: Failure to sa	ve all categories of	· logs,			
	1: Failure to save system event log,					
	2: Failure to sa	ve access event lo	g,			
	100: Failure to	save user-defined	event log			
Precautions/ Remarks	None					

Event name	Trace Setting Tra	nsfer Failure		Event code	10260000 hex		
Meaning	The power supply	was interrupted w	hile transferring the	trace settings.			
Source	PLC Function Module		Source details	None	Detection tim- ing	At power ON, or Controller reset	
Error attributes	Level	Observation	Recovery	Cycle the power supply or reset the Controller.	Log category	System	
Effects	User program	Continues.	Operation Not affected.				
System-de-	Variable		Data type	Data type		Name	
fined variables	None						
Cause and cor-	Assumed cause		Correction	Prevention			
rection	The power supply was interrupted while transferring the trace settings.		Transfer the trace	settings again.	Do not interrupt the while transferring tings.		
Attached infor-	None						
mation							
Precautions/	All trace settings	are initialized when	this error occurs.				
Remarks							

Event name	Backup Failed to	 Start		Event code	10290000 hex*1	
Meaning	·	cted in pre-executi	on checks for a bac	kup operation.	10230000 Hex	
Source	PLC Function Mo	· · · · · · · · · · · · · · · · · · ·	Source details	None	Detection tim- ing	When backup is specified by the user
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An SD Memory C ed.	ard is not insert-	Insert an SD Men	nory Card.	Insert an SD Men	nory Card.
	The SD Memory (correct.	Card type is not	Replace the SD M an SD or SDHC o	-	Use an SD or SD	HC card.
	The format of the SD Memory Card is not correct. The SD Memory Card is write protected. The Prohibiting backing up data to the SD Memory Card parameter is set to prohibit backing up data to an SD Memory Card. Another backup operation is in progress. Synchronization, online editing, or the Clear All Memory operation is in progress.		Format the SD Mothe Sysmac Studi	-	Use a formatted SD Memory Card. Also, do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit.	
			Remove write pro		m the Make sure that the SD Memory Card is not write protected.	
			to end and then p up operation agai Wait for the synch editing, or the Cle operation to end a	backup operation erform the back-n. aronization, online ar All Memory and then perform	data to the SD M rameter to enable to an SD Memory Do not attempt to backup operation operation. Do not attempt to up operation during tion, online editing	perform other during a backup perform a backup
	The backup was ouser.	canceled by the	the backup opera	tion again.	Memory operation	n.
	The online connection with the Sysmac Studio was disconnected.		Check the cable connections. Go offline and then go back online and execute the backup again.		Check the cable t connected or brol the cable is conne	ken. Make sure
	The SD Memory Card is damaged.		If none of the abo plies, replace the Card.	•	while the SD BUS	the power supply SY indicator is lit. Memory Card peri- g to the write life

Attached infor-	Attached information 1: Operation type
mation	0101 hex: Controller to SD Memory Card for switch operation on front of CPU Unit
	0102 hex: Controller to SD Memory Card for system variable operation
	0103 hex: Controller to SD Memory Card for instruction from Sysmac Studio or function module specific trig-
	ger)
	0104 hex: Controller to SD Memory Card for instruction operation.
	0201 hex: Controller to computer
	Attached Information 2: Error Details
	0001 hex: An SD Memory Card is not inserted.
	0002 hex: The SD Memory Card is faulty, the format of the SD Memory Card is not correct, or the SD Mem-
	ory Card is not the correct type of card.
	0003 hex: The SD Memory Card is write protected.
	0204 hex: SD Memory Card backup is prohibited.
	0205 hex: Another backup operation is in progress.
	0206 hex: Synchronization, online editing, or the Clear All Memory operation is in progress.
	0207 hex: A prohibited character is used in the directory name that is specified in the system-defined varia-
	ble.
	0401 hex: The backup was canceled by the user.
	0501 hex: The online connection with the Sysmac Studio was disconnected.
Precautions/	None
Remarks	

^{*1.} This event code occurs for unit version 1.03 or later of the CPU Unit.

	<u> </u>					
Event name	Backup Failed			Event code	102A0000 hex*1	
Meaning	The backup opera	ation ended in an e	rror.			
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	During backup operation
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The capacity of the Card is insufficient		Replace the SD None with sufficient	-	Use an SD Memo sufficient available	•
	It was not possible that was specified	e to save the data I for backup.	Perform the back again when no da to the CPU Unit is	ta write operation	Do not write to the a backup operation	
	The SD Memory of moved during a b		Insert an SD Men	nory Card.	Insert an SD Mer	nory Card.
	Failed to back up Unit or slave. The backup was canceled by the user.		Refer to the corre lowing events: CJ Backup Failed (10 EtherCAT Slave E (102F0000 hex).	-series Unit 02D0000 hex) or	for the following events: CJ-series Unit Backup Failed (102D0000 hex) or EtherCAT Slave Backup Failed (102F0000 hex). None after execu- Table instruc-	
			None			
	Execution of the Sinstruction or characteristics under the Sinstruction or characteristics in processing the Sinstruction of t	nging the CPU	Perform the operation after execution of the Save Cam Table instruction or changing the CPU Unit name is completed.			
	The online conne Sysmac Studio w		Check the cable connections. Go offline and then go back online and execute the backup again.		Check the cable to see if it is disconnected or broken. Make sure the cable is connected properly.	
	It was not possible to save the data that was specified for backup to the computer.		Increase the available space on the hard disk on the computer.		Make sure there is sufficient space available on the hard disk before you perform a backup.	
The SD Memory Card		Card is damaged.		If none of the above causes applies, replace the SD Memory Card.		the SD Memory the power supply SY indicator is lit. Memory Card perig to the write life y Card.
	Also check the fol	lowing when you u	se the Robot Integ	ated CPU Unit.		
	The SD Memory (Card format is in-	Format the SD Methe Sysmac Studi	•	Use a formatted \$	SD Memory Card.
	The SD Memory (tected.	Card is write pro-	Remove write pro		Make sure that th	
	The /D folder, which is the data to be backed up, does not exist on the SD Memory Card.		Cycle the power supply of the CPU Unit to return the /D folder to the factory default or download the project from the Sysmac Studio.		Do not delete the /D folder from the SD Memory Card.	

Attached infor-	Attached information 1: Operation type
mation	0101 hex: Controller to SD Memory Card for switch operation on front of CPU Unit
	0102 hex: Controller to SD Memory Card for system variable operation
	0103 hex: Controller to SD Memory Card for instruction from Sysmac Studio or function module specific trig-
	ger)
	0104 hex: Controller to SD Memory Card for instruction operation.
	0201 hex: Controller to computer
	Attached Information 2: Error Details
	0001 hex: The SD Memory Card was removed.
	0001 hex: The SD Memory Card is removed or the format is invalid (in the case that the Robot Integrated
	CPU Unit is used and operation type is 0201 hex).
	0003 hex: The SD Memory Card is write protected (when the Robot Integrated CPU Unit is used).
	0005 hex: There is not sufficient space available on the SD Memory Card.
	0006 hex: Too many files or directories.
	• 0106 hex: The /D cannot be found in the SD Memory Card (when the Robot Integrated CPU Unit is used).
	0206 hex: Execution of the Save Cam Table instruction or changing the CPU Unit name is in progress.
	00210 hex: A file already exists with the same name as one of the specified directory.
	0302 hex: Saving the backup data failed or the SD Memory Card is faulty.
	0304 hex: The Unit or slave could not be backed up.
	0401 hex: The backup was canceled by the user.
	0501 hex: The online connection with the Sysmac Studio was disconnected.
	0502 hex: It was not possible to save the data that was specified for backup to the computer.
Precautions/	None
Remarks	

^{*1.} This event code occurs for unit version 1.03 or later of the CPU Unit.

Event name	Restore Operation	n Failed to Start		Event code	102B0000 hex*1	
Meaning	-		on checks for a res	tore operation	102B0000 Nox	
Source	An error was detected in pre-execut PLC Function Module		Source details	None	Detection timing	When restoring data is specified by the user
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program		Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	Specification with system-defined variable _Card1RestoreStasR		riables			
			_sRESTORE_ST	A	SD Memory Card	Restore Status
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An SD Memory C ed.	ard is not insert-	Insert an SD Men	nory Card.	Insert an SD Mer	nory Card.
	The SD Memory (correct.	Card type is not	Replace the SD N an SD or SDHC o	=	Use an SD or SD	HC card.
	The format of the is not correct.	SD Memory Card	Format the SD Me the Sysmac Studi the backup file on	o and then place	Use a formatted and place the back Also, do not remo	•
	There are no back SD Memory Card		Place the backup fied folder on the Card.	-	ry Card or turn OFF the power supply while the SD BUSY indicator is lit.	
	Either the backup Memory Card are quired data is not files on the SD Mo	corrupted or re- in the backup	Create the backup files again.			
	The unit version of the CPU Unit to which to restore the files is older than the unit version of the backup files on the SD Memory Card.		Replace the CPU Unit with a CPU Unit that has a unit version that is the same as or newer than the unit version of the CPU Unit that was used to create the backup files. Or, specify backup files with the correct unit version for the CPU Unit.		Make sure that the unit version of the CPU Unit and the unit version of the backup files are compatible.	
	The model of the CPU Unit to which to restore the files is not the same as the model of the CPU Unit of the backup files on the SD Memory Card.		Replace the CPU Unit with a CPU Unit that has the same model as the CPU Unit that was used to create the backup files. Or, specify backup files with the correct model for the CPU Unit.		Make sure that the CPU Unit is the softhe CPU Unit the create the backup	ame as the model hat was used to
	Recovery was executed for the SD Memory Card.		If there are no backup files or no restore command file in the specified folder on the SD Memory Card, place the files in the folder again.		None	
	The CPU Unit is v		If you use the restore function, select the <i>Do not use</i> Option for the Write protection at startup setting of the CPU Unit.		If you use the res lect the <i>Do not us</i> Write protection ting of the CPU L	se Option for the at startup set-
	The settings in the mand file (Restordare not correct.	eCommand.ini)	Make sure that the required files are set to "Yes" in the restore command file.		Make sure that the required files are set to "Yes" in the restore command file.	
	A backup operation	on is in progress.	Wait for the backup operation to end and then perform the restore operation again.		Do not attempt to operation during tion.	perform a restore a backup opera-

Synchronization, online editing, or the Clear All Memory operation is in progress.	Wait for the synchronization, online editing, or the Clear All Memory operation to end and then perform the restore operation again.	Do not attempt to perform a restore operation during a synchronization, online editing, or the Clear All Memory operation.
The online connection with the Sysmac Studio was disconnected.	Check the cable connections. Go offline and then go back online and execute the backup again.	Check the cable to see if it is disconnected or broken. Make sure the cable is connected properly.
Reading the data for restoration failed because the SD Memory Card is faulty or not formatted correctly.	Perform the same corrective measures as for when the format of the SD Memory Card is not correct or the SD Memory Card is damaged.	Perform the same preventive measures as for the following events: SD Memory Card Invalid Format or Faulty SD Memory Card.
The SD Memory Card is damaged.	If none of the above causes applies, replace the SD Memory Card.	Do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit. Replace the SD Memory Card periodically according to the write life of the SD Memory Card.
The database connection service version of the CPU Unit to which to restore the files is older than the database connection service version of the backup files on the SD Memory Card.	Replace the CPU Unit with a CPU Unit that has a database connection service version that is the same as or newer than the database connection service version of the CPU Unit that was used to create the backup files. Or, specify backup files with the correct database connection service version for the CPU Unit.	Make sure that the database connection service version of the CPU Unit and the database connection service version of the backup files are compatible.
The robot version of the CPU Unit to which to restore the files is older than the robot version of the back-up files on the SD Memory Card.	Replace the CPU Unit with a CPU Unit that has a robot version that is the same as or newer than the robot version of the CPU Unit that was used to create the backup files. Or, specify backup files with the correct robot version for the CPU Unit.	Make sure that the robot version of the CPU Unit and the robot version of the backup files are compatible.
Check the followings for specification	n with system-defined variables.	
Restore by system-defined variable is set to Do not use in the Controller Setup.	Set Restore by system-defined variable to Use in the Controller Set- up.	Set Restore by system-defined variable to Use in the Controller Set- up.
Password of Restore by system- defined variable in the Controller Setup does not agree with the _Card1RestoreCmd.Password sys- tem-defined variable.	Set Password of Restore by system-defined variable in the Controller Setup to the _Card1RestoreCmd.Password system-defined variable.	Set Password of Restore by system-defined variable in the Controller Setup to the _Card1RestoreCmd.Password system-defined variable.
The DIP switch on the CPU Unit is not set to allow starting the restore of SD Memory Card backups by specification with system-defined variables.	Turn OFF all pins on the DIP switch of the CPU Unit, and then start the restore of SD Memory Card backups by specification with system-defined variables.	Turn OFF all pins on the DIP switch of the CPU Unit, and then start the restore of SD Memory Card backups by specification with system-defined variables.
There is no such folder as specified by the system-defined variable.	Create a folder specified by the system-defined variable and store the backup files in the folder.	Create a folder specified by the system-defined variable and store the backup files in the folder.
Required files are not set to trans- fer in the setting of the system-de- fined variable.	Make sure that TRUE is set in the system-defined variable to transfer required files.	Make sure that TRUE is set in the system-defined variable to transfer required files.
Also check the following when you u	se the Robot Integrated CPU Unit.	

		T	1				
	The SD Memory Card is write pro-	Remove write protection from the	Make sure that the SD Memory				
	tected.	SD Memory Card.	Card is not write protected.				
	The capacity of the SD Memory	Replace the SD Memory Card for	Use an SD Memory Card that has				
	Card is insufficient.	one with sufficient available space.	sufficient available space.				
Attached infor-	Attached information 1: Operation ty	ре					
mation	0101 hex: SD Memory Card to Co	ontroller for switch operation on front c	of CPU Unit				
	0102 hex: SD Memory Card to Co	ontroller for specification with a system	n-defined variable				
	0201 hex: Computer to Controller						
	Attached Information 2: Error Details						
	0001 hex: An SD Memory Card is	not inserted.					
	0002 hex: The SD Memory Card i	s faulty, the format of the SD Memory	Card is not correct, or the SD Mem-				
	ory Card is not the correct type of	card.					
	0003 hex: The SD Memory Card i	s write protected (when the Robot Into	egrated CPU Unit is used).				
	0004 hex: Recovery was executed	d for the SD Memory Card.					
	0005 hex: There is not sufficient s	pace available on the SD Memory Ca	rd (when the Robot Integrated CPU				
	Unit is used).						
	0101 hex: There is no such folder	• 0101 hex: There is no such folder on the SD Memory Card as specified by the Card1RestoreCmd.DirName					
	system-defined variable.						
	0102 hex: There are no backup fil	es.					
	0103 hex: The backup files are co	rrupted.					
	0104 hex: The contents of the res	tore command file are not correct or r	equired files are not set to transfer in				
	the setting of the system-defined	variable.					
	0105 hex: The required transfer d	ata is not in the backup file.					
	0201 hex: The unit version of the	CPU Unit is old.					
	0202 hex: The model numbers of	the CPU Unit are not the same.					
	0203 hex: The CPU Unit is write-p	protected.					
	0205 hex: Another backup operati	ion is in progress.					
	0206 hex: Synchronization, online	editing, or the Clear All Memory oper	ration is in progress.				
	0211 hex: The database connection	on service or robot version of the CPL	J Unit is old.				
	0212 hex: Restore by system-defi	ned variable is set to Do not use in th	e Controller Setup.				
	0213 hex: Password of Restore by	y system-defined variable in the Conti	roller Setup does not agree with the				
	_Card1RestoreCmd.Password sy	stem-defined variable.					
	0214 hex: The DIP switch on the 0	CPU Unit is not set to allow starting th	e restore of SD Memory Card back-				
	ups by specification with system-c		-				
	0301 hex: Reading data for restor	ation failed or the SD Memory Card is	s faulty.				
	0501 hex: The online connection v	with the Sysmac Studio was disconne	cted.				
Precautions/	None						
Remarks							

^{*1.} This event code occurs for unit version 1.03 or later of the CPU Unit.

Event name	Restore Operation Failed			Event code 102C0000 hex*1		
Meaning	The restore opera	ition ended in an ei	ror.			
Source	PLC Function Mo		Source details	None	Detection tim- ing	During restore operation
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program		Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_Card1RestoreSta		_sRESTORE_ST	A	SD Memory Card	Restore Status
Cause and cor-	Assumed cause		Correction		Prevention	
rection	It was not possible to restore.	It was not possible to read the data to restore.		emory Card with io and then place on it.	while the SD BUS	the power supply SY indicator is lit. Memory Card peri- g to the write life
	The SD Memory (moved during a re		Insert an SD Men contains the back execute the resto again.	cup files, and then	Do not remove the Card during the r	•
	Failed to restore Unit or slave. The SD Memory Card is damaged.		Refer to the corrections for the following events: CJ-series Unit Restore Operation Failed (102E0000 hex) or EtherCAT Slave Restore Operation Failed (10300000 hex). If none of the above causes applies, replace the SD Memory Card.		Refer to the prevention information for the following events: CJ-series Unit Restore Operation Failed (102E0000 hex) or EtherCAT Slave Restore Operation Failed (10300000 hex).	
					Do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit. Replace the SD Memory Card periodically according to the write life of the SD Memory Card.	
	Also check the fol	lowing when you u	se the Robot Integ	rated CPU Unit.		
	The SD Memory (tected.	Card is write pro-	Remove write protection from the SD Memory Card. Replace the SD Memory Card for one with sufficient available space.		Make sure that the SD Memory Card is not write protected.	
	The capacity of the Card is insufficient	•			Use an SD Memory Card that has sufficient available space.	
	The number of files or directories in the SD Memory Card exceeded the maximum number supported by the file system of the SD Memory Card.		Delete unnecessary files or directories from the SD Memory Card.		Periodically delet files and directori Memory Card.	
Attached information	 Card. Attached information 1: Operation type 0101 hex: SD Memory Card to Controller for switch operation on front of CPU Unit 0102 hex: SD Memory Card to Controller for specification with a system-defined variable 0201 hex: Computer to Controller Attached Information 2: Error Details 0001 hex: The SD Memory Card was removed. 0003 hex: The SD Memory Card is write protected (when the Robot Integrated CPU Unit is used). 0005 hex: There is not sufficient space available on the SD Memory Card (when the Robot Integrated Unit is used). 0006 hex: Too many files or directories (when the Robot Integrated CPU Unit is used). 0102 hex: There are no backup files. 0103 hex: The backup files are corrupted. 0301 hex: Reading data for restoration failed or the SD Memory Card is faulty. 0303 hex: The Unit or slave could not be restored. 				· ·	

Precautions/	None
Remarks	

^{*1.} This event code occurs for unit version 1.03 or later of the CPU Unit.

Event name	SD Memory Card	Program Transfer	Failed to Start	Event code	10320000 hex*1	
Meaning	An error was dete	cted in pre-start ch	ecks for transferrin	g SD Memory Card	d programs.	
Source	PLC Function Module		Source details	None	Detection timing	When transfer- ring SD Memory Card programs is started
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program		Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_Card1PrgTransf	erSta	_sPRGTRANSFE	R_STA	SD Memory Card fer Status	Program Trans-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Program transfer fined variable is s in the Controller S	et to Do not use Setup.	Set Program trans defined variable to troller Setup.	o Use in the Con-	troller Setup.	o Use in the Con-
	Password of Prog system-defined va Controller Setup of with the _Card1P ferCmd.Password variable.	ariable in the does not agree rgTrans-	Set Password of I by system-defined Controller Setup t _Card1PrgTransfort system-defined value	d variable in the to the erCmd.Password	Set Password of by system-define Controller Setup _Card1PrgTransf system-defined v	d variable in the to the erCmd.Password
	The DIP switch or not set to allow st Memory Card pro	arting the SD	Turn OFF all pins on the DIP switch of the CPU Unit, and then start the SD Memory Card program transfer. Insert an SD Memory Card. Replace the SD Memory Card with an SD or SDHC card.		Turn OFF all pins on the DIP switch of the CPU Unit, and then start the SD Memory Card program transfer. Insert an SD Memory Card.	
	An SD Memory C ed.	ard is not insert-				
	The SD Memory (correct.	Card type is not			Use an SD or SDHC card.	
	The format of the SD Memory Car is not correct.		Format the SD Memory Card with the Sysmac Studio, create a folder specified by theCard1PrgTransferCmd.DirName system-defined variable on the card, and store the backup files in the folder.		Use a formatted SD Memory Card, create a folder specified by theCard1PrgTransferCmd.DirName system-defined variable on the card, and store the backup files in the folder specified by theCard1PrgTransferCmd.DirName system-defined variable. Also, do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit.	
	There is no such folder on the SD Memory Card as specified by the _Card1PrgTransferCmd.DirName system-defined variable. There are no backup files in such a folder on the SD Memory Card as specified by the _Card1PrgTransferCmd.DirName system-defined variable.		Create a folder specified by the _Card1PrgTransferCmd.DirName system-defined variable on the SD Memory Card and store the backup files in the folder.			
	Either the backup files in the folder specified by theCard1PrgTransferCmd.DirName system-defined variable on the SD Memory Card are corrupted or required data is not in the backup files on the SD Memory Card. Replace the backup folder specifiedCard1PrgTra system-defined If this error occurrence in the folder specifiedCard1PrgTra		Replace the back folder specified by _Card1PrgTransfe system-defined va If this error occurs replacing the files up files again and the folder specifie _Card1PrgTransfe systemdefined va	y the erCmd.DirName ariable. s again even after r, create the back- l place them in ed by the erCmd.DirName		

The unit version of the CPU Unit to which to transfer the files is older than the unit version of the backup files on the SD Memory Card.	Replace the CPU Unit with a CPU Unit that has a unit version that is the same as or newer than the unit version of the CPU Unit that was used to create the backup files. Or, place the backup files with the correct unit version for the CPU Unit, in the folder specified by the _Card1PrgTransferCmd.DirName system-defined variable.	Make sure that the unit version of the CPU Unit and the unit version of the backup files are compatible.
The model of the CPU Unit to which to transfer the files is not the same as the model of the CPU Unit of the backup files on the SD Memory Card.	Replace the CPU Unit with a CPU Unit that has the same model as the CPU Unit that was used to create the backup files. Or, place the backup files with the correct model for the used CPU Unit, in the folder specified by the _Card1PrgTransferCmd.DirName system-defined variable.	Make sure that the model of the CPU Unit is the same as the model of the CPU Unit that was used to create the backup files.
The CPU Unit is write-protected.	If you transfer SD Memory Card programs, select the <i>Do not use</i> Option for the Write protection at startup setting of the CPU Unit.	If you transfer SD Memory Card programs, select the <i>Do not use</i> Option for the Write protection at startup setting of the CPU Unit.
Another backup operation is in progress.	Wait for the other backup operation to end and then perform the back-up operation again.	Do not attempt to perform other backup operation during a backup operation.
Synchronization, online editing, or the Clear All Memory operation is in progress.	Wait for the synchronization, online editing, or the Clear All Memory operation to end and then perform the backup operation again.	Do not attempt to perform a back- up operation during a synchroniza- tion, online editing, or the Clear All Memory operation.
Required files are not set to transfer in the setting of the _Card1PrgTransferCmd systemdefined variable.	Make sure that TRUE is set in the _Card1PrgTransferCmd system-defined variable to transfer required files.	Make sure that <i>TRUE</i> is set in the _ <i>Card1PrgTransferCmd</i> system-defined variable to transfer required files.
Reading the data for the SD Memory Card program transfer failed because the SD Memory Card is faulty or not formatted correctly.	Perform the same corrective measures as for when the format of the SD Memory Card is not correct or the SD Memory Card is damaged.	Perform the same preventive measures as for the following events: SD Memory Card Invalid Format or Faulty SD Memory Card.
The SD Memory Card is damaged.	If none of the above causes applies, replace the SD Memory Card.	Do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit. Or, replace the SD Memory Card periodically according to the write life of the SD Memory Card.
The database connection service version of the CPU Unit to which to transfer the files is older than the database connection service version of the backup files on the SD Memory Card.	Replace the CPU Unit with a CPU Unit that has the same or a newer database connection service version than the database connection service version of the CPU Unit that was used to create the backup files. Or, place the backup files with the correct database connection service version for the CPU Unit, in the folder specified by theCard1PrgTransferCmd.DirName system-defined variable.	Make sure that the database connection service version of the CPU Unit and the database connection service version of the backup files are compatible.

			·			
	The robot version of the CPU Unit	Replace the CPU Unit with a CPU	Make sure that the robot version of			
	to which to transfer the files is older	Unit that has the same or a newer	the CPU Unit and the robot version			
	than the robot version of the back-	robot version than the robot ver-	of the backup files are compatible.			
	up files on the SD Memory Card.	sion of the CPU Unit that was used				
		to create the backup files.				
		Or, place the backup files with the				
		correct robot version for the CPU				
		Unit, in the folder specified by the				
		_Card1PrgTransferCmd.DirName				
		system-defined variable.				
Attached infor-	Attached Information 1: Error Details					
mation	0001 hex: An SD Memory Card is	not inserted.				
	0002 hex: The SD Memory Card is	s faulty, the format of the SD Memory	Card is not correct, or the SD Mem-			
	ory Card is not the correct type of	card.				
	0004 hex: Recovery was executed	d for the SD Memory Card.				
	0101 hex: There is no such folder on the SD Memory Card as specified by the					
	_Card1PrgTransferCmd.DirName system-defined variable.					
	0102 hex: There are no backup file	es in such a folder on the SD Memory	Card as specified by the			
	_Card1PrgTransferCmd.DirName	system-defined variable.				
	0103 hex: The backup files are co	rrupted.				
	0104 hex: Required files are not s	et to transfer in the setting of the _Ca	rd1PrgTransferCmd system-defined			
	variable.					
	0105 hex: The required transfer date.	ata is not in the backup file.				
	0201 hex: The unit version of the	CPU Unit is old.				
	0202 hex: The model numbers of	the CPU Unit are not the same.				
	0203 hex: The CPU Unit is write-p	protected.				
	0205 hex: Another backup operati					
	0206 hex: Synchronization, online	editing, or the Clear All Memory oper	ration is in progress.			
	0211 hex: The database connection	on service or robot version of the CPU	Unit is old.			
	0212 hex: Program transfer by sys	stem-defined variable is set to Do not	use in the Controller Setup.			
	0213 hex: Password of Program to	ransfer by system-defined variable in	the Controller Setup does not agree			
	with the Card1PrgTransferCmd.F					
		CPU Unit is not set to allow starting th	e SD Memory Card program trans-			
	fer.	9	, , ,			
		erring the programs failed or the SD N	Memory Card is faulty.			
Precautions/	None	- · •	•			
Remarks						

*1. This event code occurs for unit version 1.11 or later of the CPU Unit.

Event name	Restore Pre-exec	ution Check Failure	9	Event code	103E0000 hex*1	
Meaning	An error was dete	cted in pre-execution	on checks for speci	ification with syster		for the SD Mem-
, i	ory Card restore o			,		
Source	PLC Function Module		Source details	None	Detection timing	Before the restore operation after a Controller reset in Restore by system-defined variable
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_Card1RestoreSt	a	_sRESTORE_STA	4	SD Memory Card	Restore Status
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An SD Memory C ed.	ard is not insert-	Insert an SD Mem	nory Card.	Insert an SD Men	nory Card.
	The SD Memory (correct.	Card type is not	Replace the SD M an SD or SDHC c	-	Use an SD or SD	HC card.
	The format of the SD Memory Card is not correct.		Format the SD Memory Card with the Sysmac Studio, create a folder specified by the _Card1Restor-eCmd.DirName system-defined variable on the card, and store the backup files in the folder.		Use a formatted SD Memory Card, create a folder specified by the _Card1RestoreCmd.DirName system-defined variable on the card, and store the backup files in the folder.	
	There is no such folder on the SD Memory Card as specified by the _Card1RestoreCmd.DirName system-defined variable. There are no backup files in such a folder on the SD Memory Card as specified by the _Card1RestoreCmd.DirName system-defined		Create a folder sp _Card1RestoreCr tem-defined varial Memory Card and files in the folder.	nd.DirName sys- ble on the SD	Also, do not remove the SD Mer ry Card or turn OFF the power s ply while the SD BUSY indicator lit.	
variable. Either the backup files in the folder specified by the _Card1Restor-eCmd.DirName system-defined variable on the SD Memory Card are corrupted or required data is not in the backup files on the SD Memory Card.		folder specified by storeCmd.DirNam variable. If this error occurs replacing the files up files again and the folder specifie	ter specified by the _Card1Re-reCmd.DirName system-defined lable. In this error occurs again even after lacing the files, create the backfiles again and place them in folder specified by the lard1RestoreCmd.DirName system-defined variable.			
	The unit version of which to transfer than the unit versifiles on the SD Mo	he files is older on of the backup	Unit that has a un the same as or ne version of the CPU used to create the Or, place the back correct unit versio Unit, in the folder _Card1RestoreCr tem-defined varial	it version that is ewer than the unit U Unit that was backup files. The backup files with the in for the CPU specified by the and DirName sys-	Make sure that th the CPU Unit and of the backup file:	the unit version

The model of the CPU Unit to which to transfer the files is not the same as the model of the CPU Unit of the backup files on the SD Memory Card.	Replace the CPU Unit with a CPU Unit that has the same model as the CPU Unit that was used to create the backup files. Or, place the backup files with the correct model for the used CPU Unit, in the folder specified by the _Card1RestoreCmd.DirName system-defined variable.	Make sure that the model of the CPU Unit is the same as the model of the CPU Unit that was used to create the backup files.
The CPU Unit is write-protected.	If you transfer SD Memory Card programs, select the Do not use Option for the Write protection at startup setting of the CPU Unit.	If you transfer SD Memory Card programs, select the Do not use Option for the Write protection at startup setting of the CPU Unit.
Required files are not set to trans- fer in the setting of the system-de- fined variable.	Make sure that TRUE is set in the system-defined variable to transfer required files.	Make sure that TRUE is set in the system-defined variable to transfer required files.
Reading the data for the SD Memory Card program transfer failed because the SD Memory Card is faulty or not formatted correctly.	Perform the same corrective measures as for when the format of the SD Memory Card is not correct or the SD Memory Card is damaged.	Perform the same preventive measures as for the following events: SD Memory Card Invalid Format or Faulty SD Memory Card.
The SD Memory Card is damaged.	If none of the above causes applies, replace the SD Memory Card.	Do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit. Or, replace the SD Memory Card periodically according to the write life of the SD Memory Card.
The database connection service version of the CPU Unit to which to transfer the files is older than the database connection service version of the backup files on the SD Memory Card.	Replace the CPU Unit with a CPU Unit that has the same or a newer database connection service version than the database connection service version of the CPU Unit that was used to create the backup files. Or, specify backup files with the correct database connection service version for the CPU Unit.	Make sure that the database connection service version of the CPU Unit and the database connection service version of the backup files are compatible.
The robot version of the CPU Unit to which to transfer the files is older than the robot version of the back-up files on the SD Memory Card.	Replace the CPU Unit with a CPU Unit that has the same or a newer robot version than the robot version of the CPU Unit that was used to create the backup files. Or, specify backup files with the correct robot version for the CPU Unit.	Make sure that the robot version of the CPU Unit and the robot version of the backup files are compatible.

Attached infor-	Attached information 1: Operation type
mation	0102 hex: SD Memory Card to Controller for specification with a system-defined variable
	Attached Information 2: Error Details
	0001 hex: An SD Memory Card is not inserted.
	0002 hex: The SD Memory Card is faulty, the format of the SD Memory Card is not correct, or the SD Mem-
	ory Card is not the correct type of card.
	0004 hex: Recovery was executed for the SD Memory Card.
	0101 hex: There is no such folder on the SD Memory Card as specified by the _Card1RestoreCmd.DirName
	system-defined variable.
	• 0102 hex: There are no backup files in such a folder on the SD Memory Card as specified by the _Card1Re-
	storeCmd.DirName system-defined variable.
	0103 hex: The backup files are corrupted.
	0104 hex: Required files are not set to transfer in the setting of the system-defined variable.
	0105 hex: The required transfer data is not in the backup file.
	0201 hex: The unit version of the CPU Unit is old.
	0202 hex: The model numbers of the CPU Unit are not the same.
	0203 hex: The CPU Unit is write-protected.
	0211 hex: The database connection service or robot version of the CPU Unit is old.
	0214 hex: The DIP switch on the CPU Unit is not set to allow starting the restore of SD Memory Card back-
	ups by specification with system-defined variables.
	0301 hex: Reading data for transferring the programs failed or the SD Memory Card is faulty.
Precautions/	None
Remarks	

^{*1.} This event code occurs for unit version 1.14 or later of the CPU Unit.

Event name	Online Edits Transfer Failure Event code 103F0000 hex					
Description	Transferring the o	online edits failed.				
Source	PLC Function Mo			Detection tim- ing	When online edits are transferred	
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	the upper limit of variables.		Check the memoral tion and design a so that the number for retained variables dathe upper limit of	program again er of definitions oles and non-re- loes not exceed	When you create the memory usag design the progra number of definiti variables and nor bles does not exclimit of variables.	nm so that the ons for retained n-retained varia-
The variable setting for Specified/No Initial Varwas changed.		•	Transfer the online edits without changing the variable setting for Initial Value Specified/No Initial Value Specified.			
Attached infor-	,	tion 1: Causes of fa				
mation	 0001 hex: The number of variables exceeded the upper limit of variables. 0002 hex: The variable setting for Initial Value Specified/No Initial Value Specified was changed. 				nged.	
Precautions/ Remarks						

Event name	Variable Log Save Failed			Event code	152C0000Hex *1		
Meaning	Variable logs were not saved.						
Source	PLC Function Module		Source details	None	Detection timing	When the variable log save conditions are met	
Error attributes	Level	Observation	Recovery	Error reset after removing the cause of the error	Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	_APB_LogStatus		ARRAY[12][12] OF _sAPB_LOG_STATUS		APB Log Output Status		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Although the conditions for saving the variable log were satisfied, the variable log could not be generated due to the following factors. The storage to save the log is unavailable for some reason. The storage to save the log is write-protected. Number of files or directories in the storage has reached the maximum number.		Make the storage log available.	e of the variable	Output the variable firming that the state ble.	•	
Attached information	Attached information 1: Storage type 1: SD Memory Card Attached information 2: Cause of the error • 1400 hex: The storage to save the log is unavailable for some reason. • 1401 hex: The storage to save the log is write-protected. • 1402 hex: Number of files or directories in the storage has reached the maximum number. Attached information 3: Name of variable log output settings						
Precautions/	When the error is reset, an attempt to save the variable log is made again.						
Remarks				-			

^{*1.} This event code occurs for an NX502 CPU Unit with unit version 1.63 or later.

Event name	Safety Data Logging Failed to Start Even			Event code	10630000 hex *1		
Description	Starting the safety data logging failed.						
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	When safety da- ta logging is started	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type	Data type		Name	
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An SD Memory Card is not inserted.		Insert an SD Men	Insert an SD Memory Card.		Confirm that an SD Memory Card is inserted before you start logging.	
	There are no logg	ing setting files.	Place logging set specified location SD Memory Card	"/SFLog/" of the	Place logging set specified location	-	
	The logging setting file	_	Delete the unnecessary logging setting file.		Do not set the same logging set- tings number for more than one logging setting file.		
	The logging settings number of the logging setting file is outside of the specifications.		Create the logging setting file again in the project that was downloaded to the environment where the logging is executed.		Make sure to always transfer the logging settings after you change the project on the Sysmac Studio. Do not edit the logging setting file generated by the Sysmac Studio by any other means.		
	The logging setting files are invalid.		Create logging setting files again in the project transferred to the logging execution environment.		If you make changes to a project in the Sysmac Studio, transfer the logging settings again. Do not edit the logging setting files generated by the Sysmac Studio by other methods.		
	Not all of safety master connections are established.		Establish all safety master connections before attempting to start safety data logging.		Establish all safety master connections before attempting to start safety data logging.		
	Impossible to access a logging target variable that is specified in the logging setting file.		Create the logging setting file again in the project that was downloaded to the environment where the logging is executed.		Make sure to alw logging settings at the project on the Do not edit the logenerated by the by any other mea	after you change e Sysmac Studio. ogging setting file e Sysmac Studio	
Attached information	Attached information 1: Causes of failure • 0001 hex: An SD Memory Card is not inserted. • 0002 hex: There are no logging setting files. • 0003 hex: The logging settings number is duplicated. • 0004 hex: The logging settings number is outside of the specifications. • 0005 hex: The logging setting file is invalid. • 0006 hex: Safety master connections are not established. • 0007 hex: Impossible to access a logging target variable.						
Precautions/ Remarks			before safety valid		on the Safety CPU	Unit.	

^{*1.} This event code occurs for an NX502 CPU Unit with unit version 1.60 or later and NX102 CPU Unit with unit version 1.31 or later.

Event name	Safety Data Log File Save Failed Event			Event code	10640000 hex *1		
Description	Saving the log file for safety data logging failed.						
Source	PLC Function Module		Source details	None	Detection tim- ing	When safety data logging file is saved	
Error attributes	Level	Observation	Recovery	Recovery		System	
Effects	User program Continues.		Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The SD Memory Card was removed after the start of logging.		Insert an SD Memory Card.		Do not remove the SD Memory Card during logging execution.		
	The SD Memory Card is write-protected.		Remove write protection from the SD Memory Card.		Remove write protection from the SD Memory Card before you start logging.		
	The capacity of the SD Memory Card is insufficient.		Replace the SD Memory Card with one with sufficient available space.		Use an SD Memory Card that has sufficient available space.		
	The maximum number of files for an SD Memory Card was exceeded.		Delete files stored on the SD Memory Card to reduce the number of files.		Delete files periodically to reduce the number of files.		
	The SD Memory Card is damaged. If none of the above causes applies, replace the SD Memory Card.		•	Replace the SD Memory Card peri- odically according to the write life of the SD Memory Card.			
Attached infor-	Attached information 1: Causes of failure						
mation		SD Memory Card is					
	 0002 hex: The SD Memory Card is write-protected. 0003 hex: The capacity of the SD Memory Card is insufficient. 						
			of files was exceed				
	0004 flex: The 0005 hex: Other		of files was exceed	icu.			
	Attached information 2: The name of the log file that failed to be saved						
Precautions/	None		<u> </u>				
Remarks							

^{*1.} This event code occurs for an NX502 CPU Unit with unit version 1.60 or later and NX102 CPU Unit with unit version 1.31 or later.

Front name	DLC System Information Front and 40140000 hov						
Event name	PLC System Information			Event code	40140000 hex		
Meaning	This event provid	This event provides internal information from the PLC Function Module.					
Source	PLC Function Module		Source details	None	Detection tim-	Continuously	
					ing		
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable Data type		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	This event provides internal infor-						
	mation from the PLC Function Module. It is recorded to provide additional information for another						
	event.						
Attached infor-	Attached information 1: System information						
mation	Attached informa	tion 2: System infor	mation				
	Attached information 3: System information						
	Attached information 4: System information						
Precautions/	None						
Remarks							

Event name	Safe Mode			Event code	40170000 hex *1		
Meaning	The Controller sta	The Controller started in Safe Mode.					
Source	PLC Function Module		Source details	None	Detection tim-	At power ON or	
					ing	Controller reset	
Error attributes	Level	Observation	Recovery		Log category System		
Effects	User program	Stops.	Operation				
System-de-	Name		Data type		Name		
fined variables							
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The Controller started in Safe						
	Mode.						
Attached infor-	None						
mation							
Precautions/	If the Controller is started when the CPU Unit is in Safe Mode, the CPU Unit will start in PROGRAM mode						
Remarks	even if the startup mode is set to RUN mode.						

^{*1.} This event code occurs for unit version 1.03 or later of the CPU Unit.

Event name	Capacity Warning of Variable Log Save Destination			Event code	64050000Hex *1		
Meaning	The free storage space for variable logs is less than the specified capacity.						
Source	PLC Function Module		Source details	None	Detection tim- ing	During variable sampling	
Error attributes	Level	Observation	Recovery Error reset		Log category	System	
Effects	User program	Continues.	Operation Not affected.			·	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The free storage logs has fallen be capacity.	space for variable low the specified	None		None		
Attached information	Attached information 1: Storage type 1: SD Memory Card Attached information 2: Set value (MB)						
Precautions/ Remarks	 This event notifies that free space of the storage is running out. It does not control variable log output. Remaining free memory space is checked when the variable log is output. 						

^{*1.} This event code occurs for an NX502 CPU Unit with unit version 1.63 or later.

Event name	No Variable Log (Concurrency		Event code	64060000Hex *1	
Meaning			ted before variable ariable log data car	sampling was com	pleted. If the varial	ole log is output in
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	During variable sampling
Error attributes	Level	Observation	Recovery	Recovery Transfer the project from Synchronization of Sysmac Studio after changing automation playback settings.		System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_APB_Status		_sAPB_STATUS		APB Service Status	
Cause and cor-	Assumed cause		Correction		Prevention	
rection Attached infor	Due to the following factors, the task of the next task period started before variable sampling was completed. The number of variables to be sampled is too large. Task execution time as a ratio of overall task period is too high.		ble sampling is fit task period by the ures. Reduce progracollection target Set a longer tate. Exclude axis v sampling (for pass task only).	 Reduce program POUs set for collection target. Set a longer task period time. Exclude axis variables from sampling (for primary periodic 		n only for program variables that ded in the variable
Attached infor-		• •	r which sampling co	ould not be finished	d within the task pe	riod
mation	 0: Primary periodic task 1: Periodic task Attached information 2: Number of sampling target variables for the task Attached information 3: Maximum time (µs) required from the start to the end of sampling for the task Attached information 4: Sampling setting number that needs modification 					
Precautions/ Remarks	ensured.	ampling of variable		not to output varia	_	concurrency is not

^{*1.} This event code occurs for an NX502 CPU Unit with unit version 1.63 or later.

Event name	Cycle with No Var	riable Sampling		Event code	64070000Hex *1	
Meaning	A cycle occurred	in which variable sa	ampling was omitte	d.	•	
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	During variable sampling
Error attributes	Level	Observation	Recovery	Transfer the project from Synchronization of Sysmac Studio after changing automation playback settings.	Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_APB_Status		_sAPB_STATUS		APB Service Status	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Due to the following factors, a period in which variable sampling is not performed occurred. The number of variables to be sampled is too large. Unused time in task period is too short.		ble sampling is fir task period by the ures. Reduce progra collection targe Set a longer ta Exclude axis va sampling (for putask only).	 Reduce program POUs set for collection target. Set a longer task period time. Exclude axis variables from sampling (for primary periodic 		n only for program variables that led in the variable
Attached information	Attached information 1: Task type with a cycle in which sampling is omitted • 0: Primary periodic task • 1: Periodic task Attached information 2: Number of sampling target variables for the task Attached information 3: Maximum time (µs) required from the start to the end of sampling for the task Attached information 4: Sampling setting number that needs modification					
Precautions/ Remarks	Variable sampl When this ever ting.	ing continues. nt occurs, sampling	of variables can be	e stopped and varia		e disabled by set-

^{*1.} This event code occurs for an NX502 CPU Unit with unit version 1.63 or later.

Event name	NX Message Con	nmunications Error		Event code	80230000 hex*1	
Meaning	An error has occu	ırred in message co	ommunications.			
Source	PLC Function Module, EtherCAT Master Function Module, EtherNet/IP Function Module, or NX Bus Function Module		Source details	None	Detection timing	During NX message communications
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation			
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The communications cable is broken. The communications cable connector is disconnected.		Check the commu	unications cable	Check the comm	unications cable
			and replace it if it is broken.		to see if it is operating properly.	
			Reconnect the co		Make sure the communications ca-	
			make sure it is ma	make sure it is mated correctly.		properly.
	The NX message	communications	Reduce the number of times that		Reduce the numb	
	load is high.		instructions are used to send NX		instructions are used to send NX	
			messages.	ralue of the	messages. Or, increase the value of the	
				Or, increase the value of the TimeOut input variable to the in-		riable to the in-
			struction.		struction.	
			If more than one	copy of the Sys-	If more than one	copy of the Sys-
			mac Studio is con	<u>.</u>	mac Studio is cor	•
			the frequency of s	simultaneous op-	the frequency of	simultaneous op-
			erations.		erations.	
Attached infor-		tion 1: System infor				
mation		tion 2: Type of com	munications			
	0: NX bus 1: EtherCAT					
	_	ternal communicati	one (routing)			
Precautions/	None	terriai Communicati	ons (routing)			
Remarks	INOILE					
INGIII GING						

^{*1.} This event code occurs for unit version 1.05 or later of the CPU Unit.

Event name	Safety Data Logg	ing Aborted		Event code	90470000 hex *1	
Description	The execution of	safety data logging	was aborted.			
Source	PLC Function Module		Source details	None	Detection tim- ing	During the exe- cution of safety data logging
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_PLC_SFLogSta		ARRAY[01] OF	_sSFLOG_STA	Safety Data Logg	ing Status
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The execution of safety data log- ging was aborted by a service switch operation.					
	Either a communications error on the safety master connections occurred or the Safety CPU Unit entered an operating mode where it could not continue safety process data communications. The NX bus was restarted. The Controller Setup or program		Check the safety process data communications related event that occurred most recently, and perform the required actions and corrections. Alternatively, change the Safety CPU Unit operating mode so that it can perform safety process data communications.		Make sure that safety process data communications are not interrupted unintentionally when you start safety data logging.	
Attached information Precautions/	Attached informat Attached informat 1: A service sw 2: Safety maste 3: The NX bus 4: The Controll The aborted sa	tion 2: The output lition 3: Cause for the vitch was pressed. er connections are was restarted. er Setup or programatety data logging d	e interruption not established. m was changed. loes not restart auto	omatically even if th		-
Remarks	post-trigger rat	io setting.	data that was logge		rence of aborting,	

^{*1.} This event code occurs for an NX502 CPU Unit with unit version 1.60 or later and NX102 CPU Unit with unit version 1.31 or later.

Event name	Variable Log Ove	rwritten		Event code	95760000Hex *1	
Meaning	Old variable logs	were cleared and r	new variable logs w	ere saved.		
Source	PLC Function Module		Source details	None	Detection timing	When the varia- ble log save conditions are met
Error attributes	Level	Observation	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	e- Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	There is not enough the storage, or it has the specified capa	nas fallen below	None		None	
Attached infor- mation	Attached informat	ion 1: Storage type	;			
	1	ion 2: Set value (M	IB)			
Precautions/	When this event of	occurs, the old varia	able log has been o	deleted.		
Remarks						

^{*1.} This event code occurs for an NX502 CPU Unit with unit version 1.63 or later.

Event name	PLC System Info	rmation		Event code	40150000 hex		
Meaning		es internal informat	tion from the PLC F	unction Module.			
Source	PLC Function Mo	dule	Source details	None	Detection tim-	Continuously	
Error attributes	Level	Information	Recovery	Recovery		System	
Effects	User program	Continues.	Operation	Not affected.	·	•	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	r- Assumed cause		Correction		Prevention	Prevention	
rection	This event provides internal information from the PLC Function Module. It is recorded to provide additional information for another event.						
Attached information	Attached information 1: System information Attached information 2: System information Attached information 3: System information Attached information 4: System information						
Precautions/ Remarks	None	•					

Event name	PLC System Info	rmation		Event code	44430000 hex*1	
Meaning	This event provid	es internal informat	tion from the PLC F	unction Module.		
Source	PLC Function Module		Source details	None	Detection tim- ing	Continuously
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type	Data type		
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	This event provid	es internal infor-				
	mation from the F	PLC Function				
	Module. It is reco	rded to provide				
	additional informa	ation for another				
	event.					
Attached infor-	Attached informat	tion 1: System infor	rmation			
mation	Attached informat	tion 2: System infor	mation			
	Attached informat	tion 3: System infor	mation			
	Attached informat	tion 4: System infor	mation			
Precautions/	None					
Remarks						

^{*1.} This event code occurs for unit version 1.05 or later of the CPU Unit.

Event name	Clock Changed		90010000 hex					
	· · · · · · · · · · · · · · · · · · ·			Event code	900 10000 flex			
Meaning	The clock time wa	as changed.						
Source	PLC Function Mo	dule	Source details	None	Detection tim-	Commands		
					ing	from user		
Error attributes	Level	Information	Recovery		Log category	Access		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	_CurrentTime		DATE_AND_TIMI	E	System Time			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The clock time wa	as changed.						
Attached infor-	Attached Information 1: Connection method							
mation	1: Direct Conne	ection via USB						
	2: Direct Etheri	net connection						
	3: Remote USE	3 connection or Eth	ernet hub connecti	on				
	Attached informat	tion 2: When attach	ed information 1 is	2 or 3, the connec	tion source IP addr	ress is given.		
	When connection	is made through p	roxy, proxy IP addr	ess is given.				
	Attached informat	tion 3: Clock time b	efore change					
Precautions/	A change of clock	time caused by th	e NTP function or t	he Set Time instruc	ction (SetTime) of N	NTP is not record-		
Remarks	ed in the event lo	=			,			
	The time stamp for	or this event will be	for the time after th	ne change.				
User name in	When the user au	ıthentication functio	on is enabled: User	name				
the access	When the user au	thentication functio	on is disabled: NUL	L				
log*1								

^{*1.} This information is registered in the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Time Zone Chang	ged		Event code	90020000 hex	
Meaning	The time zone wa	as changed.			•	
Source	PLC Function Module		Source details	None	Detection tim- ing	When down- loading
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_CurrentTime		DATE_AND_TIMI	E	System Time	
Cause and cor-	d cor- Assumed cause Correction		Correction		Prevention	
rection	The time zone wa	as changed.				
Attached infor-	Attached Informa	tion 1: Connection	method			
mation	1: Direct Conne	ection via USB				
	2: Direct Ethers	net connection				
	3: Remote USI	B connection or Eth	ernet hub connecti	on		
	Attached informat	tion 2: When attach	ned information 1 is	2 or 3, the connec	tion source IP addr	ess is given.
	When connection	is made through p	roxy, proxy IP addr	ess is given.		
Precautions/	None					
Remarks						
User name in	When the user au	ıthentication functio	on is enabled: User	name		
the access	When the user au	uthentication functio	on is disabled: NUL	L		
log*1						

- *1. This information is registered in the following CPU Units.
 - NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
 - NX502 CPU Unit: Version 1.60 or later
 - NX701 CPU Unit: Version 1.29 or later

Event name	Online Connectio	n Started		Event code	90030000 hex*1		
Meaning	Online connection	n with the Sysmac	Studio was started.		'		
Source	PLC Function Module		Source details	None	Detection tim- ing	When online connection starts	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention	Prevention	
rection	Online Connectio mac Studio was s	•					
Attached infor- mation	1: Direct Conne2: Direct Ether3: Remote USI Attached informat	net connection 3 connection or Eth tion 2: When attach	nernet hub connecti	2 or 3, the conne	ection source IP add	ress is given.	
Precautions/ Remarks	This event is reco	This event is recorded only when the Sysmac Studio version 1.50 or higher is used.					
User name in	When the user au	ıthentication functio	on is enabled: User	name			
the access log	When the user au	ıthentication functio	on is disabled: NUL	L			

- *1. This event occurs when the following CPU Units are used in combination with Sysmac Studio Ver.1.50 or higher.
 - NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
 - NX502 CPU Unit: Version 1.60 or later
 - NX701 CPU Unit: Version 1.29 or later

Event name	Online Connectio	n Ended		Event code	90040000 hex*1		
Meaning	Online connection	with the Sysmac	Studio was termina	ted.			
Source	PLC Function Module		Source details	None	Detection tim- ing	When online connection terminated	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	Online connectior Studio was termin	n with the Sysmac nated.					
Attached information	1: Direct Conne2: Direct Ether3: Remote USI Attached informat	Attached Information 1: Connection method 1: Direct Connection via USB 2: Direct Ethernet connection 3: Remote USB connection or Ethernet hub connection Attached information 2: When attached information 1 is 2 or 3, the connection source IP address is given. When connection is made through proxy, proxy IP address is given.					
Precautions/	This event is reco	rded only when the	e Sysmac Studio ve	ersion 1.50 or highe	er is used.		
Remarks							
User name in			on is enabled: User				
the access log	When the user au	thentication function	on is disabled: NUL	L			

^{1.} This event occurs when the following CPU Units are used in combination with Sysmac Studio Ver.1.50 or higher.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	User Program/Co Downloaded	ntroller Configurati	ons and Setup	Event code	90050000 hex*1			
Meaning	The user program	and the Controlle	r configurations and	d setup were down	loaded.			
Source	PLC Function Module		Source details	None	Detection tim- ing	During user program/Controller configurations and setup download		
Error attributes	Level	Information	Recovery		Log category	Access		
Effects	User program	Continues.	Operation	I '	•	ccording to the user program and up data that were downloaded.		
System-de-	Variable		Data type	Data type				
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The user program and the Controller configurations and setup were downloaded.							
Attached information	1: Direct USB of2: Direct Ethern3: Remote USEAttached informatWhen connection	Attached Information 1: Connection method 1: Direct USB connection 2: Direct Ethernet connection 3: Remote USB connection or Ethernet hub connection Attached information 2: When attached information 1 is 2 or 3, the connection source IP address is given. When connection is made through proxy, proxy IP address is given. Attached information 3: Device Output Hold Status 1: Retained.						
Precautions/	None							
Remarks								
User name in	When the user au	thentication function	on is enabled: User	name				
the access	When the user au	thentication function	on is disabled: NUL	.L				
log*2								

- *1. This event code occurs for unit version 1.10 or later of the CPU Unit.
- *2. This information is registered in the following CPU Units.
 - NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
 - NX502 CPU Unit: Version 1.60 or later
 - NX701 CPU Unit: Version 1.29 or later

Event name	Online Edits Transferred			Event code	90070000 hex*1	
Meaning	The user program	n was edited online				
Source	PLC Function Module		Source details	None	Detection tim- ing	When transfer- ring online edits is started
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation Operation is performance program.		ormed according to	the changed user
System-de-			Data type		Name	
fined variables						
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The user program was edited on- line and the edits were transferred to the Controller.					
Attached infor-	Attached Informa	tion 1: Connection	method			
mation	1: Direct USB (
	2: Direct Ether		nernet hub connecti			
				on 2 or 3, the connec	tion source IP addr	ess is given
			roxy, proxy IP addr			555 15 g. 75. 11
Precautions/	None					
Remarks						
User name in	When the user at	ıthentication functio	on is enabled: User	name		
the access	When the user au	ıthentication functio	on is disabled: NUL	L		
log*2						

- *1. This event code occurs for unit version 1.10 or later of the CPU Unit.
- *2. This information is registered in the following CPU Units.
 - NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
 - NX502 CPU Unit: Version 1.60 or later
 - NX701 CPU Unit: Version 1.29 or later

Event name	Variable Changed	to TRUE with For	ced Refreshing	Event code	90080000 hex	
Meaning	Changing a varial	ole to TRUE with fo	orced refreshing wa	s specified.		
Source	PLC Function Module		Source details	None	Detection tim- ing	Commands from user
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program Continues.		Operation	Operation is performed freshing values.	Operation is performed according to the forced refreshing values.	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause	Assumed cause		Correction		
rection	Changing a variable to TRUE with forced refreshing was specified by the user.					
Attached infor- mation	None					
Precautions/	None					
Remarks						

Event name	Variable Changed	I to FALSE with Fo	rced Refreshing	Event code	90090000 hex		
Meaning	Changing a varial	ole to FALSE with f	orced refreshing wa	as specified.			
Source	PLC Function Module		Source details	None	Detection tim- ing	Commands from user	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation Operation is performe freshing values.		ormed according to	med according to the forced re-	
System-de- fined variables	Variable		Data type		Name		
	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Changing a variable to FALSE with forced refreshing was specified by the user.						
Attached infor-	None						
Precautions/	None						
Remarks							

Event name	All Forced Refres	hing Cleared		Event code	900A0000 hex		
Meaning	Clearing all forced	d refreshing values	was specified.		•		
Source	PLC Function Module		Source details	None	Detection tim- ing	Commands from user	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation Forced refreshing values is performed according to			llues are all cleared and operation ng to the user program.	
System-de-	Variable		Data type		Name	Name	
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Clearing all forced refreshing values was specified by the user.						
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Memory All Clear	red		Event code	900B0000 hex		
Meaning	All of memory wa	s cleared.					
Source	PLC Function Mo	dule	Source details	None	Detection tim-	Commands	
					ing	from user	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program		Operation	Operation returns	to the factory state	Э.	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	A user with Administrator rights						
	cleared all of the	memory.					
Attached infor-	Attached Informa	tion 1: Connection	method				
mation	1: Direct Conn	ection via USB					
	2: Direct Ether	net connection					
	3: Remote USI	B connection or Eth	nernet hub connecti	on			
	Attached informa	tion 2: When attach	ned information 1 is	2 or 3, the connec	tion source IP addr	ess is given.	
	When connection	is made through p	roxy, proxy IP addr	ess is given.			
Precautions/	None						
Remarks							
User name in	When the user at	uthentication function	on is enabled: User	name			
the access	When the user at	uthentication function	on is disabled: NUL	L			
log*1							

^{*1.} This information is registered in the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Event Log Cleare	d		Event code	900C0000 hex			
Meaning	The event log wa	s cleared.						
Source	PLC Function Module Source details		None	Detection tim- ing	Commands from user			
Error attributes	Level	Information	Recovery		Log category	Access		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The event log war	s cleared by the						
mation	 2: Direct Ether 3: Remote USI Attached informat When connection Attached informat 0: Logs for all o 1: The system 	Attached Information 1: Connection method 1: Direct Connection via USB 2: Direct Ethernet connection 3: Remote USB connection or Ethernet hub connection Attached information 2: When attached information 1 is 2 or 3, the connection source IP address is given. When connection is made through proxy, proxy IP address is given. Attached information 3: Cleared events 0: Logs for all categories were cleared. 1: The system event log was cleared. 2: The access event log was cleared.						
Precautions/	None							
Remarks								
User name in	When the user au	uthentication function	on is enabled: User	name				
the access	When the user au	uthentication function	on is disabled: NUL	L				
log*1								

- *1. This information is registered in the following CPU Units.
 - NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
 - NX502 CPU Unit: Version 1.60 or later
 - NX701 CPU Unit: Version 1.29 or later

Event name	Automatic Transfer Completed			Event code	900F0000 hex*1	
Meaning	The automatic tra	nsfer was complete	ed.			
Source	PLC Function Module		Source details	None	Detection tim- ing	At power ON
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program	Continues.	Operation	Operation starts according to the Controller Configurations and Setup data that was automatically transferred.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The automatic tra	nsfer was com-				
Attached infor-	None					
mation						
Precautions/	None					
Remarks						

^{*1.} This event code occurs for unit version 1.03 or later of the CPU Unit.

F	D T 101			Essent and a	004400001		
Event name	Power Turned ON			Event code	90110000 hex		
Meaning	The power supply						
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	At power ON	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program		Operation	Operation starts.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The power supply	was turned ON.					
Attached infor-	None						
mation							
Precautions/	None	one					
Remarks							
Event name	Power Interrupted			Event code	90120000 hex		
Meaning	The power supply	was interrupted.					
Source	PLC Function Mo	dule	Source details	None	Detection tim-	At power inter-	
					ing	ruption	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Stops.	Operation	All operations sto	pp.		
System-de-	Variable Data type Name						
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction			
rection	The power supply	was interrupted.					
Attached infor- mation	None						
Precautions/	None						
Remarks							
Front name	Operation Startes	1		Front code	00120000 hav		
Event name	Operation Started			Event code	90130000 hex		
Meaning Source	Operation was sta		Source details	None	Detection tim-	When changing	
Source	PLC FUNCTION MO	dule	Source details	None	ing	to RUN mode	
Error attributes	Level	Information	Recovery	l	Log category	System	
Effects	User program	Starts.	Operation	User program ex			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A command to sta	art operation was					
	received.						
Attached infor-	Attached informati	tion 1: Device Outp	out Hold Status		1		
Attachica illioi-		·					
	1: Retained.						
	1: Retained.2: Not retained						
mation Precautions/							

Event name	Operation Stoppe	:d		Event code	90140000 hex		
Meaning	Operation was sto	opped.					
Source	PLC Function Module		Source details	None	Detection tim- ing	When changing to PROGRAM mode	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Stops.	Operation	ion User program execution stops.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	A command to stop operation was received.						
Attached information	Attached information 1: Device Output Hold Status 1: Retained. 2: Not retained.						
Precautions/ Remarks	None						

Event name	Reset Executed			Event code	90150000 hex			
Meaning	A reset was exec	uted.						
Source	PLC Function Module Source details		None	Detection tim- ing	Commands from user			
Error attributes	Level	Information	Recovery		Log category	Access		
Effects	User program		Operation	Operation is start	ed after a reset is e	executed.		
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	A reset command was received.							
Attached information	1: Direct Conne2: Direct Ether3: Remote USI Attached informat	Attached Information 1: Connection method 1: Direct Connection via USB 2: Direct Ethernet connection 3: Remote USB connection or Ethernet hub connection Attached information 2: When attached information 1 is 2 or 3, the connection source IP address is given. When connection is made through proxy, proxy IP address is given.						
Precautions/ Remarks	None							
User name in the access \log^{*1}			on is enabled: User on is disabled: NUL					

^{*1.} This information is registered in the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	User Program Ex	ecution ID Write		Event code	90160000 hex	
Meaning	The user program	n execution ID was	set or changed in t	he CPU Unit.		
Source	PLC Function Module		Source details	None	Detection tim- ing	When down- loading
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A user with Administrator rights changed the user program execution ID that is set in the CPU Unit.					
Attached infor- mation	None					
Precautions/	Attached Informa	tion 1: Connection	method			
Remarks	1: Direct Conne	ection via USB				
	2: Direct Ether	net connection				
			nernet hub connecti			
			ned information 1 is	*	ction source IP add	ress is given.
		0 1	roxy, proxy IP addr			
User name in			on is enabled: User			
the access	When the user au	uthentication function	on is disabled: NUL	L		
log ^{*1}						

^{*1.} This information is registered in the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Authentication Se	tting Transferred		Event code	90170000 hex*1		
Meaning	The authenticatio	n setting was trans	ferred.				
Source	PLC Function Module		Source details	None	Detection tim- ing	When user account settings are changed	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The authentication setting was						
	transferred.						
Attached infor-	Attached Informat	tion 1: Connection	method				
mation	1: Direct Conne	ection via USB					
	2: Direct Etheri	net connection					
	3: Remote USE	3 connection or Eth	ernet hub connecti	ion			
	Attached informat	tion 2: When attach	ned information 1 is	2 or 3, the connec	tion source IP addı	ress is given.	
	When connection	is made through p	roxy, proxy IP addr	ess is given.			
Precautions/	This event is reco	rded only when the	e Sysmac Studio ve	ersion 1.50 or highe	er is used.		
Remarks							
User name in	When the user au	thentication function	on is enabled: User	name			
the access log	When the user au	ithentication functio	on is disabled: NUL	L			

^{1.} This event occurs when the following CPU Units are used in combination with Sysmac Studio Ver.1.50 or higher.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	All Controller Errors Cleared			Event code	90180000 hex			
Meaning	All current errors	All current errors were cleared.						
Source	PLC Function Module		Source details	None	Detection tim- ing	Commands from user		
Error attributes	Level	Information	Recovery		Log category	Access		
Effects	User program	Continues.	Operation	Clearing all errors moved.	ors for which the causes have been re-			
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The user cleared	all current errors.						
Attached infor- mation	None							
Precautions/	None							
Remarks								

Event name	Forced Refreshing Cleared			Event code	90190000 hex		
Meaning	Clearing a forced	refreshing value w	as specified.				
Source	PLC Function Module		Source details	None	Detection tim- ing	Commands from user	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation			values are cleared and operation is ing to the user program.	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Clearing a forced was specified by	ū					
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Backup Started			Event code	901A0000 hex*1		
Meaning	A backup operation	on was started.					
Source	PLC Function Module		Source details	None	Detection tim-	At start of back-	
					ing	up operation	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A backup operation	on was started.					
Attached infor-	Attached informat	tion 1: Operation ty	pe				
mation	0101 hex: Con	troller to SD Memo	ry Card for switch o	peration on front o	f CPU Unit		
	0102 hex: Con	troller to SD Memo	ry Card for system-	-defined variable op	peration		
	0103 hex: Con	troller to SD Memo	ry Card for instructi	ion from Sysmac S	tudio or function m	odule specific trig-	
	ger)						
	0104 hex: Con	troller to SD Memo	ry Card for instructi	ion operation			
	0201 hex: Con	0201 hex: Controller to computer					
Precautions/	None						
Remarks							

^{*1.} This event code occurs for unit version 1.03 or later of the CPU Unit.

Event name	Backup Complete	ed		Event code	901B0000 hex*1		
Meaning	The backup opera	ation ended normal	lly.				
Source	PLC Function Module		Source details	None	Detection tim- ing	At end of normal backup operation	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The backup operation ended nor-mally.						
Attached information	• 0101 hex: Con • 0102 hex: Con • 0103 hex: Con ger)	 0103 hex: Controller to SD Memory Card for instruction from Sysmac Studio or function module specific trigger) 0104 hex: Controller to SD Memory Card for instruction operation. 					
Precautions/ Remarks	None	13 30mpator					

^{*1.} This event code occurs for unit version 1.03 or later of the CPU Unit.

Event name	Restore Operation Started			Event code	901C0000 hex*1		
Meaning	A restore operation	A restore operation started.					
Source	PLC Function Mo	PLC Function Module		None	Detection tim-	At start of re-	
					ing	store operation	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program		Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A restore operation	on started.					
Attached infor-	Attached informat	tion 1: Operation ty	pe				
mation	0101 hex: SD I	Memory Card to Co	ontroller for switch o	peration on front o	f CPU Unit		
	0102 hex: SD I	Memory Card to Co	ontroller for specific	ation with a system	-defined variable		
	0201 hex: Com	puter to Controller					
Precautions/	None						
Remarks							

^{*1.} This event code occurs for unit version 1.03 or later of the CPU Unit.

Event name	Restore Operation	n Completed		Event code	901D0000 hex*1		
Meaning	The restore opera	ition ended normal	ly.				
Source	PLC Function Module		Source details	None	Detection tim- ing	At end of normal restore operation	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program		Operation	store operation. T stored user progra supply to the Con	Operation does not start after the completion of a restore operation. To start operation according to the restored user program and settings, turn OFF the power supply to the Controller, turn OFF all pins on the DIP switch on the CPU Unit, and then turn ON the power supply again.		
System-de-	Variable		Data type		Name		
fined variables	_Card1RestoreSt	а	_sRESTORE_STA		SD Memory Card Restore Status		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The restore opera	ation ended nor-					
Attached infor-	Attached informat	ion 1: Operation ty	ре				
mation		•	ontroller for switch o	•			
		•	ontroller for specific	ation with a system	-defined variable		
- · · · · ·		puter to Controller					
Precautions/	None						
Remarks							

^{*1.} This event code occurs for unit version 1.03 or later of the CPU Unit.

Event name	SD Memory Card Program Transfer Started			Event code	90200000 hex*1			
Meaning	Transferring the S	Transferring the SD Memory Card programs was started.						
Source	PLC Function Module		Source details	None	Detection timing	When transfer- ring SD Memory Card programs is started		
Error attributes	Level	Information	Recovery		Log category	System		
Effects	User program		Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction	Correction		Prevention		
rection	Transferring the Sprograms was sta							
Attached infor-	None							
mation								
Precautions/	None							
Remarks								

^{*1.} This event code occurs for unit version 1.11 or later of the CPU Unit.

Event name	SD Memory Card	Program Transfer	Completed	Event code	90210000 hex*1	
Meaning	Transferring the S	D Memory Card p	rograms was comp	leted.		
Source	PLC Function Module		Source details	None	Detection timing	When transfer- ring SD Memory Card programs is completed
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program		Operation	Not affected.	affected.	
System-de-	Variable		Data type		Name	
fined variables	_Card1PrgTransfo	erSta	_sPRGTRANSFER_STA		SD Memory Card Program Trans- fer Status	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Transferring the S	•				
Attached infor- mation	None					
Precautions/ Remarks	None					

^{*1.} This event code occurs for unit version 1.11 or later of the CPU Unit.

Event name	Project Unit Versi	on Changed		Event code	90290000 hex*1	
Meaning	The project unit v	ersion was change	d.			
Source	PLC Function Module		Source details	None	Detection timing	At download, restore, or Clear All Memory operation
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program		Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_ProjectUnitVersi	on *2	ARRAY[01] OF USINT		Project Unit Version	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The project unit v project in the Cor transfer or restore that in the transfe source project are The project was t stored in the defa	atroller in the e destination and er or restore e different. eransferred or re-				
Attached information	Memory state. Attached information 1: Project unit version before change The major and minor versions are displayed. In the default or Clear All Memory state, however, 0 is displayed. Example: In the default state, 0 is displayed. Attached information 2: Project unit version after change The major and minor versions are displayed. In the Clear All Memory state, however, 0 is displayed. Example: If the unit version is 1.21, 121 is displayed.					
Precautions/ Remarks	None		2 2024-0, 341			

^{*1.} This event code occurs for an NX102-□□□□ CPU Unit with unit version 1.32 or later and NX701-□□00 CPU Unit, NX1P2-□□□□□□ CPU Unit, NJ501-□□□□□ CPU Unit (excluding NJ501-□□20), NJ301-□□□□ CPU Unit, and NJ101-□□00 CPU Unit with unit version 1.21 or later.

^{*2.} You can use this system-defined variable for the CPU Unit with unit version 1.40 or later.

Event name	Change to RUN Mode Commanded			Event code	902A0000 hex*1		
Meaning	The Controller red	ceived a command	to switch to RUN n	node.			
Source	PLC Function Module Source deta		Source details	None	Detection tim- ing	Commands from user	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The Controller red						
Attached information	Attached information 1: Connection method 1: Direct connection via USB 2: Direct connection via Ethernet 3: Remote Connection via USB or Ethernet connection via a hub Attached information 2: When attached information 1 is 2 or 3, the connection source IP address is given. When connection is made through proxy, proxy IP address is given.						
Precautions/	None						
Remarks							
User name in	When the user au	ıthentication functio	on is enabled: User	name			
the access log	When the user au	ıthentication functio	on is disabled: NUL	L			

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Change to PROG	RAM Mode Comm	anded	Event code	902B0000 hex*1		
Meaning	The Controller red	ceived a command	to switch to PROG	RAM mode.	•		
Source	PLC Function Mo	dule	Source details	None	Detection tim-	Commands	
					ing	from user	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor- Assumed cause			Correction	Correction		Prevention	
rection	The Controller received a command to switch to PROGRAM						
	mode.						
Attached infor-	Attached informat	tion 1: Connection	method				
mation	1: Direct conne						
	 2: Direct conne 	ection via Ethernet					
	• 3: Remote Cor	nection via USB o	r Ethernet connection	on via a hub			
	Attached informat	tion 2: When attach	ned information 1 is	2 or 3, the connect	tion source IP addr	ess is given.	
	When connection	is made through p	roxy, proxy IP addr	ess is given.			
Precautions/	None						
Remarks							
User name in	When the user au	ıthentication function	on is enabled: User	name			
the access log	When the user au	ıthentication functio	on is disabled: NUL	L			

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Access Rights Fo	rcibly Released		Event code	902C0000 hex*1		
Meaning	The access rights	were forcibly relea	ised.				
Source	PLC Function Module		Source details	None	Detection tim- ing	Commands from user	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The access rights were forcibly released.						
Attached information	Attached Information 1: Connection method 1: Direct Connection via USB 2: Direct Ethernet connection 3: Remote USB connection or Ethernet hub connection Attached information 2: When attached information 1 is 2 or 3, the connection source IP address is given. When connection is made through proxy, proxy IP address is given.						
Precautions/	None						
Remarks							
User name in	When the user au	thentication function	n is enabled: User	name			
the access log	When the user au	thentication function	n is disabled: NUL	L			

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	CPU Unit Name (Changed		Event code	902D0000 hex*1			
Meaning	The CPU Unit na	The CPU Unit name was changed.						
Source	PLC Function Module		Source details	None	Detection tim- ing	Commands from user		
Error attributes	Level	Information	Recovery		Log category	Access		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The CPU Unit na	me was changed.						
Attached information	1: Direct Conne2: Direct Ether3: Remote USI Attached informat	Attached Information 1: Connection method 1: Direct Connection via USB 2: Direct Ethernet connection						
Precautions/	None							
Remarks								
User name in	When the user au	When the user authentication function is enabled: User name						
the access log	When the user au	thentication function	on is disabled: NUL	L				

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	CPU Unit Write P	rotected		Event code	902E0000 hex*1	
Meaning	The CPU Unit wa	s write-protected.				
Source	PLC Function Mo	dule	Source details	None	Detection tim-	Commands
				ing	from user	
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The CPU Unit wa	s write-protected.				
Attached infor-	Attached Informat	tion 1: Connection	method			
mation	1: Direct Conne	ection via USB				
	2: Direct Etheri	net connection				
	3: Remote USF	3 connection or Eth	ernet hub connecti	on		
	Attached informat	tion 2: When attach	ed information 1 is	2 or 3, the connec	tion source IP addr	ess is given.
	When connection	is made through p	roxy, proxy IP addr	ess is given.		
Precautions/	None					
Remarks						
User name in	When the user au	ıthentication function	on is enabled: User	name		
the access log	When the user au	ıthentication functio	on is disabled: NUL	L		

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Operation Mode (Change Setting Wri	itten	Event code	902F0000 hex*1		
Meaning	Setting to change	the operation mod	le was written.				
Source	PLC Function Module		Source details	None	Detection tim- ing	Commands from user	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	cor- Assumed cause Correction		Correction	ection Prevention			
rection	Setting to change mode was written	•					
Attached information	Attached Information 1: Connection method 1: Direct Connection via USB 2: Direct Ethernet connection 3: Remote USB connection or Ethernet hub connection Attached information 2: When attached information 1 is 2 or 3, the connection source IP address is given. When connection is made through proxy, proxy IP address is given.						
Precautions/ Remarks	This event is reco	This event is recorded only when the Sysmac Studio version 1.50 or higher is used.					
User name in the access log			on is enabled: User on is disabled: NUL				

^{*1.} This event occurs when the following CPU Units are used in combination with Sysmac Studio Ver.1.50 or higher.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Backup Start Con	nmanded		Event code	90300000 hex*1		
Meaning	The Controller red	ceived a command	to start backup ope	eration from Sysma	ac Studio.		
Source	PLC Function Module		Source details	None	Detection tim- ing	Commands from user	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	- Assumed cause		Correction	Correction		Prevention	
rection	The Controller red mand to start bac from Sysmac Stud	kup operation					
Attached information	Attached Information 1: Connection method 1: Direct Connection via USB 2: Direct Ethernet connection 3: Remote USB connection or Ethernet hub connection Attached information 2: When attached information 1 is 2 or 3, the connection source IP address is given. When connection is made through proxy, proxy IP address is given.						
Precautions/	None						
Remarks							
User name in	When the user au	ıthentication functio	on is enabled: User	name			
the access log	When the user au	ıthentication function	on is disabled: NUL	L			

- *1. This event code occurs for the following CPU Units.
 - NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
 - NX502 CPU Unit: Version 1.60 or later
 - NX701 CPU Unit: Version 1.29 or later

Event name	Restore Start Cor	nmanded		Event code	90310000 hex*1			
Meaning	The Controller red	ceived a command	to start restore ope	ration from Sysma	c Studio.			
Source	PLC Function Module Source details		Source details	None	Detection tim- ing	Commands from user		
Error attributes	Level	Information	Recovery		Log category	Access		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	d cor- Assumed cause		Correction	Correction		Prevention		
rection	The Controller red mand to start rest from Sysmac Stu	ore operation						
Attached infor- mation	1: Direct Conne2: Direct Ether3: Remote USI Attached informat	Attached Information 1: Connection method 1: Direct Connection via USB						
Precautions/ Remarks	None							
User name in the access log			on is enabled: User on is disabled: NUL					

- *1. This event code occurs for the following CPU Units.
 - NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
 - NX502 CPU Unit: Version 1.60 or later
 - NX701 CPU Unit: Version 1.29 or later

Event name	Firmware Update Prohibition Setting Changed			Event code	90320000 hex ^{*1}		
Meaning	Firmware update	Firmware update prohibition setting was changed.					
Source	PLC Function Mo	PLC Function Module		None	Detection tim-	At download	
					ing		
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation Not affected.				
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Firmware update	prohibition setting					
	was changed.						
Attached infor-	Attached informat	tion 1: Setting					
mation	1: Prohibit execution	cution of firmware u	ıpdate				
	2: Allow execut	tion of firmware upo	date				
Precautions/	None						
Remarks							

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version1.32 or later

Event name	Start Instruction of Omron Maintenance			Event code	90330000 hex*1		
Meaning	Maintenance by C	Omron maintenance	e personnel was be	gun.			
Source	PLC Function Module		Source details	None	Detection tim- ing	When instructed by Omron main- tenance person- nel	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.	ffected.		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	Maintenance by Omron maintenance personnel was begun.						
Attached infor-	Attached informat	ion 1: Name of the	maintenance perso	onnel			
mation							
Precautions/	None						
Remarks							

^{*1.} This event code occurs for the following CPU Units.

- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

[•] NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

Event name	End Instruction of	Omron Maintenan	ce	Event code	90340000 hex*1		
Meaning	Maintenance by C	Omron maintenance	e personnel was en	ided.			
Source	PLC Function Module		Source details	None	Detection timing	When instructed by Omron main- tenance person- nel	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	Maintenance by C	Omron mainte-					
	nance personnel	was ended.					
Attached infor-	Attached informat	ion 1: Name of the	maintenance person	onnel			
mation							
Precautions/	None	None					
Remarks							

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Safety Data Logging Started			Event code	90460000 hex *1		
Description	Safety data loggir	ng was started.					
Source	PLC Function Module		Source details	None	Detection tim- ing	When safety da- ta logging is started	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.	Not affected.		
System-de-	Variable		Data type		Name		
fined variables	_PLC_SFLogSta	_PLC_SFLogSta		ARRAY[01] OF _sSFLOG_STA		Safety Data Logging Status	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Safety data logging was started because the start conditions were met.						
Attached infor-	Attached informat	tion 1: Setting num	ber for the started I	ogging			
mation							
Precautions/	None						
Remarks							

^{*1.} This event code occurs for an NX502 CPU Unit with unit version 1.60 or later and NX102 CPU Unit with unit version 1.31 or later.

Event name	Safety Data Logging Completed			Event code	90480000 hex *1	
Description	The execution of	safety data logging	was completed be	cause the trigger c	onditions were met	
Source	PLC Function Module		Source details	None	Detection tim- ing	When safety da- ta logging is completed
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program	Continues.	Operation Not affected.			
System-de-	Variable		Data type		Name	
fined variables	_PLC_SFLogSta		ARRAY[01] OF	_sSFLOG_STA	Safety Data Logging Status	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The trigger condition that is specified in the Safety Data Logging Settings is met, and safety data logging ends.					
Attached infor-	Attached informat	ion 1: Setting numl	ber for the complete	ed logging		
mation	Attached informat	ion 2: The output lo	og file name			
Precautions/	If more than one safety data logging is executed, do not remove or insert the SD Memory Card until all the					
Remarks	safety data loggin	g executions are c	ompleted and the c	lata is saved to the	SD Memory Card.	

^{*1.} This event code occurs for an NX502 CPU Unit with unit version 1.60 or later and NX102 CPU Unit with unit version 1.31 or later.

Event name	User Authentication Enabled			Event code	90A20000 hex*1	
Meaning	User authenticat	ion was enabled.				
Source	PLC Function Module		Source details	None	Detection timing	When user account settings are changed
Error attrib-	Level Information			Log category	Access	
utes	Recovery					
Effects	User program	Continues.	Operation	Not affected.		
System-de-	e- Variable		Data type		Name	
fined varia- bles	None					
Cause and	Assumed cause)	Correction		Prevention	
correction	User authenticat	ion was enabled.	None		None	
Attached in- formation	None					
Precautions/	This event is rec	orded only when t	he Sysmac Studio	version 1.50 or h	nigher is used.	
Remarks						
User name in	User name					
the access log						

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	User Authenticat	ion Disabled		Event code	90A30000 hex*1		
Meaning	User authenticat	ion was disabled.					
Source	PLC Function Module		Source details	None	Detection tim- ing	When user account settings are changed	
Error attrib-	Level Information I		Log category	Access			
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type	Data type		Name	
fined varia-	None						
bles			0		Duarrantian		
Cause and	Assumed cause		Correction		Prevention		
correction	User authenticat bled.	ion was disa-	None		None		
Attached in-	None						
formation							
Precautions/	This event is rec	orded only when t	he Sysmac Studio	version 1.50 or h	igher is used.		
Remarks							
User name in	User name						
the access log							

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	User Added			Event code	90A40000 hex*1		
Meaning	A user was added.						
Source	PLC Function Module		Source details	None	Detection tim- ing	When user account settings are changed	
Error attrib-	Level	Information		Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause	e	Correction		Prevention		
correction	A user was adde	ed.	None		None		
Attached information		Attached information 1: Given authority O: Administrator 1: Designer 2: Maintainer 3: Operator 4: Observer					
Precautions/ Remarks	This event is rec	orded only when t	he Sysmac Studio	version 1.50 or h	nigher is used.		
User name in	User name						
User name in the access log	User name						

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	User Deleted			Event code	90A50000 hex*1		
Meaning	A user was delet	ed.					
Source	PLC Function Module		Source details	None	Detection tim- ing	When user account settings are changed	
Error attrib-	Level	Information		Log category	Access		
utes	Recovery	ry					
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause)	Correction		Prevention		
correction	A user was delet	ed.	None		None		
Attached in- formation	Attached informa	ntion 1: Name of th	ne deleted user				
Precautions/	This event is rec	orded only when t	he Sysmac Studio	version 1.50 or h	igher is used.		
Remarks							
User name in	User name						
the access log							

^{1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	User Authority C	hanged		Event code	90A60000 hex*1		
Meaning	A user authority was changed.						
Source	PLC Function Module		Source details	None	Detection tim- ing	When user account settings are changed	
Error attrib-	Level	Information		Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause		Correction		Prevention		
correction	A user authority was changed.		None		None		
Attached information		Attached information 1: Given authority O: Administrator 1: Designer 2: Maintainer 3: Operator 4: Observer					
Precautions/ Remarks	This event is rec	orded only when t	he Sysmac Studio	version 1.50 or h	nigher is used.		
User name in the access log	User name						

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	User Password Changed			Event code	90A70000 hex*1		
Meaning	A user password	A user password was changed.					
Source	PLC Function Module		Source details	None	Detection tim- ing	When user account settings are changed	
Error attrib-	Level	Information		Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause)	Correction		Prevention		
correction	A user password	A user password was changed.		None		None	
Attached in- formation	Attached informa	ation 1: Name of th	ne user whose pas	ssword was chang	jed		
Precautions/	This event is rec	This event is recorded only when the Sysmac Studio version 1.50 or higher is used.					
Remarks							
User name in	User name						
the access log							

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	User Password Validity Period Control Enabled			Event code	90A80000 hex*1		
Meaning	Control of user p	assword validity p	eriod was activate	ed.			
Source	PLC Function Module		Source details	None	Detection tim- ing	When user account settings are changed	
Error attrib-	Level	Information		Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause	•	Correction		Prevention		
correction	Control of user password validity period was activated.		None		None		
Attached in- formation	None						
Precautions/ Remarks	This event is rec	This event is recorded only when the Sysmac Studio version 1.50 or higher is used.					
User name in the access log	User name						

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	User Password Validity Period Control Disabled			Event code	90A90000 hex*1		
Meaning	Control of user p	Control of user password validity period was disabled.					
Source	PLC Function Module		Source details	None	Detection timing	When user account settings are changed	
Error attrib-	Level	Information		Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia-	None						
bles							
Cause and	Assumed cause	9	Correction		Prevention		
correction	Control of user p	•	None		None		
	period was disat	oled.					
Attached in-	None						
formation							
Precautions/	This event is rec	This event is recorded only when the Sysmac Studio version 1.50 or higher is used.					
Remarks							
User name in	User name						
the access log							

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	User Password Validity Period Changed		Event code	90AA0000 hex*1			
Meaning	A validity period	A validity period of user password was changed.					
Source	PLC Function Module		Source details	None	Detection tim- ing	When user account settings are changed	
Error attrib-	Level	Information		Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia-	None						
bles							
Cause and	Assumed cause	e	Correction		Prevention		
correction	A validity period word was chang		None		None		
Attached in- formation	None						
Precautions/	This event is rec	orded only when t	he Sysmac Studio	version 1.50 or h	igher is used.		
Remarks							
User name in	User name						
the access log							

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	User Authentication Operation Lock Enabled			Event code	90AB0000 hex*1		
Meaning	Operation lock o	f user authenticati	on function was e	nabled.			
Source	PLC Function Module		Source details	None	Detection timing	When user account settings are changed	
Error attrib-	Level	Information		Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia-	None						
bles							
Cause and	Assumed cause	•	Correction		Prevention		
correction	Operation lock o	f user authenti-	None		None		
	cation function w	as enabled.					
Attached in-	None						
formation							
Precautions/	This event is rec	orded only when t	he Sysmac Studio	version 1.50 or h	igher is used.		
Remarks							
User name in	User name						
the access log							

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	User Authentication Operation Lock Disabled			Event code	90AC0000 hex*1		
Meaning	Operation lock o	f user authenticati	on function was di	sabled.			
Source	PLC Function Module		Source details	None	Detection tim- ing	When user account settings are changed	
Error attrib-	Level	Information		Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia-	None						
bles							
Cause and	Assumed cause	•	Correction		Prevention		
correction	Operation lock of cation function w		None		None		
Attached in-	None						
formation							
Precautions/	This event is rec	orded only when t	he Sysmac Studio	version 1.50 or h	igher is used.		
Remarks							
User name in	User name						
the access log							

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	User Authentica	tion Operation Loc	k Time Changed	Event code	90AD0000 hex*1		
Meaning	Operation lock ti	Operation lock time of user authentication function was changed.					
Source	PLC Function Module		Source details	None	Detection tim- ing	When user account settings are changed	
Error attrib-	Level	Information		Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause	е	Correction		Prevention		
correction	Operation lock ti thentication functions changed.		None		None		
Attached in- formation	Attached informa	Attached information 1: Set time					
Precautions/	This event is rec	orded only when t	he Sysmac Studio	version 1.50 or h	igher is used.		
Remarks							
User name in	User name						
the access log							

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Operation Autho	rity Verification Er	nabled	Event code	90AE0000 hex*1		
Meaning	Operation author	rity verification wa	s enabled.		•		
Source	PLC Function Module		Source details	None	Detection timing	When changing operation authority verification setting	
Error attrib-	Level Information			Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation	Operation Not affected.			
System-de-	Variable	Variable		Data type		Name	
fined varia- bles	None						
Cause and	Assumed cause	9	Correction		Prevention		
correction	Operation authorwas enabled.	rity verification	None		None		
Attached in-	None						
Precautions/	This event is rec	orded only when t	the Sysmac Studio	version 1.50 or h	nigher is used		
Remarks	11.10 010111 10 100	oraca crity whom	and dyamad diadic	70.0.0.1	ng. io acca.		
User name in	When the user a	uthentication func	tion is enabled: U	ser name			
the access log	When the user a	uthentication func	tion is disabled: N	ULL			

^{1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Operation Autho	rity Verification Di	sabled	Event code	90AF0000 hex*1		
Meaning	Operation autho	rity verification wa	s disabled.				
Source	PLC Function Module		Source details	None	Detection timing	When changing operation authority verification setting	
Error attrib-	Level	_evel Information		Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable	Variable		Data type		Name	
fined varia- bles	None						
Cause and	Assumed cause	е	Correction		Prevention		
correction	Operation autho was disabled.	rity verification	None		None		
Attached in- formation	None						
Precautions/	This event is rec	orded only when t	he Sysmac Studio	version 1.50 or h	igher is used.		
Remarks							
User name in	When the user a	uthentication func	tion is enabled: U	ser name			
the access log	When the user a	uthentication func	tion is disabled: N	IULL			

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Operation Autho	rity Password Cha	anged	Event code	90B00000 hex*1		
Meaning	A operation auth	ority password wa	as changed.				
Source	PLC Function Module		Source details	None	Detection timing	When changing operation authority verification setting	
Error attrib-	Level	Information		Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation Not affected.				
System-de-	Variable		Data type	Data type		Name	
fined varia-	None						
bles					Prevention		
Cause and	Assumed cause	9	Correction	Correction			
correction	A operation auth	ority password	None		None		
	was changed.						
Attached in-	Attached informa	ation 1: authority v	vhose password w	as changed			
formation	0: Administrat	or					
	1: Designer						
	2: Maintainer						
	3: Operator						
	4: Observer						
Precautions/	This event is rec	orded only when t	the Sysmac Studio	version 1.50 or h	nigher is used.		
Remarks							
User name in	When the user a	uthentication fund	tion is enabled: U	ser name			
the access log	When the user a	uthentication fund	tion is disabled: N	ULL			

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Operation Autho Changed	rity for Password l	Input Omission	Event code	90B10000 hex*1		
Meaning	An operation aut	hority used when	password input is	omitted was changed.			
Source	PLC Function Module		Source details	None	Detection timing	When changing operation authority verification setting	
Error attrib-	Level	Information		Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation Not affected.				
System-de-	Variable		Data type	Data type		Name	
fined varia-	None						
bles							
Cause and	Assumed cause		Correction		Prevention		
correction	An operation aut	•	None		None		
	when password	input is omitted					
	was changed.						
Attached in-	Attached informa	ation 1: Given auth	nority				
formation	0: Administrate	or					
	1: Designer						
	2: Maintainer						
	3: Operator						
	4: Observer						
Precautions/	This event is rec	orded only when t	he Sysmac Studio	version 1.50 or h	igher is used.		
Remarks							
User name in	When the user a	uthentication func	tion is enabled: U	ser name			
the access log	When the user a	uthentication func	tion is disabled: N	ULL			

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Operation Autho Enabled	Operation Authority Verification Operation Lock Enabled			90B20000 hex*1		
Meaning	Operation lock o	f operation author	ity verification fund	ction was enabled			
Source	PLC Function Module		Source details	None	Detection timing	When changing operation authority verification setting	
Error attrib-	Level Information			Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable	Variable		Data type		Name	
fined varia-	None						
bles							
Cause and	Assumed cause	•	Correction	None None		Prevention	
correction	Operation lock o thority verification	-	None			None	
	enabled.						
Attached in-	None						
formation							
Precautions/	This event is rec	orded only when t	he Sysmac Studio	version 1.50 or h	igher is used.		
Remarks							
User name in			tion is enabled: U				
the access log	When the user a	uthentication func	tion is disabled: N	ULL			

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Operation Autho Disabled	Operation Authority Verification Operation Lock Disabled			90B30000 hex*1		
Meaning	Operation lock o	Operation lock of operation authority verification function was disabled.					
Source	PLC Function Module		Source details	None	Detection timing	When changing operation authority verification setting	
Error attrib-	Level Information			Log category	Access		
utes	Recovery	ery					
Effects	User program Continues.		Operation	Not affected.			
System-de-	Variable	Variable		Data type		Name	
fined varia- bles	None						
Cause and	Assumed cause	9	Correction		Prevention		
correction	Operation lock o thority verificatio disabled.		None		None		
Attached in- formation	None						
Precautions/ Remarks	This event is rec	orded only when t	he Sysmac Studio	version 1.50 or h	igher is used.		
User name in			tion is enabled: U				
the access log	When the user a	uthentication fund	tion is disabled: N	ULL			

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Operation Autho Time Changed	rity Verification Op	peration Lock	Event code	90B40000 hex*1		
Meaning	Operation lock ti	me of operation a	uthority verification	n function was cha	anged.		
Source	PLC Function Module		Source details	None	Detection timing	When changing operation authority verification setting	
Error attrib-	Level Information			Log category	Access		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable	Variable		Data type		Name	
fined varia-	None						
bles							
Cause and	Assumed cause	9	Correction	Correction		Prevention	
correction	Operation lock ti authority verifica changed.	me of operation tion function was	None		None		
Attached in- formation	Attached informa	ation 1: Set time					
Precautions/ Remarks	This event is rec	This event is recorded only when the Sysmac Studio version 1.50 or higher is used.					
User name in	When the user a	uthentication func	tion is enabled: U	ser name			
the access log	When the user a	uthentication func	tion is disabled: N	ULL			

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	User Password E	xpiration Notice En	nabled	Event code	90B50000 hex*1	
Meaning	User password ex	piration notice was	s enabled.			
Source	PLC Function Module		Source details	None	Detection timing	When User Authentication Settings were changed
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	User password exwas enabled.	xpiration notice				
Attached infor- mation	None					
Precautions/	This event is reco	rded only when the	e Sysmac Studio ve	ersion 1.50 or highe	er is used.	
Remarks						
User name in	User name	·	·	·		·
the access log						

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	User Password E	xpiration Notice Dis	sabled	Event code	90B60000 hex*1	
Meaning	User password ex	xpiration notice was	s disabled.			
Source	PLC Function Module		Source details	None	Detection timing	When User Authentication Settings were changed
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	User password ex was disabled.	xpiration notice				
Attached infor-	None					
mation						
Precautions/	This event is reco	orded only when the	e Sysmac Studio ve	ersion 1.50 or highe	er is used.	
Remarks						
User name in	User name					
the access log						

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Days for Prior Notice of User Password Expiration Changed			Event code	90B70000 hex*1		
Meaning	Number of days s	et to give prior not	ice of user passwor	d expiration was cl	nanged.		
Source	PLC Function Module		Source details	None	Detection tim- ing	When user account settings are changed	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation Not affected.				
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Number of days s notice of user pas	0 1					
	was changed.						
Attached infor-	None						
mation							
Precautions/	This event is reco	orded only when the	e Sysmac Studio ve	ersion 1.50 or highe	er is used.		
Remarks							
User name in	User name						
the access log							

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Automation Playb	ack Settings Chan	ged	Event code	95720000Hex *1		
Meaning	The settings for the	ne automation playl	back function were	changed.			
Source	PLC Function Module		Source details	None	Detection tim- ing	When synchron- ized with Sys- mac Studio	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation Not affected.				
System-de-	Variable		Data type		Name		
fined variables	_APB_Status		_sAPB_STATUS		APB Service Status		
	_APB_LogStatus	ogStatus ARRAY[12][12] OF sAPB_LOG_STATUS			APB Log Output Status		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The Controller is a project with cha Sysmac Studio.	synchronized with nged settings on	None		None		
Attached information	None						
Precautions/ Remarks	None	None					
User name in	When the user au	thentication functio	on is enabled: User	name			
the access log	When the user au	thentication functio	on is disabled: NUL	L			

^{*1.} This event code occurs for an NX502 CPU Unit with unit version 1.63 or later.

Event name	Variable Sampling	g Started		Event code	95730000Hex *1		
Meaning	Variable sampling	√ariable sampling started.					
Source	PLC Function Module		Source details	None	Detection tim- ing	When variable sampling starts	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation Not affected.			•	
System-de-	Variable		Data type	Data type		Name	
fined variables	_APB_Status		_sAPB_STATUS		APB Service Status		
	_APB_LogStatus			ARRAY[12][12] OF _sAPB_LOG_STATUS		APB Log Output Status	
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	Conditions to star pling are met.	t variable sam-	None		None		
Attached infor- mation	None						
Precautions/ Remarks	None						

^{*1.} This event code occurs for an NX502 CPU Unit with unit version 1.63 or later.

Event name	Variable Sampling Stopped			Event code	95740000Hex *1		
Meaning	Variable sampling	/ariable sampling stopped.					
Source	PLC Function Module		Source details	None	Detection tim-	When variable sampling stops	
Error attributes	Level Information		Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	_APB_Status		_sAPB_STATUS		APB Service Status		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Conditions to end pling are met.	variable sam-	None		None		
Attached infor-	None						
mation							
Precautions/	None	lone					
Remarks							

^{*1.} This event code occurs for an NX502 CPU Unit with unit version 1.63 or later.

Event name	Variable Log Outp	out Completed		Event code	95750000Hex *1		
Meaning	Variable log outpu	Variable log output has completed.					
Source	PLC Function Module		Source details	None	Detection timing	When variable log output is complete	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation Not affected.				
System-de-	Variable		Data type		Name		
fined variables	_APB_LogStatus		ARRAY[12][12] _sAPB_LOG_ST	•	APB Log Output Status		
Cause and cor-	Assumed cause		Correction		Prevention	Prevention	
rection	Save conditions of satisfied and outp	ŭ	None		None		
Attached infor-	Attached informat	tion 1: Storage type	e				
mation	1: SD Memory Ca	ard					
			iable log output set	•			
	Attached information 3: Sampling time of variable logs (seconds)						
	Attached informat	tion 4: Memory cap	acity for sampled v	ariables (bytes)			
Precautions/	None						
Remarks							

^{*1.} This event code occurs for an NX502 CPU Unit with unit version 1.63 or later earlier than version 1.65.

Event name	Variable Log Output Completed		Event code	95780000 hex *1		
Meaning	Variable log outpu	Variable log output has completed.				
Source	PLC Function Module		Source details	None	Detection tim- ing	When variable log output is complete
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_APB_LogStatus		ARRAY[12][12] OF _sAPB_LOG_STATUS		APB Log Output Status	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Save conditions of satisfied and outp	ŭ	None		None	
Attached infor-	Attached informat	tion 1: Storage type)			
mation	1: SD Memory Ca	ard				
	Attached informat	tion 2: Name of var	iable log output set	tings		
	Attached information 3: Sampling time of variable logs (seconds)					
	Attached information 4: Memory capacity for sampled variables (KB)					
Precautions/	None					
Remarks						

^{*1.} This event code occurs for an NX502 CPU Unit with unit version 1.65 or later.

Errors Related to FINS Communications

Event name	CPU Bus Unit Se	tup Area Error		Event code	14010000 hex	
Meaning	An error was dete	ected in the memory	y check of the Setu	p Area for CPU Bu	s Units.	
Source	PLC Function Module		Source details	None	Detection timing	At power ON, at Controller reset, or when writing CPU Bus Unit Setup Area
Error attributes	Level	Minor fault	Recovery	Error reset or cycling power supply	Log category	System
Effects	User program	Continues.	Operation	The CPU Bus Un	t may stop.	
System-de-	Variable		Data type	Name		
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The power supply to the Controller was interrupted or communications with the Sysmac Studio were disconnected while downloading the CPU Bus Unit Settings.		Clear all memory CPU Bus Unit Se persists, replace	ttings. If this error		
Attached information	None					
Precautions/ Remarks	None					

Event name	IP Address Table	Setting Error		Event code	34100000 hex		
Meaning		ıble settings are inc	correct.				
Source	PLC Function Module		Source details	None	Detection timing	At power ON, Controller reset, or restart of built-in Ethernet port	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	FINS/UDP comm	DP communications will not oper		
System-de-	Variable		Data type	a type		Name	
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The IP address conversion method is set to the combined method or the IP address table method, but the IP address table settings are incorrect.		Correct the IP addings.	dress table set-	Set the IP addres	s table correctly.	
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	FINS/TCP Conne	ction Table Setting	Error	Event code	34130000 hex	
Meaning	The FINS/TCP co	nnection table is in	correct.			
Source	PLC Function Module		Source details	None	Detection timing	At power ON, Controller reset, or restart of built-in Ethernet port
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	FINS/TCP comm	/TCP communications will not operate.	
System-de-	Variable		Data type	Name		
fined variables	None					
Cause and cor-	Assumed cause		Correction	Prevention		
rection	The power supply to the Controller was interrupted or communications with the Sysmac Studio were disconnected while downloading the FINS/TCP connection table.		Download the FIN tion table again.	NS/TCP connec-	Do not interrupt to the Controller of communications Studio while dow FINS/TCP conne	or disconnect with the Sysmac nloading the
Attached information	None					
Precautions/ Remarks	None					

Event name	Unknown Destina	ation Node		Event code	34110000 hex		
Meaning	The send destina	The send destination node is not known.					
Source	PLC Function Module		Source details	None	Detection tim- ing	At FINS mes- sage transmis- sion	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected. Pac	kets are discarded.		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection		center send destination node was not und when a FINS message was ent. Correct the setting of the send of tination node for FINS/UDP con munications. Or, check the sour FINS message and correct the destination node address.		FINS/UDP com- check the source and correct the	Set the send destination node for FINS/UDP communications correctly. Or, make sure that the destination node address in the source FINS message is correct.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Packet Discarded			Event code	80100000 hex		
Meaning	One or more pacl	cets were discarded	d.				
Source	PLC Function Module		Source details	None	Detection tim-	At FINS mes-	
					ing	sage reception	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A FINS response		Correct the conte		Set the FINS messages correctly.		
	The send designa						
Attached infor-	Attached informat	tion 1: Cause of pa	cket discard				
mation	• (01 hex: FINS	response addresse	ed to CPU Unit rece	ived,			
	02 hex: Respo	02 hex: Response send failed)					
Precautions/	None						
Remarks							

					<u> </u>		
Event name	Packet Discarded			Event code	80110000 hex		
Meaning	One or more pack	kets were discarded	d.				
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	At FINS mes- sage reception	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.	<u> </u>		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	1. An attempt was FINS response w bytes. 2. An attempt was FINS response w	ith over 2002 s made to route a	Do not send a FIN over 2002 bytes.	NS response with	Set the FINS message at the source correctly.		
	bytes. 3. Packet was received with a No Such Unit routing error.		in the response fr	ct the unit number	mber n-		
	Packet was received with a Routing Error routing error.		in the response fr	ct the unit number			
	_	5. Packet was received with a Routing Table Not Registered routing error.		Check the FINS message at the source, and correct the routing table include the network address of the destination network.			
	6. Packet was received with an Event Area Size Over Limit routing error.		Check the FINS r source and correct size in the respon- command frame to quire a response exceed the limit.	ct the event area	t area or a ot re-		
	internal buffer. 8. FINS message	8. FINS message routing failed because the communications load is		Reduce the frequency of sending FINS messages at the source.		Keep the frequency of sending FINS messages as low as possible.	
Attached information	1: 01 hex, 2: 0 6: 06 hex, 7: 0	07 hex, 8: 08 hex	scarding packets 1: 04 hex, 5: 05 hex rs of the above cau				
Precautions/ Remarks	None						

Event name	Packet Discarded			Event code	80120000 hex		
Meaning	One or more pack	cets were discarded	d.				
Source	PLC Function Mo	dule	Source details	None	Detection tim- ing	At FINS mes- sage reception	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	1. A FINS response was received with the destination network address (DNA) set to the local network and the destination node address (DA1) not set to the local node.		Correct the IP addings.	dress table set-	Make sure that the ble settings are co		
	2. A FINS comma was received with address specifica destination netwo was greater than hex.	a hub network tion for which the rk address (DNA) or equal to 80	Correct the FINS source so that the dress specificatio fy a destination no (DNA) that is great to 80 hex.	e hub network ad- n does not speci- etwork address ater than or equal	dress (DNA) that equal to 80 hex.	es not have a hub specification that ation network ad- is greater than or	
	3. There is insufficient space in the internal buffer.		Reduce the frequ FINS messages a	at the source.	FINS messages a ble.	Keep the frequency of sending FINS messages as low as possible.	
	4. A FINS comma have the minimum length was receiv	n command	Correct the FINS command at the source so that it has at least the minimum command length. Set the FINS commands sources so that they have the minimum command length.		ney have at least		
	5. A FINS comma the maximum con was received.		Correct the FINS source so that it of the maximum cor	loes not exceed	Set the FINS commands at the sources so that they do not exceed the maximum command length.		
	6. Sending packe	ts failed.	If the destination node is not in the network, add it to the network.		Confirm that the destination node is in the network.		
	7. FINS message routing failed because the communications load is too high. Or a command that was addressed to the built-in EtherNet/IP port was received with the source network address (SNA) set to 0.		Reduce the frequ FINS messages a correct the source (SNA) in the sour sage.	at the source. Or, e network address	Keep the frequen FINS messages a ble. Or, set the co work address (SN FINS message.	as low as possi- prrect source net-	
	8. A FINS responderessed to the but port was received	ilt-in EtherNet/IP	Correct the conte message at the s		Set the FINS mes	ssages correctly.	
	9. A FINS respons for which a respond quired was received ing tables were no	nse is not re- ed when the rout-	Register the routi	ng tables.	Register the routi	ng tables.	
	A: A FINS response or a command for which a response is not re- quired was received when there was an error in the routing tables.		Register the routing tables again. If there is an error in the routing tables, there will be an Illegal User Program/Controller Configurations and Setup (10250000 hex) error.				
	B: A FINS response or a command for which a response is not required was received that exceeded the number of relay points.		Increase the set value of the gateway counter way counter in the routing table at the source. Set the gateway counter routing table at the source is suitable for the system ration.		e source so that it		

	C: Transmission is not possible be-	Register the destination address in	Register the destination address in
	cause the destination address is not set in the routing tables.	the routing tables.	the routing tables.
	D: Routing is not possible because the FINS node address setting in the Built-in EtherNet/IP Port Set- tings is set to 0 or 255.	Set the FINS node address in the Built-in EtherNet/IP Port Settings to any value other than 0 or 255 from the Sysmac Studio.	If you set the lower eight bits of the IP address in the TCP/IP Settings in the Built-in EtherNet/IP Port Settings to 0 or 255, set the IP Address-FINS Address Conversion Method to any setting other than Automatic Generation.
Attached infor-	Attached information 1: Cause of dis	carding packets	
mation	1: 01 hex, 2: 02 hex, 3: 03 hex, 4	: 04 hex, 5: 05 hex,	
	6: 06 hex, 7: 07 hex, 8: 08 hex, 9	9: 09 hex, A: 0A hex,	
	B: 0B hex, C: 0C hex, D: 0D hex		
	The numbers correspond to the a	above cause numbers.	
Precautions/	None		
Remarks			

Instructions

This section provides detailed information on errors (events) that occur for instructions. The lower four digits of the event code represents the error code (ErrorID) for the instruction. For descriptions of an error code, refer to the description of the corresponding event code. For example, when the error code of the instruction is 16#0400, refer to the description of event code, 54010400 hex.

Event codes for instructions are supported by CPU Units with unit version 1.02 or later.

Event name	Firmware Error			Event code	54010415 hex	
Meaning	An error was dete	ected when an instr	uction was execute	ed.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Partial fault	Recovery	The error can- not be reset.	Log category	System
Effects	User program	Continues.	Operation	Operation The relevant instructions.		ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An error occurred	in the software.	Contact your OM tive.	RON representa-	None	
Attached information	Attached Informatis displayed. For a number is given. Attached information one posterior than one posterior dentified. Attached informations	Attached information 1: Error Location Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number) is displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is not not possible instruction, information is given on all of them. Nothing is given if the instruction cannot				
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.

Event name	Input Value Out o	Input Value Out of Range Event code 54010400 hex						
Meaning	An input paramet	er for an instruction integer of 0 occurr		d range for an inpu	t variable.			
Source	PLC Function Mo	dule			Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-		
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction	Correction		Prevention		
rection	An input parameter for an instruction exceeded the valid range for an input variable. Or, division by an integer of 0 occurred in division or remainder calculations.		Check the valid range for the input variables of the instruction. Make sure the input parameters are within the valid range and that no division by 0 or remainder calculation for 0 is performed.		Set the value of t ter to the instruct put range is not e	ion so that the in-		
Attached information	Attached Informa is displayed. For number is given. Attached Informa more than one pobe identified.	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error						
Precautions/	· ·	anged after an erro						
Remarks	' "	· ·	•		, , ,			

Event name	Input Mismatch			Event code	54010401 hex	
Meaning			nput parameters did			
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The relationship for an input parameter did not meet required conditions.		tionship of the inp the instruction. Co that the relationsh	Check the meaning and the relationship of the input variables of the instruction. Correct them so that the relationships for the input parameters meet the required conditions.		ameter to the in- the value meets the relationship ables.
	A value when processing an instruction or in the result does not meet the conditions.		instruction. Set th put parameter so	Check the execution process of the instruction. Set the value of the input parameter so that it does not cause inappropriate processing results		tion process of the ne input parameter t cause this error g.
Attached information	Attached Informa is displayed. For a number is given. Attached Informa more than one pobe identified. Attached informatical structures of the structure of the	a program section, tion 3: Names of th essible instruction, i tion 4: Expansion E	ion information is shown. If it is shown, Error Location Details (Rung Number), the rung number from the start of the section is given. For ST, the line the Instruction and Instruction Instance Where the Error Occurred. If there is information is given on all of them. Nothing is given if the instruction cannot be the Error Code (ErrorIDEx) is given for instructions that have Expansion Error given for instructions that do not have Expansion Error Codes (ErrorIDEx).			
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.

Event name	Floating-point Err	or		Event code	54010402 hex		
Meaning	Non-numeric data	a was input for a flo	ating-point number	input parameter to	an instruction.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Non-numeric data was input for a		Correct the instruction so that a nu-		Use numeric values for the float-		
	floating-point number input param-		meric value is inp	meric value is input for the floating-		input parameters.	
	eter to an instruct	tion.	point number inpu	ut parameter.			
Attached infor-	Attached Informa	tion 1: Error Location	on				
mation	Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number) is displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is						
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
	Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks	If a program is ch	nanged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	

Event name	BCD Error			Event code	54010403 hex		
Meaning	A value that was	not BCD was input	for a BCD input pa	rameter to an instr	uction.		
Source	PLC Function Mo	odule	Source details	Instruction	Detection tim-	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instructions.	elevant instruction will end according to spec		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A hexadecimal digit of A, B, C, D,		Correct the instru	Correct the instruction so that BCD		input parameter	
	E, or F was input for a BCD input		data is input for the	data is input for the BCD input pa-		n to BCD data.	
	parameter to an i	nstruction.	rameter.				
Attached infor-	Attached Informa	tion 1: Error Location	on				
mation		•	nformation is showi the rung number fr	•		, ,	
	Attached Informa	tion 3: Names of th	e Instruction and Ir	nstruction Instance	Where the Error O	ccurred. If there is	
	more than one po	ossible instruction, i	information is given	on all of them. No	thing is given if the	instruction cannot	
	be identified.						
	Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
	`	,					
Precautions/	If a program is ch	nanged after an erro	or occurs, the attacl	hed information tha	it is displayed may	not be correct.	
Remarks							

Event name	Signed BCD Erro	r		Event code	54010404 hex	
Meaning	An illegal value w	as input for the mo	st significant digit fo	or a signed BCD in	put parameter to a	n instruction.
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
	as the BCD for The most-signi B, C, D, or E w specified as the The most-signi C, D, or E when specified as the	igit for a signed eter to an instruc- ficant digit was 2 D0 was specified mat. ficant digit was A, hen _BCD2 was e BCD format. ficant digit was B, n _BCD3 was e BCD format.	Correct the instruction so that proper signed BCD data is input for the BCD input parameter.		Set the most-significant digit of the signed BCD data input parameter for the instruction to the correct value.	
Attached information	Attached Information 1: Error Location Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number) is displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

Event name	Illegal Bit Position	n Specified		Event code	54010405 hex		
Meaning	The bit position s	pecified for an instr	uction was illegal.				
Source	PLC Function Mo	odule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor- rection	Assumed cause		Correction		Prevention		
	The bit position specified for an instruction exceeds the data range.		Correct the instruction so that the bit position specified for an instruction does not exceed the data range.		Use the instruction so that the bit position specified for an instruction does not exceed the data range.		
Attached information	Attached Informa is displayed. For number is given. Attached Informa more than one pobe identified.	Attached Information 1: Error Location Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number) is displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error					
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	
Remarks							

Event name	Illegal Data Positi	on Specified		Event code	54010406 hex		
Meaning		· · · · · · · · · · · · · · · · · · ·	was specified for th	the instruction is not suitable.			
Source	PLC Function Mo		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A memory address that was specified for an instruction was outside the valid range. The data size that was specified for an instruction exceeded the valid range. For example, the data type of a variable and the data size may not agree.		Correct the instruction so that the data position or data size specified for an instruction does not exceed the range of the data area.		Use the instruction position or data so an instruction does data range.		
Attached information	Attached Information 1: Error Location Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number) is displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					or ST, the line ccurred. If there is instruction cannot Expansion Error	
Precautions/ Remarks	-	-	or occurs, the attack		-		

Event name	Data Range Exceeded			Event code	code 54010407 hex		
Meaning	The results of ins	truction processing	exceeded the data	area range of the	output parameter.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acco	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	The results of instruction processing, such as the number of array elements, exceeded the data area range of the output parameter.		Correction	Correction		Prevention	
rection			Correct the input parameters so that the processing result of the instruction does not exceed the range of the data area of the output parameter.		Set the input parameter so that the processing result of the instruction does not exceed the range of the data area of the output parameter.		
Attached information	Attached Informa is displayed. For a number is given. Attached Informa more than one pobe identified. Attached information	Attached Information 1: Error Location Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number) is displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot					
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	No Errors to Clea	r		Event code	54010409 hex	
Meaning	An instruction to d	clear a Controller e	rror was executed \	when there was no	error in the Control	ller.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	l .	ruction will end account or Unit operation	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An instruction to clear a Controller error was executed when there was no error in the Controller.		Correct the program so that the instruction is executed when there is a Controller error.		Write the program so that the instruction is executed when there is a Controller error.	
Attached information	Attached Information 1: Error Location Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number) is displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannobe identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					or ST, the line ccurred. If there is instruction cannot Expansion Error
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.
Remarks						

Event name	No User Errors to	Clear		Event code	5401040B hex		
Meaning	An instruction to clear user-defined errors was executed			when there was no user defined error			
Source	PLC Function Module			Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation		uction will end account or Unit operation		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	An instruction to clear user-defined		Correct the program so that the in-		Write the program so that the in-		
	errors was executed when there		struction is executed when there is		struction is executed when there is		
	was no user-defir	ned error.	a user-defined er	or.	a user-defined error.		
Attached infor-	Attached Informat	tion 1: Error Location	on				
mation		•	nformation is showr			,	
	is displayed. For a number is given.	a program section,	the rung number fr	om the start of the	section is given. Fo	or ST, the line	
		tion 3: Names of th	e Instruction and In	struction Instance	Where the Error Oc	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot	
	be identified.						
	1	•	rror Code (ErrorIDI			•	
	Codes (ErrorIDEx	(). 0x00000000 is g	iven for instructions	that do not have E	Expansion Error Co	des (ErrorIDEx).	
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Limit Exceeded for	or User-defined Err	ors	Event code	5401040C hex			
Meaning		An attempt was made to use the Create User-defined Error instruction to create more than the maximum number of user-defined errors.						
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation		uction will end acc	• .		
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and correction	Assumed cause		Correction		Prevention			
	An attempt was made to use the Create User-defined Error instruction to create more than the maximum number of user-defined errors.		Execute the Reset User-defined Error instruction. Monitor the number of user-defined errors in the system-defined variable to check the number of user-defined errors.		the number of us	execute the user-		
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number) is displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).							
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.		

Event name	Illegal Unit Specif	ied		Event code	5401040D hex	
Meaning	The Unit specified	d for an instruction	does not exist.			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation		ruction will end account or Unit operation	• .
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A Unit that does not exist in the Unit configuration information was specified. A Unit that is in the Unit configura- tion information was specified, but the Units does not actually exist in		Correct the unit number in the instruction so that it specifies a Unit in the Unit configuration and make sure that the actual Unit exists.		Make sure that unit numbers in instructions specify Units in the Unit configuration and make sure that the actual Units exist.	
Attached information	Attached Information 1: Error Location Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number is displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If the more than one possible instruction, information is given on all of them. Nothing is given if the instruction can be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx)					
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	it is displayed may	not be correct.
Remarks						

Event name	Unit Restart Faile	d		Event code	5401040F hex		
Meaning	Restarting a Spec	cial I/O Unit or CPU	Bus Unit failed.				
Source	PLC Function Module		Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-	
				cations. The outp	ut or Unit operation	is not affected.	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause	Assumed cause Correction			Prevention		
rection	The Special I/O Unit or CPU Bus		Wait a few moments and then re-		Check to be sure that Special I/O		
	Unit is processing	ı data.		start the Special I/O Unit or CPU		Units and CPU Bus Units are not	
			Bus Unit.		processing data b	J	
					them from the user program.		
Attached infor-		tion 1: Error Location					
mation		•	nformation is showr	•		,	
		a program section,	the rung number fr	om the start of the	section is given. Fo	or ST, the line	
	number is given.	C . O N	. I t C	. t	NA//		
			e Instruction and In				
	be identified.	issible instruction, i	nformation is given	on all of them. No	ining is given ii the	instruction cannot	
		ion 1: Evnansion F	Error Code (ErrorIDI	Ev) is aiven for inst	ructions that have	Evnansion Error	
		•	iven for instruction	, 0		•	
Precautions/	-		or occurs, the attack				
Remarks	in a program is on	anged alter all ellt	o occurs, the attack	ica miormation tha	it is displayed may	not be correct.	
TOMANO							

Event name	Text String Forma	at Error		Event code	54010410 hex		
Meaning	The text string inp	out to an instruction	is not correct.				
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The text string the instruction for corber does not repror it does not reproumber. The input text striin NULL.	nversion to a num- esent a number resent a positive	properly formatted tion. Correct the text st	Correct the text string that is input to the instruction so that it ends in		When converting a text string to a number, make sure that the text string that is input to the instruction represents a number. If the number must be positive, make sure the text string represents a positive number. When converting a text string to a number, make sure that the text string that is input to the instruction	
Attached information	Attached Information 1: Error Location Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number is displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If ther more than one possible instruction, information is given on all of them. Nothing is given if the instruction car be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDE						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	Illegal Program S	pecified		Event code	54010411 hex	
Meaning	The program spe	cified for an instruc	tion does not exist.			
Source	PLC Function Module		Source details	Instruction	Detection tim-	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	The relevant instruction will end according to sp cations.	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	The program specified by the function does not exist (e.g., it was deleted).		Correction	Correction		
rection			specified by the ir Or, add the progra	Make sure that the program that is specified by the instruction exists. Or, add the program that is specified for the instruction.		Make sure that the programs that are specified by instructions exist. Be careful not to delete any programs that are used by instructions.
Attached information	Attached Informa is displayed. For a number is given. Attached Informa more than one pobe identified.	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cann				
Precautions/	,	<u>, </u>	or occurs, the attack			
Remarks		<u> </u>	,		, ,,	

Event name	Undefined CJ-ser	ies Memory Addre	SS	Event code	54010413 hex		
Meaning	The required spe	cification is missing	for a variable for w	hich CJ-series Uni	t memory must be	specified.	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acco	ording to specifi-	
				cations.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	The required AT s	specification is	Correct the progra	am so that it uses	Write the program so that it uses		
	missing for a vari	able for which CJ-	the AT specification	on to specify CJ-	an AT designation to specify CJ-		
	series Unit memo	ry must be speci-	series Unit memory when doing so		series Unit memory when doing so		
	fied.		is required by the	variable.	is required by the variable.		
Attached infor-	Attached Informa	tion 1: Error Location	on				
mation	Attached Informa	tion 2: Usually no ir	nformation is showr	n. If it is shown, Err	or Location Details	(Rung Number)	
	is displayed. For	a program section,	the rung number fr	om the start of the	section is given. Fo	or ST, the line	
	number is given.						
		tion 3: Names of th					
		essible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot	
	be identified.						
		tion 4: Expansion E	•	, •		•	
	Codes (ErrorIDE)	(). 0x00000000 is g	iven for instruction	s that do not have I	Expansion Error Co	odes (ErrorIDEx).	
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	
Remarks						_	

Event name	Stack Underflow			Event code	54010414 hex			
Meaning	There is no data i	There is no data in a stack.						
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation The relevant instructions.		uction will end according to specifi-			
System-de-	System-de- Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	An attempt was n	nade to read data	Correct the program so that the da-		Correct the program so that the da-			
	from a stack that contains no data.		ta is read only after it is stored in		ta is read only aft	ter it is stored in		
			the stack.		the stack.			
Attached infor-	Attached Informa	tion 1: Error Location	on					
mation	Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number) is displayed. For a program section, the rung number from the start of the section is given. For ST, the line							
	number is given.							
	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is							
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot							
	be identified.							
	Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error							
	Codes (ErrorIDE)	(). 0x00000000 is g	given for instruction	s that do not have l	Expansion Error Co	odes (ErrorIDEx).		
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.		
Remarks								

Event name	Illegal Number of	Array Elements or	Dimensions	Event code	54010416 hex				
Meaning	<u> </u>		e number of array	elements or dimen	sions in an array I/0	O parameter for			
Source	PLC Function Module Source details Instruction		Instruction	Detection tim- ing	At instruction execution				
Error attributes	Level	Observation	Recovery		Log category	System			
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	ording to specifi-			
System-de-	Variable		Data type		Name				
fined variables	None								
Cause and cor- rection	Assumed cause		Correction		Prevention				
	The valid range was exceeded for		Correct the instruction so that the		Correct the instruction so that the				
	the number of array elements or di-		valid range for the number of array		valid range for th	e number of array			
	mensions in an array I/O parame-		elements or dimensions in an array			ensions in an array			
	ter for an instructi	on.	I/O parameter is r	not exceeded.	I/O parameter is not exceeded.				
Attached infor-		tion 1: Error Location							
mation		•	nformation is showr			,			
	is displayed. For a number is given.	a program section,	the rung number fr	om the start of the	section is given. Fo	or ST, the line			
	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is								
	more than one po	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot							
	be identified.								
	Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error								
	Codes (ErrorIDE)	(). 0x00000000 is g	iven for instruction	s that do not have I	Expansion Error Co	odes (ErrorIDEx).			
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.			
Remarks									

Front name	Cresified Took D	Specified Task Does Not Exist Event code 54010417 hex						
Event name	Specified Task Does Not Exist			Event code	54010417 hex			
Meaning	The task specified	d for the instruction	does not exist.					
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction		
					ing	execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	ording to specifi-		
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	and cor- Assumed cause		Correction		Prevention			
rection	The specified tas	The specified task does not exist.		Correct the user program so that it		Write the user program so that it		
			specifies an existing task.		specifies only existing tasks.			
Attached infor-	Attached Informa	tion 1: Error Location	on					
mation	Attached Informa	tion 2: Usually no ir	nformation is showr	n. If it is shown, Err	or Location Details	(Rung Number)		
	is displayed. For	a program section,	the rung number fr	om the start of the	section is given. Fo	or ST, the line		
	number is given.							
	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is		
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot		
	be identified.							
	Attached information	tion 4: Expansion E	rror Code (ErrorID	Ex) is given for inst	ructions that have	Expansion Error		
	Codes (ErrorIDE)	(). 0x00000000 is g	iven for instruction	s that do not have l	Expansion Error Co	odes (ErrorIDEx).		
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.		
Remarks								

Event name	Unallowed Task 9	Procification		Event code	54010418 hex			
	Unallowed Task S	•		Event code	340 104 To flex			
Meaning	An unallowed tas	k was specified for	an instruction.					
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction		
				ing	execution			
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-		
				cations.		3 1		
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	and cor- Assumed cause		Correction		Prevention			
rection	The local task, the primary periodic		Correct the user program so that it		Write the user program so that it			
	task, or a periodic	task was speci-	specifies an event task that is not		specifies event tasks that are not			
	fied.		the local task.		the local task.			
Attached infor-	Attached Informa	tion 1: Error Location	on					
mation	Attached Informa	tion 2: Usually no ir	nformation is showr	n. If it is shown, Err	or Location Details	(Rung Number)		
	is displayed. For	a program section,	the rung number fr	om the start of the	section is given. Fo	or ST, the line		
	number is given.	,	Ü		· ·	•		
		tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is		
	more than one po	ssible instruction, i	nformation is given	on all of them. No	thina is aiven if the	instruction cannot		
	be identified.	,	3		5 5			
	Attached informati	tion 4: Expansion E	rror Code (ErrorID	Ex) is given for inst	ructions that have	Expansion Error		
		(). 0x00000000 is g	•	, •		•		
Precautions/	,	anged after an erro			•			
Remarks	p gram 10 on	gea aor air oire	cca.c, the attack		area area and a may			

Event name	Incorrect Data Ty	ре		Event code	54010419 hex		
Meaning	A data type that o	annot be used for a	an instruction is spe	ecified for an input	cified for an input or in-out variable.		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A data type that cannot be used for an instruction is specified for an input or in-out variable.		Check the data types of the input and in-out variables of the instruc- tion and correct them to correct da- ta types.		Check the allowed data types for input and in-out variables for the instruction and use correct data types.		
Attached information	Attached Informa is displayed. For number is given. Attached Informa more than one pobe identified. Attached informa	Attached Information 1: Error Location Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number is displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction can					
Precautions/		anged after an erro					
Remarks							

Event name	Multi-execution of	f Instructions		Event code	5401041A hex	
Meaning	Multi-execution w	as specified for an	instruction that doe	es not support it.		
Source	PLC Function Module Source details		Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	ction Execution of an instruction that does not support multi-execution of instructions was specified more than once.		Correct the program so that any instance of an instruction that does not support multi-execution is completed before another instance is executed.		Write the user program so that any instance of an instruction that does not support multi-execution is completed before another instance is executed.	
Attached information	Attached Informatis displayed. For a number is given. Attached Information more than one population be identified. Attached information	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error				
Precautions/ Remarks	Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx). If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

Event name	Data Capacity Ex	ceeded		Event code	5401041B hex*1		
Meaning	The data that was	s passed to the inst	truction was too lar	ge to process.			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		uction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	Data that was larger than the capacity that can be processed was passed to the instruction.		Correct the program so that the size of the data that is passed to the instruction does not exceed the processing capacity.		Make sure that the data that is passed to the instruction is not larger than the processing capacity.		
Attached information	Attached Informa is displayed. For number is given. Attached Informa more than one po be identified.	Attached Information 1: Error Location Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Numbris displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If the more than one possible instruction, information is given on all of them. Nothing is given if the instruction ca					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	

^{*1.} Error code 16#041B occurs for unit version 1.02 or later of the CPU Unit.

Event name	Different Data Siz	es		Event code	5401041C hex*1		
Meaning	The size of the dater.	ata specified for ins	truction input or in-	out data is different	from the size of th	e target parame-	
Source	PLC Function Module Source details		Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instrucations.		uction will end acc	ording to specifi-	
System-de-	stem-de- Variable		Data type		Name		
fined variables	None						
Cause and cor- rection	Assumed cause		Correction		Prevention		
	Data of a size that is different from		Check the size of	Check the size of the target param-		f the target param-	
	the size of the target parameter		eter and correct the program so		eter and correct t	he program so	
	was specified for the input or in-out		that the size of the input data is the		that the size of the input data is the		
	data of an instruc	tion.	same.		same.		
Attached information	Attached Informa is displayed. For number is given. Attached Informa more than one po	Attached Information 1: Error Location Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number) is displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot					
	be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	

^{*1.} Error code 16#041C occurs for unit version 1.04 or later of the CPU Unit.

Event name	Exceeded Simultaneous Instruction Executed Resources			Event code	5401041D hex*1		
Meaning	The maximum resources that you can use for the relevant instruction group at the same time was exceeded.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	More than the maximum number of		Correct the program so that no		Write the program so that no more		
	relevant instructions were execut-		more than the maximum number of		than the maximum number of the		
	ed at the same time.		the relevant instructions are exe-		relevant instructions are executed at the same time.		
Attacked to fee	Au 1 116 - 5 - 4 5 - 5 - 5		cuted at the same time.		at the same time.		
Attached infor-	Attached Information 1: Error Location						
mation	Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number)						
	is displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given.						
	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is						
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error						
	Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/	If a program is changed after an error occurs, the attached information that is displayed may not be correct.						
Remarks							

^{*1.} Error code 16#041D occurs for unit version 1.05 or later of the CPU Unit.

_	I						
Event name	Failed to Get The	Program Hash Co	de	Event code	54010421 hex*1		
Meaning	Retrieving program hash code failed.						
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The transfer of the user program failed.		Transfer the user program again.		None		
	The project downloaded to the CPU Unit does not contain the information required for the instruction.		Rebuild the user program and transfer it again.		None		
	Non-volatile memory failure		If the error persists even after you make the above corrections, replace the CPU Unit.		None		
Attached infor-	Attached information 1: Error Location						
mation	Attached Information 2: Usually no information is shown. If it is shown, Error Location Details (Rung Number) is displayed. For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
	Attached information 4: Expansion Error Code (ErrorIDEx) for the instruction which has an Expansion Error						
	Code (ErrorIDEx). For the instruction without an Expansion Error Code (ErrorIDEx), 0x00000000 is given.						
Precautions/	If a program is changed after an error occurs, the attached information that is displayed may not be correct.						
Remarks							

^{*1.} This event code (16#0421) occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.50 or later
- NX701 CPU Unit: Version 1.32 or later

Event name	FINS Error			Event code	54010800 hex	
Meaning	An error occurred when a FINS command was sent or received.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end according to specifi-	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An error occurred when a FINS		Check the value of the ErrorIDEx		Read the description of ErrorIDEx	
	command was se	ent or received.	output variable from the instruction and refer to the description in this manual for the expansion error code (<i>ErrorIDEx</i>) with the same value for the instruction.		in advance for the instruction and program correctly.	
Attached infor-	A44 b 1 1 - f	4. F I				
mation	Attached Information 1: Error Location					
mation	Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from					
	the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is					
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot					
	be identified.					
	Attached Information 4: Expansion Error Code (<i>ErrorIDEx</i>)					
Precautions/	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					
Remarks						

Event name	FINS Port Already in Use			Event code	54010801 hex		
Meaning	The FINS port is being used.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation		uction will end according to specifi- munications output or Unit operation		
System-de-			Data type		Name		
fined variables							
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The FINS port is being used.		Correct the program by inserting _Port_isAvailable in a N.O. input condition.		Insert _ <i>Port.isAvailable</i> in a N.O. input condition when you create the program.		
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks	·	-	or occurs, the attach				

Event name	Illegal Serial Com	munications Mode		Event code	54010C00 hex		
Meaning	The Serial Comm	unications Unit is r	not in the serial com	munications mode	required to execut	e an instruction.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	cations. The comn		ruction will end according to specifi- munications output will follow the the instruction. The operation of the		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	The serial communications port for the Serial Communications Unit is not set to the mode expected by the instruction.		Change to the serial communica- tions mode required to execute the instruction. Or, correct the program so that it only uses instructions that can be executed in the current mode.		Set the Serial Communications Unit to the serial communications mode required to execute the in- struction. Or, correct the program so that it only uses instructions that can be executed in the currently set mode.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks	-		or occurs, the attack				

Event name	Full Reception Bu	ıffer		Event code	54010C03 hex*1	
Meaning	The reception but	fer is full.				
Source	PLC Function Module		Source details	Instruction	Detection timing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	cations. Even if the		uction will end according to specifi- ie instruction was ended by this er- data is saved partially for the amount	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The reception buffer is full due to the following causes. The transmission frequency of the remote device is high. The baud rate is too high. The reception processing frequency from the buffer is low.		cy of the remot Decrease the the increase the reing frequency f	and ensure that the reception fer will not be full. Transmission frequency of remote device Baud rate Reception processing frequency of remote device Reception processing frequency of remote device		he reception buf- requency of the
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks	,	, -	or occurs, the attack		·	

^{*1.} Error code 16#0C03 occurs for unit version 1.11 or later of the CPU Unit.

Event name	Multi-execution o	f Ports		Event code	54010C04 hex*1		
Meaning	The serial commu	unications instructio	ons that cannot be	executed simultane	ously were execute	ed.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	cations. The com	instruction will end according to specificommunications output will follow the of the instruction.		
System-de-	Variable Da		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction			
rection	An instruction was executed while another instruction that cannot be executed at the same time with the former instruction was executed.		Correct the program so that in- structions that cannot be executed at the same time are mutually ex- cluded.		Create a program so that instruc- tions that cannot be executed at the same time are mutually exclud- ed.		
Attached information	Attached Informa the start of the se Attached Informa more than one po be identified. Attached informa	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks	If a program is	changed after an elual instruction des	error occurs, the att	ached information fi	that is displayed ma	ay not be correct.	

^{*1.} Error code 16#0C04 occurs for unit version 1.11 or later of the CPU Unit.

Event name	Parity Error			Event code	54010C05 hex*1	
Meaning	A parity error occ	urred in the data re	ceived.			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	-		uction will end according to specifi- munications output will follow the he instruction.	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The communications settings or baud rate settings are not compatible with the remote device. Noise		Make the communications settings and baud rate settings compatible with the remote device. Implement noise countermeasures.		Make the communications settings and baud rate settings compatible with the remote device. Implement noise countermeasures.	
Attached infor-		tion 1: Error Location	· ·	countenneasures.	implement noise	Countermeasures.
mation	Attached Informat	tion 2: Error Locatio	on Details (Rung N	umber). For a prog	ram section, the rui	ng number from
		•	ST, the line number	•		
	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.

^{*1.} Error code 16#0C05 occurs for unit version 1.11 or later of the CPU Unit.

Event name	Framing Error			Event code	54010C06 hex*1	
Meaning	A framing error or	ccurred in the data	received.			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation		uction will end according to specifi- munications output will follow the ne instruction.	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The communications settings or baud rate settings are not compatible with the remote device.		Make the communications settings and baud rate settings compatible with the remote device.		Make the communications settings and baud rate settings compatible with the remote device.	
	Noise		Implement noise countermeasures.		Implement noise countermeasures.	
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks			or occurs, the attack			

^{*1.} Error code 16#0C06 occurs for unit version 1.11 or later of the CPU Unit.

Event name	Overrun Error			Event code	54010C07 hex*1		
Meaning	An overrun error	occurred in the data	a received.		04010007 HeX		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction will end accordin cations. The communications output will specifications of the instruction.				
System-de-	Variable Data type		Data type	Name			
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The next data wa processing of rec cause the baud ra	eived data be-	Reduce the baud rate.		Reduce the baud	rate.	
Attached information	Attached Informathe start of the se Attached Informathore than one pobe identified. Attached informathore	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot					
Precautions/ Remarks	,	·		hed information tha	•		

^{*1.} Error code 16#0C07 occurs for unit version 1.11 or later of the CPU Unit.

Event name	CRC Mismatch			Event code	54010C08 hex*1	
Meaning	The receive data	had different CRC.				
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	-		ruction will end according to specifi- munications output will follow the the instruction.	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction	Correction		
rection	A wrong message was received.		correct the CRC generation method for the remote device to be the one as intended.		Confirm the CRC generation method for the remote device to be the one as intended.	
	Noise		Receive the data again. Or, implement noise countermeasures.		Implement noise countermeasures.	
Attached infor-	Attached Informa	tion 1: Error Location	on			
mation	Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.
Remarks						

^{*1.} Error code 16#0C08 occurs for unit version 1.11 or later of the CPU Unit.

Event name	Serial Communic	ations Timeout		Event code	54010C0B hex*1	
Meaning	A timeout occurre	ed in serial commur	nications.			
Source	PLC Function Module		Source details	Instruction	Detection tim-	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instruction will end according to s cations. The communications output will follow specifications of the instruction.		• .
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Wiring to the remote device is not connected.		Check the wiring to the remote device and correct the wiring if there are any problems.		Confirm that wiring to the remote device is connected.	
	Power to the remote device is OFF.		Turn ON the power to the remote device.		Confirm that the power to the remote device is turned ON.	
	The communicati	ons settings or	Make the communications settings		Make the communications settings	
	baud rate settings are not compatible with the remote device.		and baud rate settings compatible with the remote device.		and baud rate settings compatible with the remote device.	
	Noise		Implement noise countermeasures.		Implement noise countermeasures.	
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/			or occurs, the attacl			
Remarks						

^{*1.} Error code 16#0C0B occurs for unit version 1.11 or later of the CPU Unit.

Event name	Instruction Execu	ted to Inapplicable	Port	Event code	54010C0C hex*1	
Meaning	An instruction was	s executed to an in	applicable port.			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.			uction will end according to specifi- munications output will follow the he instruction.	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	- Assumed cause		Correction	Correction		
rection	An instruction wa	s executed to an	Specify a port that	Specify a port that is applicable for		it is applicable for
	inapplicable port.		the instruction, from the device port		the instruction, fro	om the device port
			structure, and execute the instruc-		structure, and execute the instruc-	
			tion.	tion.		
Attached infor-		tion 1: Error Location				
mation			, ,	umber). For a prog	ram section, the ru	ng number from
		ction is given. For		r is given. hstruction Instance '	Mhara tha Free O	and of the section
				istruction instance i on all of them. Not		
	be identified.	issible ilistruction, i	mormation is given	TOTI All OF LITETIL INO	uning is given in the	mstruction cannot
		tion 4: Expansion E	Frror Code (ErrorID	Ex) is given for inst	ructions that have	Expansion Error
		•	•	s that do not have I		•
Precautions/	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.
Remarks						

^{*1.} Error code 16#0C0C occurs for unit version 1.11 or later of the CPU Unit.

Event name	CIF Unit Initialized			Event code	54010C0D hex*1		
Meaning	A CIF Unit was in	itialized, so the cor	nmunications data	buffered in the CIF	Unit was lost.		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acco	ording to specifi-	
				cations. The com	munications output	will follow the	
				specifications of t	he instruction.		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	cor- Assumed cause		Correction	Correction			
rection	A CIF Unit was initialized.		Send or receive the data again, as		When a program that buffers com-		
			required.		munications data in a CIF Unit is		
						executed, do not restart the CIF	
				Unit.			
Attached infor-	Attached Informat	tion 1: Error Location	on				
mation	Attached Informat	tion 2: Error Location	on Details (Rung N	umber). For a prog	ram section, the rui	ng number from	
	the start of the se	ction is given. For	ST, the line number	is given.			
	Attached Informat	tion 3: Names of th	e Instruction and Ir	struction Instance	Where the Error O	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot	
	be identified.						
		tion 4: Expansion E	•	, •		•	
	Codes (ErrorIDE)	(). 0x00000000 is g	iven for instruction	s that do not have I	Expansion Error Co	odes (ErrorIDEx).	
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	
Remarks							

^{*1.} Error code 16#0C0D occurs for unit version 1.13 or later of the CPU Unit.

Event name	Exceptional Modi	ous Response		Event code	54010C10 hex*1	
Meaning	An exceptional co	ode was returned fr	om the Modbus sla	ve.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	-		ruction will end according to specifi- munications output will follow the he instruction.	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-			Correction		Prevention	
rection			Check the value xx in 16#0000_00xx of ErrorIDEx, identify error causes in the Modbus Protocol, and take required measures. Refer to the description for the relevant instruction for the reference to the Modbus Protocol.		Write the user proones for remote of to the Modbus Pr	devices, according
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached Information 4: Expansion Error Code (<i>ErrorIDEx</i>)					
Precautions/ Remarks		· · · · · · · · · · · · · · · · · · ·	or occurs, the attacl		t is displayed may	not be correct.

^{*1.} Error code 16#0C10 occurs for unit version 1.11 or later of the CPU Unit.

Event name	Invalid Modbus R	esponse		Event code	54010C11 hex*1	
Meaning	An unexpected re	sponse was return	ed from the Modbu	s slave.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	-		uction will end according to specifi- munications output will follow the he instruction.	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	or- Assumed cause		Correction	Correction		
rection	The function code	e or data size of	Review the transmission sequence		Write the user program so that the	
	the response rece		with the remote devices, such as		next command is not sent before a	
	Modbus slave wa	s incorrect.	the send delay, re			ned.
			ing time, and other	er options.		
Attached infor-		tion 1: Error Location		–		
mation			, ,	umber). For a progi · · ·	ram section, the rur	ng number from
		0	ST, the line number	O	MA/I Al	
				struction Instance		
	be identified.	issible instruction, i	mormation is given	on all of them. Not	illing is given if the	instruction cannot
		tion 4 [.] Expansion F	Frror Code (FrrorID)	Ex) is given for inst	ructions that have l	Expansion Error
		•	•	s that do not have f		•
Precautions/ Remarks				ned information tha		-

^{*1.} Error code 16#0C11 occurs for unit version 1.11 or later of the CPU Unit.

E	00.14								
Event name	SD Memory Card	Access Fallure		Event code	54011400 hex				
Meaning	SD Memory Card	access failed whe	n an instruction was	s executed.					
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction			
					ing	execution			
Error attributes	Level	Observation	Recovery		Log category	System			
Effects	User program	Continues.	Operation		uction will end acc	• .			
0 1 1 -	Mandala I.		Data tons	cations. The oper	ration of the Unit is	not aπected.			
System-de-	Variable		Data type		Name				
fined variables	None								
Cause and cor-	Assumed cause		Correction	Correction					
rection	An SD Memory C	ard is either not	Insert the SD Memory Card cor-		Make sure that the SD Memory				
	inserted or is not inserted properly.		rectly.		Card is inserted properly.				
	The SD Memory	Card is broken.	Replace the SD N	Replace the SD Memory Card with					
			one that operates normally.						
	The SD Memory	Card slot is bro-	If this error persists even after		None				
	ken.		making the above two corrections,						
			replace the CPU	Unit.					
Attached infor-	Attached Informa	tion 1: Error Location	on						
mation	Attached Informa	tion 2: Error Location	on Details (Rung N	umber). For a prog	ram section, the ru	ng number from			
	the start of the se	ction is given. For	ST, the line number	is given.					
	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is			
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot			
	be identified.								
		•	Error Code (ErrorIDI	, •		•			
	Codes (ErrorIDE)	(). 0x00000000 is g	iven for instructions	s that do not have I	Expansion Error Co	odes (ErrorIDEx).			
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.			
Remarks									

Event name	SD Memory Card Write-protected Event code 54011401 hex						
	-	·					
Meaning	An attempt was n	nade to write to a w	rite-protected SD N	lemory Card when	an instruction was	executed.	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation			uction will end according to specifiation of the Unit is not affected.	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	ause and cor- Assumed cause		Correction		Prevention		
rection	An attempt was n	nade to write to a	Remove write pro	Remove write protection from the		Use an SD Memory Card that is	
	write-protected S	D Memory Card.	SD Memory Card	SD Memory Card. Slide the small		d when writing to	
			switch on the side of the SD Mem-		the SD Memory C	Card.	
			ory Card from the LOCK position to				
			the writable position.				
Attached infor-		tion 1: Error Location					
mation			on Details (Rung N	, ,	ram section, the rui	ng number from	
		J	ST, the line number	J			
			e Instruction and In				
		ossible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot	
	be identified.	tian 4. Evnancian F	······································	Tu) is siven for inst	mustiama that have l	Typopolog Fran	
		•	rror Code (ErrorIDI	, .		•	
Dunas vitians (,	, -	iven for instructions		•	. , ,	
Precautions/	। ।। a program is ch	langeα aπer an erro	or occurs, the attach	ied information tha	t is displayed may	not be correct.	
Remarks							

Event name	SD Memory Card	Insufficient Capac	ity	Event code	54011402 hex		
Meaning	The capacity of th	ne SD Memory Car	d was insufficient w	hen writing to the	SD Memory Card fo	or an instruction.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation			ruction will end according to specifi- ration of the Unit is not affected.	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The SD Memory	Card has run out	Replace the SD Memory Card for		Use an SD Memory Card with suffi-		
	of free space.		one with sufficient available space.		cient available space when you add files to it.		
Attached infor-	Attached Informat	tion 1: Error Locatio	on				
mation			on Details (Rung N	,	ram section, the rur	ng number from	
		•	ST, the line number	•			
			e Instruction and Ir				
		essible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot	
	be identified.	tion 4: Evpansion E	Error Code (ErrorID	Ev) is given for inst	ruotions that have l	Evnancian Error	
		•	iven for instruction	, 0		•	
Precautions/ Remarks		the SD Memory C	error occurs, the att ard during Card ac		· ·	=	

Event name	File Does Not Exi	st		Event code	54011403 hex		
Meaning	The file specified	for an instruction d	oes not exist. Or, th	ne specified file is c	orrupted.		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction will end according to cations. The operation of the Unit is not affect			•	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The specified file does not exist.		specified for the ii Or, modify the file	Make sure that the filename that is specified for the instruction exists. Or, modify the filename so that it matches the filename specified for the instruction.		Make sure that the filename that is specified for the instruction exists.	
	The specified file is corrupted.		Specify the other filename.		None		
	The SD Memory Card cannot be normally accessed due to a contact failure or other causes.		Insert the SD Memory Card again or replace it.		None		
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a prograthe start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance W more than one possible instruction, information is given on all of them. Nothibe identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Code (ErrorIDEx).				Where the Error Oo thing is given if the ructions that have I	ccurred. If there is instruction cannot Expansion Error	
Precautions/		-	or occurs, the attack		-		
Remarks	in a program is on	angoa anor an enc	or occurs, the attack		t to displayed filay	not be contect.	

Event name	Too Many Files/D	irectories		Event code	54011404 hex		
Meaning	The maximum nu	mber of files/direct	ories was exceeded	d when creating a f	ile/directory for an i	instruction.	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instruction will end according cations. The operation of the Unit is not at		•	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
	The number of files or directories exceeded the maximum number.		Delete any unnecessary files and/or directories. Or, replace the SD Memory Card with one that has fewer files and directories compared to the maximum number of files and directories for FAT16 or FAT32.		Delete unnecessary files and directories so that there are not too many files and directories on the SD Memory Card. Regularly replace the SD Memory Card when the number of files grows constantly.		
Attached information	Attached Informathe start of the se Attached Informathore than one pobe identified. Attached informathore	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks	· ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` `	,	or occurs, the attacl		<u>'</u>	, ,	

Event name	File Already in Us	se		Event code	54011405 hex	
Meaning	A file specified for	r an instruction can	not be accessed be	ecause it is already	being used.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation		uction will end accoration of the Unit is	0 1
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An instruction atte write a file alread by another instruc		Correct the program so that the relevant instruction is only executed when the <i>Busy</i> output variable for all other instructions for the same file are FALSE.		When you execute multiple instructions that access the same file, write the program so that the instructions are not executed simultaneously. Make sure that the <i>Busy</i> output variable for all other instructions for the same file is FALSE.	
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.
Remarks						

Event name	Open Mode Mism	natch		Event code	54011406 hex	
Meaning	A file operation for	r an instruction wa	s inconsistent with	the open mode of t	he file.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation		ruction will end accoration of the Unit is	• .
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	cor- Assumed cause		Correction		Prevention	
rection	The file open mode specified by the Open File instruction does not		Correct the Open File instruction to		Change the Open File instruction	
			open the file in an open mode that		to open the file in an open mode	
	match the file ope	•	is suitable for the file operation.		that is suitable for the file opera-	
	by a subsequent	SD Memory Card			tion.	
	instruction.					
Attached infor-		tion 1: Error Location				
mation			on Details (Rung N	,	ram section, the rui	ng number from
		ū	ST, the line number	· ·		
			e Instruction and In			
		ssible instruction, i	nformation is given	on all of them. No	thing is given if the	instruction cannot
	be identified.					
			error Code (ErrorIDI	, •		
			iven for instructions			
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.
Remarks						

Event name	Offset Out of Rar	nge		Event code	54011407 hex	
Meaning	Access to the add	dress is not possibl	e for the offset spec	cified for an instruc	tion.	
Source	PLC Function Mo	odule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation		ruction will end accoration of the Unit is	•
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An attempt was made to access beyond the size of the file.		Decrease the offset specified for the instruction.		Include information in the file so that the file format can be identified, and modify the program to check that information in order to perform appropriate file seeking.	
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks			or occurs, the attacl			

Event name	Directory Not Em	pty		Event code	54011408 hex	
Meaning		ot empty when the	Delete Directory in	struction was exec	uted or when an at	tempt was made
Source	PLC Function Module Source details		Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation		ruction will end acc	• .
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A directory was not empty when the Delete Directory instruction was executed. A directory contained another di-		Delete all files in the relevant directory. Delete all directories from the rele-		Check the contents of a directory before you delete the directory using the Delete Directory instruction or before you change the directory name.	
	to change the dire	attempt was made ectory name.	vant directory.		name.	
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.

Event name	That File Name A	Iready Exists		Event code	Event code 54011409 hex		
Meaning	An instruction cou	ıld not be executed	because the file na	ame specified for th	ne instruction alread	dy exists.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation		uction will end according to specifiation of the Unit is not affected.		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A file already exis	ts with the same	Correct the program so that the fil-		Make sure that the file specified		
	name as the nam	•	ename specified for the instruction		does not already exist when you		
	instruction to crea	ite.	does not already exist. Or, delete		create a file with an instruction.		
			the existing file.				
Attached infor-		tion 1: Error Location		–			
mation			on Details (Rung N	,	ram section, the rui	ng number from	
		-	ST, the line number e Instruction and Ir	_	Whore the Error O	acurred If there is	
			nformation is given				
	be identified.	issible ilistraction, i	mormation is given	on all of them. No	aning is given in the	mstruction carmot	
	Attached informat	tion 4: Expansion E	error Code (ErrorID	Ex) is given for inst	ructions that have I	Expansion Error	
			jiven for instruction	, •			
Precautions/	If a program is	changed after an e	error occurs, the att	ached information t	that is displayed ma	ay not be correct.	
Remarks	When you dele	te an existing file,	check to make sure	that you no longer	need the file.		

Event name	Write Access Der	nied		Event code	5401140A hex	
Meaning	An attempt was n	nade to write to a w	rite-protected file o	r directory when ar	instruction was ex	ecuted.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation		uction will end acco	•
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The file or directo the instruction to tected.	, ,	Remove write pro file or directory sp struction. Or, chai of the file to write.	ecified for the in- nge the filename	Do not write-protect any files that need to be written to.	
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks	If a program is	changed after an e	error occurs, the attention from a file, be su	ached information t	hat is displayed ma	

Event name	Too Many Files C	pen		Event code	5401140B hex		
Meaning	The maximum nu	mber of open files	was exceeded whe	en opening a file fo	r an instruction.		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation		The relevant instruction will end accordations. The operation of the Unit is		
System-de-	Variable		Data type		Name		
fined variables	None	None					
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The maximum number of open files was exceeded when opening a file for an instruction.		Correct the program to decrease the number of open files.		Decrease the number of files. Or, write the program so that files that no longer need to be open are closed in order to prevent too many files from being open at once.		
Attached information	Attached Informa the start of the se Attached Informa more than one po be identified.	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error					
Precautions/					at is displayed may		

_									
Event name	Directory Does Not Exist			Event code	5401140C hex				
Meaning	The directory spe	The directory specified for an instruction does not exist.							
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction			
					ing	execution			
Error attributes	Level	Observation	Recovery		Log category	System			
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-			
				cations. The oper	ation of the Unit is	not affected.			
System-de-	Variable		Data type		Name				
fined variables	None								
Cause and cor- rection	Assumed cause		Correction		Prevention				
	The directory specified for an in-		Correct the program so that the di-		Make sure that the directory speci-				
	struction does not exist.		rectory specified for the instruction		fied for the instruction directory ac-				
			exists. Or, create the relevant di-		tually exists when using an instruc-				
			rectory in advance	e. tion that accesses a directory.		s a directory.			
Attached infor-	Attached Informa	tion 1: Error Location	on						
mation	Attached Informa	tion 2: Error Location	on Details (Rung N	umber). For a prog	ram section, the ru	ng number from			
	the start of the se	ction is given. For	ST, the line number	is given.					
	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is								
		ossible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot			
	be identified.								
	Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error								
	Codes (ErrorIDE)	k). 0x00000000 is g	iven for instructions	s that do not have I	Expansion Error Co	odes (ErrorIDEx).			
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.			
Remarks									

Event name	File or Directory N	Name Is Too Long		Event code	5401140D hex	
Meaning	The file name or o	directory name that	was specified for a	an instruction is too	long.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation		uction will end according to specification of the Unit is not affected.	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The file name or directory name		Correct the program so that the file		Write the program so that the	
	that was specified for the instruc-		name or directory name specified		specified file names and directory	
	tion to create is to	oo long.	for the instruction is within FAT16		names are within FAT16 or FAT32	
			or FAT32 restriction	ons.	restrictions.	
Attached infor-		tion 1: Error Locatio				
mation			on Details (Rung N	,	ram section, the rui	ng number from
		9	ST, the line number e Instruction and Ir	0	Whore the Error O	sourred If there is
			nformation is given			
	be identified.	ossible ilistruction, i	mormation is given	on an or them. Not	aning is given in the	mstruction cannot
	== :==:::::==:	tion 4: Expansion E	Error Code (ErrorID	Ex) is given for inst	ructions that have I	Expansion Error
		•	iven for instruction	, •		•
Precautions/ Remarks			or occurs, the attacl			

Event name	SD Memory Card	Access Failed		Event code	5401140E hex		
Meaning	SD Memory Card	access failed.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation		instruction will end according to specif operation of the Unit is not affected.		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	nd cor- Assumed cause		Correction		Prevention		
	The SD Memory Card is broken.		Replace the SD Memory Card.		None		
	The SD Memory Card slot is bro-		If the error persist	If the error persists even after you			
	ken.		make the above of	*			
			place the CPU Ur	nit.			
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	

Event name	Backup Operation	n Already in Progre	SS	Event code	5401140F hex*1		
Meaning	Another backup o	peration is already	in progress.				
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	-			uction will end according to specifiation of the Unit is not affected.	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Another backup operation is al-		Wait for the back	Wait for the backup operation to		execute other	
	ready in progress.		end and then execute the instruc-		backup operation during a backup		
			tion again.	ion again.		operation.	
Attached infor-	Attached Informa	tion 1: Error Location	on				
mation	Attached Informa	tion 2: Error Location	on Details (Rung N	umber). For a prog	ram section, the ru	ng number from	
	the start of the se	ction is given. For	ST, the line number	r is given.			
	Attached Informa	tion 3: Names of th	e Instruction and Ir	struction Instance	Where the Error O	ccurred. If there is	
		essible instruction, i	nformation is given	on all of them. No	thing is given if the	instruction cannot	
	be identified.						
	Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error						
	Codes (ErrorIDE)	(). 0x00000000 is g	iven for instruction	s that do not have l	Expansion Error Co	odes (ErrorIDEx).	
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.	

^{*1.} Error code 16#140F occurs for unit version 1.08 or later of the CPU Unit.

Event name	Cannot Execute I	Backup		Event code	54011410 hex*1		
Meaning	Execution of a ba	ickup operation was	s not possible beca	use execution of a	nother operation wa	as in progress.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation		ruction will end accoration of the Unit is	• .	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-			Correction		Prevention		
rection			Complete online editing and then execute the instruction again.		Do not attempt to execute a back- up operation during execution of online editing.		
			Complete the Save Cam Table instruction and then execute the instruction again.		Do not attempt to execute a back- up operation during execution of a Save Cam Table instruction.		
	Execution of the instruction was attempted while a CPU Unit name change operation was in progress.			Complete the CPU Unit name change and then execute the instruction again.		Do not attempt to execute a back- up operation during execution of a CPU Unit name change.	
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

^{*1.} Error code 16#1410 occurs for unit version 1.08 or later of the CPU Unit.

Event name	Unit/Slave Backu	p Failed		Event code	54011411 hex*1			
Meaning	A Unit/slave back	up operation failed						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation		rant instruction will end according to spec The operation of the Unit is not affected.			
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor- rection	Assumed cause		Correction		Prevention			
	A Unit/slave backup operation		Refer to the corre	Refer to the corrections for the fol-		Refer to the preventive measures		
	failed.		lowing events: CJ	lowing events: CJ-series Unit		for the following events: CJ-series		
				Backup Failed (102D0000 hex) or		ed (102D0000		
			EtherCAT Slave Backup Failed		hex) or EtherCAT Slave Backup			
			(102F0000 hex).		Failed (102F0000 hex).			
Attached infor-	Attached Informa	tion 1: Error Location	on					
mation	Attached Informa	tion 2: Error Location	on Details (Rung N	umber). For a prog	ram section, the rui	ng number from		
	the start of the se	ction is given. For	ST, the line number	is given.				
	Attached Informa	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is						
	more than one po	ssible instruction, i	nformation is given	on all of them. No	thing is given if the	instruction cannot		
	be identified.							
		•	Error Code (ErrorID	, 0		•		
	Codes (ErrorIDE)	(). 0x00000000 is g	iven for instruction	s that do not have l	Expansion Error Co	odes (ErrorIDEx).		
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.		
Remarks								

^{*1.} Error code 16#1411 occurs for unit version 1.08 or later of the CPU Unit.

Event name	EtherCAT Commi	unications Error		Event code	54011800 hex		
Meaning	Accessing the Eth	nerCAT network fai	led when an instruc	ction was executed.			
Source	PLC Function Module Source detail		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-	
System-de-	- Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	The EtherCAT network is not in a usable status.		EtherCAT networ status of the Ethe this information to	Check the operation status of the EtherCAT network by checking the status of the EtherCAT master. Use this information to correct the cause of the problem.		nature of the error.	
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks	,	<i>,</i>	or occurs, the attacl		· · · · · · · · · · · · · · · · · · ·		

Event name	EtherCAT Slave [Does Not Respond		Event code	54011801 hex	
Meaning	Accessing the tar	get slave failed wh	en an instruction w	as executed.		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction
					ing	execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	- Assumed cause		Correction		Prevention	
rection	The target slave does not exist.		Specify an existing node address.		Specify an existing node address for the target slave.	
-	Th - 4		Ob 1. 4b 4-4	-64144	<u> </u>	
	The target slave i ating condition.	s not in an oper-	Check the status of the target EtherCAT slave. Make sure that		Make sure that the target slave is in a usable status.	
	ating condition.		the target slave is in a usable sta-		iii a usable status.	
			tus.	in a adable da		
Attached infor-	Attached Informa	tion 1: Error Locatio	on			
mation	Attached Informa	tion 2: Error Location	on Details (Rung N	umber). For a prog	ram section, the ru	ng number from
		•	ST, the line number	•		
			e Instruction and In			
		essible instruction, i	nformation is given	on all of them. No	thing is given if the	instruction cannot
	be identified.					
		•	Frror Code (ErrorID	, •		•
	· `	<i>,</i>	jiven for instruction		•	
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	it is displayed may	not be correct.
Remarks						

Event name	EtherCAT Timeou	ut		Event code	54011802 hex	
Meaning	A timeout occurre	ed while trying to ac	cess an EtherCAT	slave when an inst	ruction was execut	ed.
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction
					ing	execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	iables None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Communications with the target		Check the operating status of the		Depends on the nature of the error.	
	slave timed out.		target slave and correct the cause			
			of the problem.			
Attached infor-		tion 1: Error Locatio				
mation			on Details (Rung N		ram section, the rui	ng number from
		=	ST, the line number e Instruction and Ir	=	Whore the Error O	agurrad If there is
			nformation is given			
	be identified.	ossible ilistruction, i	mormation is given	on an or them. No	illing is given in the	mstruction cannot
		tion 4: Expansion E	error Code (ErrorID	Ex) is aiven for inst	ructions that have	Expansion Error
			iven for instruction			-
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.
Remarks						

Event name	Reception Buffer	Overflow		Event code	54011803 hex		
Meaning	The receive data	from an EtherCAT	slave overflowed th	ne receive buffer wh	nen an instruction w	as executed.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction will end according to s cations. It will not be possible to receive data find slave.				
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The receive data from the slave overflowed the receive buffer.		Set the size of the reception buffer to a value larger than the size of the receive data from the slave.		Set the size of the receive buffer to a value larger than the size of the receive data from the slave.		
Attached information	Attached Informate the start of the se Attached Informate more than one pobe identified. Attached informate	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks				ned information tha			

	<u> </u>								
Event name	SDO Abort Error			Event code	54011804 hex				
Meaning	An SDO abort err	An SDO abort error was received from an EtherCAT slave when an instruction was executed.							
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution			
Error attributes	Level	Observation	Recovery		Log category	System			
Effects	User program	Continues.	Operation	The relevant instr	uction will end according to specifi-				
System-de-	Variable		Data type		Name				
fined variables	les None								
Cause and cor-	Assumed cause		Correction		Prevention				
rection	Depends on the specifications of the slave.		Refer to the manual for the slave and correct the problem.		Refer to the manual for the slave and take the necessary steps to prevent the problem.				
Attached information	Attached Information the start of the se Attached Information more than one pobe identified.	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error							
Precautions/ Remarks		-	or occurs, the attacl						

Event name	Saving Packet Mo	onitor File		Event code	54011805 hex	
Meaning	An instruction for	packet monitoring	was executed while	saving an EtherC	AT packet monitor	file.
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction
					ing	execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acco	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	- Assumed cause (Correction		Prevention	
rection	An instruction for packet monitoring		Execute the instruction for packet		Execute packet monitoring instruc-	
	was executed wh	ile saving an	monitoring after saving the Ether-		tions only after the packet monitor	
	EtherCAT packet	monitor file.	CAT packet monitor file is complet-		file is saved. You can check packet	
			ed. You can chec	•		
			file save status to	•	saving a packet monitor file is com-	
			packet monitor file	e is completed.	pleted.	
Attached infor-		tion 1: Error Location				
mation			on Details (Rung N	,	ram section, the rui	ng number from
		Ü	ST, the line number	· ·		
			e Instruction and In			
		ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot
	be identified.					
			Frror Code (ErrorIDI	, •		•
			iven for instructions			
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.
Remarks						

Event name	Packet Monitoring	g Function Not Star	ted	Event code	54011806 hex		
Meaning	A Stop EtherCAT	Packet Monitor ins	struction was execu	truction was executed when EtherCAT packet monitoring was stopped.			
Source	PLC Function Mo	odule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acco	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A Stop EtherCAT instruction was ex EtherCAT packet stopped.	xecuted when	Monitor instruction packet monitoring can check packet tion operation sta	Execute the Stop EtherCAT Packet Monitor instruction after starting the packet monitoring function. You can check packet monitoring function operation status to see if the packet monitoring function is currently in operation.		Execute the Stop EtherCAT Packet Monitor instruction after starting the packet monitoring function. You can check packet monitoring function operation status to see if the packet monitoring function is currently in operation.	
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction can be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx)					ccurred. If there is instruction cannot Expansion Error	
Precautions/ Remarks	·	-	or occurs, the attacl				

Front name	De elect Meniteria	Packet Monitoring Function in Operation Event code 54011807 hex						
Event name	·			Event code	54011807 hex			
Meaning	A Start EtherCAT ing executed.	Packet Monitor ins	truction was execu	ited when EtherCA	T packet monitorin։	g was already be-		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-		
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause	1	Correction		Prevention			
rection	instruction was ex while the EtherCA	•	Execute the Start EtherCAT Packet Monitor instruction after the packet monitoring function was stopped. You can check packet monitoring function operation status to see if the packet monitoring function is stopped.		Execute the Start EtherCAT Packet Monitor instruction after the packet monitoring function is stopped. You can check packet monitoring function operation status to see if the packet monitoring function is stopped.			
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number fro the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If ther more than one possible instruction, information is given on all of them. Nothing is given if the instruction cal be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDE					ccurred. If there is instruction cannot Expansion Error		
Precautions/ Remarks	,	anged after an erro			· ·	. ,		

Event name	Communications	Resource Overflow	1	Event code	54011808 hex	
Meaning	More than 32 Ether the same time.	erCAT communicat	tions instructions/IC)-Link communicati	ions instructions we	ere executed at
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
Attached infor-	More than 32 Eth cations instruction munications instructions instructed at the same CAT communicati instructions/IO-Lir tions instructions • EC_CoESDOW • EC_CoESDOW • EC_CoESDOW • EC_ConnectSI • EC_ConnectSI • EC_ChangeEnstruction • EC_StartMoni • EC_StartMoni • EC_SaveMoni • EC_StopMoni • EC_CopyMoni • IOL_ReadObji • IOL_WriteObji • EC_GetMastertion • EC_ClearMastertion • EC_ClearSlaveStion • EC_ClearSlaveStion	as/IO-Link com- uctions were exe- time. The Ether- ons ak communica- are listed below. Write instruction ave instruction ave instruction ableSetting in- astruction	Correct the programore than 32 Eth cations instruction munications instructor cuted at the same	erCAT communi- ns/IO-Link com- uctions are exe-	Write the program than 32 EtherCA instructions/IO-Li tions instructions the same time.	T communications nk communica-
mation	the start of the se Attached Informat more than one po be identified. Attached informat	ction is given. For stion 3: Names of the ssible instruction, in the stide of the s	ST, the line number e Instruction and In nformation is given fror Code (ErrorIDI	is given. Istruction Instance on all of them. No	ram section, the ru Where the Error O thing is given if the tructions that have Expansion Error Co	ccurred. If there is instruction canno Expansion Error
Precautions/ Remarks	-				at is displayed may	

Event name	Packet Monitoring	g Function Not Sup	ported	Event code	54011809 hex*1		
Meaning	Packets cannot b	e monitored.					
Source	PLC Function Module Source details		Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause An instruction for packet monitoring was executed for a CPU Unit that does not support packet monitoring.		Correction		Prevention		
rection			Do not execute the EC_StartMon, EC_SaveMon, EC_StopMon, or EC_CopyMon instruction. If packet monitoring is required, use a CPU Unit that supports packet monitoring.		Do not execute ir packet monitoring that does not sup toring.		
Attached information	Attached Informa the start of the se Attached Informa more than one po be identified.	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction can be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error					
Precautions/	,	anged after an erro			•		
Remarks		-					

^{*1.} Error code 16#1809 occurs for unit version 1.01 or later of the CPU Unit.

Event name	Cannot Execute I	nstruction to Slave		Event code	5401180A hex*1		
Meaning	An instruction wa	s executed for a sla	ave that cannot exe	cute an instruction		_	
Source	PLC Function Mo	PLC Function Module		Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acco	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	EC_ConnectSlave instruction was executed for a disabled slave.		EC_DisconnectSl			Write the program so that the EC_DisconnectSlave and EC_ConnectSlave instructions are not executed for the disabled slave. Write the program so that the	
	struction was exe connected slave.	cuted for a dis-	EC_ChangeEnableSetting instruction is not executed for the disconnected slave.		EC_ChangeEnableSetting instruction is not executed for the disconnected slave.		
	The EC_Disconne EC_ChangeEnab tion was executed ring topology.		Correct the program so that the EC_DisconnectSlave and EC_ChangeEnableSetting instructions are not executed for slaves in the ring topology.		Write the program so that the EC_DisconnectSlave and EC_ChangeEnableSetting instructions are not executed for slaves in the ring topology.		
Attached information	Attached information 1: Error Location Attached information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction can be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx)					ccurred. If there is instruction cannot	
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

^{1.} Error code 16#180A occurs for unit version 1.40 or later of the CPU Unit.

Event name	Diagnosis/Statisti	cs Log Executing		Event code	5401180D hex*1	
Meaning	A master/slave di statistics log is in	_	tical information ins	truction cannot be	executed because	the diagnosis/
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_EC_StatisticsLo	gBusy	BOOL		Diagnosis/Statist	ics Log Busy
Cause and cor-	Assumed cause		Correction		Prevention	
	A master diagnos information instru MasterStatistics of terStatistics), or a and statistical info tion (EC_GetSlav EC_ClearSlaveSt cuted while the dilog was in operati	ction (EC_Get- or EC_ClearMas- slave diagnostic ormation instruc- eStatistics or atistics) was exe- agnosis/statistics on.	mation instruction nostic and statisti struction is not ex ecution of the diag log.	tic and statistical infor- ruction or a slave diag- statistical information in- not executed during ex- he diagnosis/statistics diagnostic and statistical tion instruction or a slave tic and statistical informat struction is executed wh ue of the _EC_Statistics system-defined variable		a slave diagnos- information in- uted when the val- tatisticsLogBusy
Attached information	Attached information 1: Error Location Attached information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction can be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx)					ccurred. If there is instruction cannot Expansion Error
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	nt is displayed may	not be correct.

^{*1.} This event code occurs for a CPU Unit with unit version 1.64 or later and project unit version 1.64 or later.

Event name	Master Diagnostic	c and Statistical Info on Disabled	ormation Instruc-	Event code	5401180E hex*1		
Meaning			nformation instruction instruction			than one master	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A master diagnos	stic and statistical	Correct the program so that a mas-		Write the program so that a master		
	information instru		ter diagnostic and statistical infor-		diagnostic and statistical informa-		
	ed during execution		mation instruction is not executed		tion instruction is not executed dur-		
	diagnostic and sta		during execution of the master di- agnostic and statistical information		ing execution of the master diag- nostic and statistical information in-		
		C_GetMasterSta-					
	tistics or EC_Cleatics).	ariviasterStatis-	instruction.	instruction.		struction.	
Attached infor-	· '	tion 1: Error Location	<u> </u>				
mation			on Details (Rung Ni	imber) For a produ	ram section, the ru	ng number from	
			ST, the line number	,	am occueri, are rai	ng nambor nom	
	Attached informat	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. No	thing is given if the	instruction cannot	
	be identified.						
	Attached informat	tion 4: Expansion E	Frror Code (ErrorID	Ex) is given for inst	ructions that have	Expansion Error	
	Codes (ErrorIDE)	(). 0x00000000 is g	iven for instruction	s that do not have I	Expansion Error Co	odes (ErrorIDEx).	
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	
Remarks							

^{*1.} This event code occurs for a CPU Unit with unit version 1.64 or later and project unit version 1.64 or later.

Event name	Slave Diagnostic tion Multi-execution	and Statistical Info	rmation Instruc-	Event code	5401180F hex*1	
Meaning		A slave diagnostic and statistical information instruction cannot be executed because more than one slave diagnostic and statistical information instruction was executed simultaneously.				
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
rection	Assumed cause		Correction		Prevention	
	A slave diagnostic and statistical		Correct the progra	am so that a slave	Write the program so that a slave	
	information instruction was execut-		diagnostic and sta	diagnostic and statistical informa-		atistical informa-
	ed during execution of the slave di-		tion instruction is not executed dur-		tion instruction is not executed dur-	
	agnostic and statistical information		ing execution of the slave diagnos-		ing execution of the slave diagnos-	
	instruction (EC_GetSlaveStatistics		tic and statistical information in-		tic and statistical information in-	
	or EC_ClearSlave	eStatistics).	struction.		struction.	
Attached infor-	Attached informat	tion 1: Error Locatio	on			
mation	Attached informat	tion 2: Error Location	on Details (Rung N	umber). For a progi	ram section, the ru	ng number from
	the start of the se	ction is given. For	ST, the line number	is given.		
	Attached informat	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is
		essible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot
	be identified.					
		•	•	Ex) is given for inst		-
	· ·			s that do not have I		
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.
Remarks						

^{*1.} This event code occurs for a CPU Unit with unit version 1.64 or later and project unit version 1.64 or later.

Event name	Explicit Message	Error		Event code	54011C00 hex	
Meaning	An error response struction.	e code was returne	d for an explicit me	ssage that was ser	nt with a CIP comm	unications in-
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acco	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Depends on the r	nature of the error.	Check the value of the <i>ErrorIDEx</i> output variable from the instruction and refer to the description in this manual of the CIP message error code.		Depends on the nature of the error. Refer to the description in this manual of the CIP message error code.	
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction can be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx)					ccurred. If there is instruction cannot Expansion Error
Precautions/ Remarks	,	<i>,</i>	or occurs, the attacl		•	

Event name	Incorrect Route P	ath		Event code	54011C01 hex		
Meaning	The format of the	route path that is s	specified for a CIP of	communications ins	struction is not corr	ect.	
Source	PLC Function Module		Source details	Instruction	Detection tim-	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	The format of the route path that is specified for a CIP communications instruction is not correct.		Correct the route path that is specified by the instruction.		Make sure that the instructions specify correct route paths.		
	Address resolution host name that was CIP communication	as specified in a	Refer to the corrections for the fol- lowing event: Address Resolution Failed (54012002 hex).		Refer to the preventive information for the following event: Address Resolution Failed (54012002 hex).		
Attached information	Attached Informathe start of the se Attached Informathore than one po be identified. Attached informath	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction can					
Precautions/ Remarks		anged after an erro					

Event name	CIP Handle Out o	f Range		Event code	54011C02 hex	
Meaning	The handle that is	s specified for the C	CIP communications	s instruction is not o	correct.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	uction will end acco	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None	None				
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The handle that is CIP communication not correct.	•	Correct the handle for the instruc- tion to the handle that was ob- tained with the CIPOpen instruc- tion.		with the CIPOper	hat were obtained n instruction.
Attached information	Attached Information the start of the sea Attached Information more than one pobe identified. Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannube identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx)				
Precautions/ Remarks	-	-	or occurs, the attack			

Event name	CIP Communicat	ions Resource Ove	erflow	Event code	54011C03 hex		
Meaning	The maximum reed.	sources that you ca	an use for CIP com	munications instruc	ctions at the same	time was exceed-	
Source	PLC Function Module		Source details	Instruction	Detection tim-	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant inst cations.	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Cause and cor- Assumed cause		Correction		Prevention		
rection	More than 32 CIP communications instructions were executed at the same time.		Correct the user program so that no more than 32 CIP communications instructions are executed at the same time.		Write the user program so that no more than 32 CIP communications instructions are executed at the same time.		
	An attempt was made to use more than 32 handles at the same time.		no more than 32	Correct the user program so that no more than 32 handles are used at the same time.		Write the user program so that no more than 32 handles are used at the same time.	
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks	,	anged after an erro			· ·	• • • • • • • • • • • • • • • • • • • •	

Event name	CIP Timeout			Event code	54011C04 hex		
Meaning	A CIP timeout occurred during execution of a CIF			mmunications instruction.			
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The device with the specified IP address does not exist.		Correct the setting so that the set IP address matches the IP address of the device.		Make sure that the IP address you set matches the IP address of the device.		
	CIP connection of the specified handle is closed because the connection has timed out.		Execute the instruction within the timeout time of the connection. Or, increase the timeout time.		Make sure that the instruction is executed within the timeout time of the connection.		
	Power supply to the remote device is turned OFF. Communications are stopped at		Check the status of the remote device and start it normally.		Check the status of the remote device and start it normally.		
	the remote device.						
	CIP message communications are stopped at the remote device.		Make the device start normal CIP message communications.		Make the device start normal CIP message communications and execute the instruction.		
	The Ethernet cabl	e for EtherNet/IP	Reconnect the connector and		Connect the connector securely.		
	is disconnected.		make sure it is mated correctly.				
	The Ethernet cabl is broken.	e for EtherNet/IP	Replace the Ethernet cable.		None		
	Packets of the instruction are not allowed by the Firewall function or Packet Filter function of the remote device or devices on the communication path.		Allow the packets of the relevant instruction in the Firewall and Packet Filter functions of the remote device and devices on the communication path.		Allow the packets of the relevant instruction in the Firewall and Packet Filter functions of the remote device and devices on the communication path so that the device can execute the instruction.		
	Noise		Implement noise countermeasures if there is excessive noise.		Implement noise countermeasures if there is excessive noise.		
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks	If a program is changed after an error occurs, the attached information that is displayed may not be correct.						

Event name	Class-3 Connection Not Established			Event code	54011C05 hex*1		
Meaning	Establishing a class-3 connection failed for a CIP communications instruction.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end according to specifi-		
System-de-	Variable	Variable		Data type		Name	
fined variables	None						
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	The CIPOpen instruction was executed for a device that does not support class 3 (Large_Forward_Open).		Correct the program to use the CI-POpenWithDataSize instruction for the device that does not support class 3 (Large_Forward_Open) and set the data size to less than 510 bytes.		Write the program to use the CI-POpenWithDataSize instruction for any device that does not support class 3 (Large_Forward_Open) and set the data size to less than 510 bytes.		
	The CIPOpenWithDataSize instruction was executed with a specified data size of 510 bytes or larger for a device that does not support class 3 (Large_Forward_Open).		Correct the program to set the data size to less than 510 bytes in the CIPOpenWithDataSize instruction for the device that does not support class 3 (Large_Forward Open).		Write the program to set the data size to less than 510 bytes in the CIPOpenWithDataSize instruction for any device that does not support class 3 (Large_Forward Open).		
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks	If a program is changed after an error occurs, the attached information that is displayed may not be correct.						

^{*1.} Error code 16#1C05 occurs for unit version 1.06 or later of the CPU Unit.

Event name	CIP Communications Data Size Exceeded			Event code	54011C06 hex*1		
Meaning	An attempt was made to send a class-3 explicit message with a data size that is larger than the sendable size with a CIP communications instruction.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The data size that was specified for the input variable to the CIP-Read, CIPWrite, or CIPSend instruction exceeded the data size that was specified with the CIPO-penWithDataSize instruction.		Correct the program so that the data size of the relevant instruction does not exceed the data size that was set with the CIPOpenWithDataSize instruction. Or, set the data size of the CIPOpenWithDataSize instruction to the data size of the relevant instruction or larger to establish a connection.		Write the program so that the data size of the relevant instruction does not exceed the data size that was set with the CIPOpenWithDataSize instruction. Or, set the data size of the CIPOpenWithDataSize instruction to the data size of the relevant instruction or larger to establish a connection.		
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/	If a program is changed after an error occurs, the attached information that is displayed may not be correct.						
Remarks							

^{*1.} Error code 16#1C06 occurs for unit version 1.06 or later of the CPU Unit.

Event name	Local IP Address	Setting Error		Event code	54012000 hex		
Meaning	An instruction wa	s executed when the	nere was a setting e	error in the local IP	address.		
Source	PLC Function Mo	dule	Source details	Source details Instruction		At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	An instruction wa there was a settir cal IP address.		There was a TCF Error (IP Address when the instruct Remove the caus Basic Setting Erro	Setting Error) ion was executed. se of the TCP/IP	Set the IP addresses correctly so that a TCP/IP Basic Setting Error does not occur.		
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If ther more than one possible instruction, information is given on all of them. Nothing is given if the instruction car be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDE					ccurred. If there is instruction cannot Expansion Error	
Precautions/	,		or occurs, the attacl		•		
Remarks		-					

Event name	TCP/UDP Port Al	ready in Use		Event code	54012001 hex		
Meaning	The UDP or TCP	port was already ir	n use when the inst	ruction was execut	ed.		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instructions.	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The UDP or TCP port is already in		Correct the user	Correct the user program so that		Write the user program so that	
	use.		an unused port is specified for the		used ports are not specified for in-		
			instruction.		structions.		
Attached infor-		tion 1: Error Location					
mation			on Details (Rung N	,	ram section, the ru	ng number from	
		ŭ	ST, the line number	· ·			
			e Instruction and Ir				
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot						
	be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error						
		•	rror Code (ErroriD given for instruction	, 0		•	
Precautions/	` `	,	or occurs, the attac		<u> </u>		
Remarks	i a program is ch	iangeu aner an ent	or occurs, the attack	neu illioillatioli tila	ii is uispiayeu Illay	not be conect.	
Remarks							

Event name	Address Resolution	on Failed		Event code	54012002 hex	
Meaning	Address resolutio	n failed for a remot	te node with the ho	st name that was s	pecified in the instr	uction.
Source	PLC Function Module		Source details	Instruction	Detection tim-	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The host name specified for the instruction is not correct.		Correct the domain name that is specified in the instruction.		Specify correct domain names in instructions.	
				and DNS settings	Check the hosts and DNS settings in the Controller and make sure they are correct.	
	The DNS server s	settings are incor-	Correct the DNS	server settings.	Check that there are no mistakes in the DNS server settings.	
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number fro the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If ther more than one possible instruction, information is given on all of them. Nothing is given if the instruction can be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDE				ccurred. If there is instruction cannot Expansion Error	
Precautions/	` ·	<u>′ </u>	·	ned information tha		
Remarks		Ü	•		, , ,	

Event name	Socket Status Frr	Socket Status Error			54012003 hex	
Meaning			ution of the socket	Event code service instruction.		
	PLC Function Mo		Source details	Instruction	Detection tim-	At instruction
					ing	execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	 SktUDPCreate The UDP port in pone of the follo It is already It is being cl. SktUDPRcv In: The specifie ceiving data The specifie ing data. The port is but in the following in the following in the following in the following in the port is but in the specified in the same in the port in the same in the following in the same i	specified with the put variable is in wing states. open. osed. struction d socket is re- d socket is instruction d socket is service in service in one g states. opeing opened. opeing closed. In is already estinis instruction of IP address and ot Instruction ret that is specified TcpPort input variable is one exist. In ode that is In DstAdr and Input variables is In a connection. In struction IT is in one IP address and other input variables is In DstAdr and Input variables is In DstAdr and Input variables is In a connection. It is rection IT is in one IT is	Remove the caus the instruction.	se of the error for	Do not execute the when it will cause	

- SktTCPSend Instruction
 - The specified socket is sending data.
 - The specified socket is closed.
 - The send buffer of the specified socket is full (because the power to the remote node is OFF, the line is disconnected, etc.)
 - The specified socket handle is already used for Secure socket communications.
- · SktClearBuf Instruction
 - The specified socket handle is already used for Secure socket communications.
- [NX102 and NX1P2 Ver. 1.50 or later and NX502 Ver. 1.60 or later]

SktTLSConnect Instruction

- The specified socket handle is already used for Secure socket communications.
- [NX102, NX502] ModbusTCPCmd Instruction
 - The socket is being processed.
 - · The socket is closed.
 - The specified socket handle is already used for Secure socket communications.
- [NX102, NX502]

ModbusTCPRead Instruction

- The socket is being processed.
- · The socket is closed.
- The specified socket handle is already used for Secure socket communications.
- [NX102, NX502]

ModbusTCPWrite Instruction

- The socket is being processed.
- · The socket is closed.
- The specified socket handle is already used for Secure socket communications.
- SktSetOption Instruction
 - The specified socket already started transmission.
 - An option type which is not supported by the specified socket was selected.

Attached infor-	Attached Information 1: Error Location
mation	Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from
	the start of the section is given. For ST, the line number is given.
	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot
	be identified.
	Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error
	Codes (ErrorIDEx). 0x00000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).
Precautions/	If a program is changed after an error occurs, the attached information that is displayed may not be correct.
Remarks	

Event name	Local IP Address	Not Set		Event code	54012004 hex		
Meaning	The local IP addr	ess was not set wh	en a socket service	instruction was ex	recuted.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	There is a BOOT	P server setting	Correct any errors in the BOOTP		Check that there are no mistakes		
	error.		server settings.		in the BOOTP server settings.		
	The BOOTP serv	The BOOTP server does not exist.		Make sure that the BOOTP server		Make sure that the BOOTP server	
			has started normally and is normal-		has started normally and is normal-		
			ly connected to the network.		ly connected to the network.		
	The local IP addr		Wait until the local IP address is		Wait until the local IP address is		
	cause operation j	ust started.	instructions.	ing socket service	instructions.	ting socket service	
Attached infor-	Attached Informe	tion 1: Error Location			instructions.		
mation			อก on Details (Rung Ni	umbor) For a prog	rom coction the ru	ng number from	
mation			ST, the line number	,	ram section, the ru	ng number nom	
		•	e Instruction and In	•	Where the Error O	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot	
	be identified.		· ·		0 0		
	Attached informa	tion 4: Expansion E	rror Code (ErrorIDI	Ex) is given for inst	ructions that have	Expansion Error	
	Codes (ErrorIDE)	(). 0x00000000 is g	iven for instructions	s that do not have I	Expansion Error Co	odes (ErrorIDEx).	
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Socket Timeout			Event code	54012006 hex	
Meaning	A timeout occurre	d for a socket serv	ice instruction.			
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	nstruction will end according to specifi-	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	SktTCPAccept instruction: No connection request is sent from the node within the timeout time specified by the user.		Modify the systen that a connection from the node wit time after the rele executed. Or, inci time.	request is sent hin the timeout vant instruction is	Create the system that a connection from the node wit time after the rele executed.	request is sent
			Allow packets from the node in the Controller's Packet Filter settings.*1		Allow packets from the node in the Packet Filter settings of the Controller so that the node can execute the instruction.	
	SktTCPRcv instru SktUDPRcv instru not be received fr within the timeout the user.	uction: Data can- om the node	Modify the system or program so that data is transferred from the node within the timeout time after the relevant instruction is executed. Or, increase the timeout time.		Create the system or program so that data is transferred from the node within the timeout time after the relevant instruction is executed.	
			Allow packets from Controller's Packets	m the node in the et Filter settings.*1	Allow packets from the node in the Packet Filter settings of the Controller so that the node can execute the instruction.	
Attached information	Attached Informathe start of the se Attached Informathore than one pobe identified. Attached informathore	ction is given. For stion 3: Names of the ssible instruction, it is a stick of the	1.00			ccurred. If there is instruction cannot Expansion Error
Precautions/ Remarks	-		or occurs, the attacl			

^{*1.} This correction is effective in any of the following CPU Units.

[•] NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

[•] NX701 CPU Unit: Version 1.29 or later

	Ī					
Event name	Socket Handle Out of Range Event code			Event code	54012007 hex	
Meaning	The handle that is	s specified for the s	ocket service instru	iction is not correct	t.	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The handle that is socket service ins correct.	struction is not	Correct the socke instruction to the lobtained with one instructions. SktUDPCreate SktTCPConnect SktTCPAccept However, in the siservice instruction gram to specify the tained by the follo SktTCPConnect	instruction et instruction instruction ecure socket n, modify the pro- ee handle ob- ewing instruction.	Specify handles to with the following SktUDPCreate SktTCPConne SktTCPAccept However, in the service instruction gram to specify the tained by the follow SktTCPConne	instructions. instruction ct instruction instruction secure socket n, modify the pro- ne handle ob- powing instruction.
Attached information	Attached Informate the start of the se Attached Informate more than one posterior be identified. Attached informate Codes (ErrorIDEx	ction is given. For stion 3: Names of the sible instruction, in the sible instruction of the sib	ion ion Details (Rung Number). For a program section, the rung number from ST, the line number is given. he Instruction and Instruction Instance Where the Error Occurred. If there is information is given on all of them. Nothing is given if the instruction cannot Error Code (ErrorIDEx) is given for instructions that have Expansion Error given for instructions that do not have Expansion Error Codes (ErrorIDEx).			
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

Event name	Socket Communi	cations Resource (Overflow	Event code	54012008 hex	
Meaning	The maximum res	sources that you ca	an use for socket se	ervice instructions a	at the same time wa	as exceeded.
Source	PLC Function Mo	dule	Source details	Source details Instruction I		At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	More than 32 soc structions were exame time (64 for More than 30 soc used at the same NX102, 16 for CP version 1.02 or ear	ket handles were time (60 for	correct the user promoted than 32 structions are exessame time (64 for Correct the user promoted than 30 structions are used at the sand NX102, 16 for CP version 1.02 or each	socket service in- ecuted at the NX102). program so that socket handles ame time (60 for U Units with unit	Create a user promore than 32 soc structions are exessame time (64 for Create a user promore than 30 soc used at the same NX102, 16 for CF version 1.02 or ex	cket service in- ecuted at the r NX102). ogram so that no cket handles are e time (60 for PU Units with unit
Attached information	Attached Informathe start of the se Attached Informathore than one pobe identified. Attached informathore	ction is given. For stion 3: Names of the ssible instruction, it	, , ,			ccurred. If there is instruction cannot
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.

Event name	Invalid TLS Sessi	on Name		Event code	5401200A hex*1		
Meaning	The specified TLS	session name is r	not found in the sec	ure socket setting.			
Source	PLC Function Module Source details		Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		uction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	rrection		Prevention	
rection	The specified TLS session name is		Correct the program to specify the		Create a program to specify the		
	not set in the secure socket set-		TLS session name that is set in the		TLS session name that is set in the		
	ting.		secure socket set	ting.	secure socket setting.		
Attached information	Attached information 1: Error Location Attached information 2: Error Location Details (Rung Number). For a program section, the rung number fro the start of the section is given. For ST, the line number is given. Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If the more than one possible instruction, information is given on all of them. Nothing is given if the instruction cabe identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDE)				ocurred. If there is instruction cannot Expansion Error		
Precautions/ Remarks	`	, ,	or occurs, the attach		•	,	

^{*1.} NX502 CPU Unit with unit version 1.60 or later, NX102-□□00 CPU Unit, NX1P2-□□□□□□ CPU Unit with unit version 1.46 or later, and NX102-□□20 CPU Unit with unit version 1.37 or later.

Event name	Access to the Ce	rtificate Failed		Event code	5401200B hex*1	
Meaning	Access to the cer the certificate has	tificate failed becaus a password set.	use the certificate a	nd secure socket s	etting have not bee	en transferred or
Source	PLC Function Mo	dule	Source details	Source details Instruction		At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection		certificate has not been rred to the Controller. Transfer the client certificate to the Controller using the Secure Socket Configuration commands.		Transfer the client certificate to the Controller using the Secure Socket Configuration commands before executing the instruction.		
	A password has been set for the forwarded Client certificate.		Use the Secure Socket Configura- tion commands to resend the client certificate that does not have a password set to the Controller.		Use a client certificate that does not have a password set.	
	The secure socker exist or the conte socket setting are		Create or modify setting using the Configuration contransfer it to	nmands and	Create a secure socket setting using the Secure Socket Configuration commands and transfer it to the Controller before executing the instruction.	
Attached information	Attached informate the start of the sea Attached informate more than one pose identified. Attached informate	ection is given. For stion 3: Names of the ossible instruction, it				
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.

^{*1.} NX502 CPU Unit with unit version 1.60 or later, NX102-□□00 CPU Unit, NX1P2-□□□□□□ CPU Unit with unit version 1.46 or later, and NX102-□□20 CPU Unit with unit version 1.37 or later.

Event name	TLS Session Esta	ablishment Error		Event code	5401200C hex*1		
Meaning	Establishment of	a TLS session faile	ed.				
Source	PLC Function Mo	dule	Source details	Source details Instruction i		At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The contents of the Client certificate are invalid.		Transfer the client certificate to the Controller again using the Secure Socket Configuration commands.		Make sure that the Client certificate is correct.		
	The contents of the Client private key are invalid.		the Controller aga	Fransfer the client private key to the Controller again using the Secure Socket Configuration commands.		Make sure that the Client private key is correct.	
	Establishment of communications t		Enable the output check the content take corrective ac	ts of the log, and	Enable the output of the TLS log to check that Secure communications are normal.		
Attached information	Attached Informathe start of the se Attached Informathore than one pobe identified. Attached informations	ction is given. For stion 3: Names of the ossible instruction, it					
Precautions/ Remarks			or occurs, the attacl				

^{*1.} NX502 CPU Unit with unit version 1.60 or later, NX102-□□00 CPU Unit, NX1P2-□□□□□□ CPU Unit with unit version 1.46 or later, and NX102-□□20 CPU Unit with unit version 1.37 or later.

Event name	Invalid TLS Session Handle			Event code	5401200E hex*1		
Meaning	The TLS session	handle specified by	y the secure socket	service instruction	is invalid.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The TLS session handle specified		Correct the handle for the instruc-		Correct the handle for the instruc-		
	by the secure socket service in-		tion to the handle	tion to the handle that was ob-		that was ob-	
	struction is invalid.		tained with the SktTLSConnect in-		tained with the SI	ktTLSConnect in-	
			struction.		struction.		
Attached information	Attached Informa the start of the se Attached Informa more than one po be identified. Attached informa	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	
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^{*1.} NX502 CPU Unit with unit version 1.60 or later, NX102-□□00 CPU Unit, NX1P2-□□□□□□ CPU Unit with unit version 1.46 or later, and NX102-□□20 CPU Unit with unit version 1.37 or later.

Event name	TLS Error			Event code	5401200F hex *1		
Meaning	An error occurred	during Secure soc	ket communication	is.	•		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
	,				ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Operation The relevant instructions.		uction will end according to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An error occurred during Secure		Enable the output of the TLS log,		Enable the output of the TLS log to		
	socket communic			check the contents of the log, and		check that Secure communications	
			take corrective ac	tion. are normal.			
Attached infor-	Attached Informati	tion 1: Error Location	on				
mation	Attached Informat	tion 2: Error Location	on Details (Rung N	umber). For a prog	ram section, the ru	ng number from	
	the start of the se	ction is given. For	ST, the line number	r is given.			
			e Instruction and Ir				
		ssible instruction, i	nformation is given	on all of them. No	thing is given if the	instruction cannot	
	be identified.						
		· ·	Error Code (ErrorID			•	
	Codes (ErrorIDE)	(). 0x00000000 is g	iven for instruction	s that do not have	Expansion Error Co	odes (ErrorIDEx).	
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	it is displayed may	not be correct.	
Remarks							

^{*1.} NX502 CPU Unit with unit version 1.60 or later, NX102-\Box 00 CPU Unit, NX1P2-\Box 00 CPU Unit with unit version 1.46 or later, and NX102-\Box 20 CPU Unit with unit version 1.37 or later.

Event name	No Execution Rig	ht		Event code	54012400 hex*1	
Meaning	An instruction was	s executed to chan	ge the settings of the	ı ne EtherNet/IP port		as not possible.
Source	PLC Function Mo		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type	Name		
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	net port, or a CJ-s Unit was executed processing was in EtherNet/IP port of the continuous of a CJ-seried Unit was executed processing was in Unit. An instruction to oftings of the Ethernet port, or a CJ-seried Unit was executed the processing was in the continuous of the Ethernet port, or a CJ-seried Unit was executed the port, or a CJ-seried Unit was executed the port are the continuous of the Ethernet port are	Net/IP port, Etherseries EtherNet/IP d when restart a progress for the pro	Execute the instruction the settings after changing settings EtherNet/IP port, and CJ-series Ether completed.	the restart or of the Ethernet port,	Execute the instruction to change the settings when the restart or changing settings of the EtherNet/IP port, Ethernet port, and CJ-series EtherNet/IP Unit is not in progress.	
	The Unit (or unit number) specified in the instruction does not specify an EtherNet/IP port, Ethernet port, or CJ-series EtherNet/IP Unit.		net port or unit nu series EtherNet/IF	P Unit in the in- nit configuration is	Specify the Ether net port or unit no series EtherNet/I struction.	
Attached information	Attached Informate the start of the se Attached Informate more than one pose identified. Attached informate Codes (ErrorIDEx	tion 1: Error Location 2: Error Location 2: Error Location is given. For stion 3: Names of the essible instruction, in tion 4: Expansion Expansion is g	on Details (Rung No ST, the line number e Instruction and In nformation is given error Code (ErrorIDI iven for instructions	is given. Istruction Instance on all of them. Not Ex) is given for inst s that do not have I	Where the Error O thing is given if the ructions that have Expansion Error Co	ccurred. If there is instruction cannot Expansion Error odes (ErrorIDEx).
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

^{*1.} Error code 16#2400 occurs for unit version 1.02 or later of the CPU Unit.

Event name	Settings Update I	ailed		Event code	Event code 54012401 hex*1		
Meaning	It was not possibl	e to update the set	tings of the CJ-seri	es EtherNet/IP Uni	t that were changed	d.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction			
rection	Restart processin built-in EtherNet/I ed during executi tion to change the series EtherNet/II	P port was start- on of an instruc- e settings of a CJ-	change the setting processing for the EtherNet/IP port of	Execute the instruction again to change the settings after restart processing for the built-in EtherNet/IP port or CJ-series EtherNet/IP Unit is completed.		Do not start restart processing for a Unit or built-in EtherNet/IP port dur- ing execution of an instruction to change the settings of a CJ-series EtherNet/IP Unit.	
Attached information	Attached Informa the start of the se Attached Informa more than one po be identified. Attached informa	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	

^{*1.} Error code 16#2401 occurs for unit version 1.02 or later of the CPU Unit.

Event name	Too Many Simultaneous Instruction Executions			Event code	54012402 hex*1	
Meaning	Too many instruct	ions to change the	communications s	etup of the Control	er were executed a	at the same time.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction	Correction		
rection	Two or more instr the communicatio Controller were ex same time.	ns setup of the	Correct the user program so that only one instruction to change the communications setup of the Controller is executed at the same time.		Write the user program so that only one instruction to change the communications setup of the Controller is executed at the same time.	
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/	·	-			t is displayed may	
Remarks						

^{*1.} Error code 16#2402 occurs for unit version 1.02 or later of the CPU Unit.

Event name	FTP Client Execution Limit Exceeded			Event code	54012403 hex*1		
Meaning	Too many FTP cl	ent communication	s instructions were	executed at the sa	ame time.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	7100411104 04400		Correction	Correction		Prevention	
rection			Correct the user program so that no more than three FTP client communications instructions are executed at the same time.		Write the user program so that no more than three FTP client communications instructions are executed at the same time.		
Attached information	Attached Informa the start of the se Attached Informa more than one po be identified.	Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error					
Precautions/ Remarks	·		or occurs, the attach				

^{*1.} Error code 16#2403 occurs for unit version 1.08 or later of the CPU Unit.

Event name	File Number Limi	t Evraeded		Event code	540404041*1		
					54012404 hex*1		
Meaning	The number of file	es specified with a	wildcard for an FTF	client communica	tions instruction ex	ceeded 1,000.	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The number of files specified with a file name that contained a wildcard for an FTP client communications instruction exceeded 1,000.		Correct the program so that the number of files specified with a wildcard for an FTP client communications instruction does not exceed 1,000.		Write the program so that the number of files specified with a wildcard for an FTP client communications instruction does not exceed 1,000.		
Attached information	Attached Informa the start of the se Attached Informa more than one po be identified. Attached informa	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks	,	anged after an erro				. ,	

^{*1.} Error code 16#2404 occurs for unit version 1.08 or later of the CPU Unit.

Event name	Directory Does N	ot Exist (FTP)		Event code	54012405 hex*1			
Meaning	' '	The directory specified for an FTP client communications instruction does not exist in the Controller or an incorrect path was specified.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	ause and cor- Assumed cause		Correction		Prevention			
rection	The directory specified for an FTP		Correct the progra	am so that the di-	Write the program so that the di-			
	client communications instruction		rectory specified	for the FTP client	rectory specified	for the FTP client		
	does not exist in the Controller or		communications instruction exists		communications	instruction exists		
	an incorrect path	was specified.	in the SD Memory	y Card.	in the SD Memory Card.			
Attached infor-	Attached Informa	tion 1: Error Location	on					
mation	Attached Informa	tion 2: Error Location	on Details (Rung N	umber). For a prog	ram section, the ru	ng number from		
	the start of the se	ction is given. For	ST, the line number	is given.				
			e Instruction and Ir					
	more than one po	essible instruction, i	information is given	on all of them. No	thing is given if the	instruction cannot		
	be identified.							
	Attached informat	tion 4: Expansion E	Error Code (ErrorID	Ex) is given for inst	tructions that have	Expansion Error		
	Codes (ErrorIDE)	(). 0x00000000 is g	given for instruction	s that do not have	Expansion Error Co	odes (ErrorIDEx).		
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	nt is displayed may	not be correct.		
Remarks								

^{*1.} Error code 16#2405 occurs for unit version 1.08 or later of the CPU Unit.

Event name	FTP Server Conn	ection Error		Event code	54012406 hex*1	
Meaning			specified for an FT ver is not operating		ations instruction d	loes not exist on
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level Observation		Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	fied in the FTP client communications instruction does not exist in the network. The destination FTP server specified in the FTP client communications.		Modify the progra FTP client commution specifies the exists in the netw	unications instruc- FTP server that	Create the progra FTP client committion specifies the exists in the netw	unications instruc- FTP server that
			fied destination F	Start the FTP services of the speci- fied destination FTP server and ex- ecute the instruction again.		Make sure that the FTP services of the specified destination FTP server are not stopped and execute the instruction.
	FTP communications are not allowed by the designated destination FTP server or the Firewall function or Packet Filter function of the devices on the communication		Allow FTP communications in the specified destination FTP server and Firewall and Packet Filter functions of the devices on the communication path.		Allow FTP communications in the specified destination FTP server and Firewall and Packet Filter functions of the devices on the communication path and execute the instruction.	
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

^{*1.} Error code 16#2406 occurs for unit version 1.08 or later of the CPU Unit.

Event name	Destination FTP S	Server Execution F	ailure	Event code	54012407 hex*1		
Meaning	The destination F	TP server for an F	TP client communic	inications instruction returned an error.			
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The destination FTP server failed to execute the process requested by the FTP client communications instruction. When the Controller's Packet Filter		destination FTP s of the ErrorIDEx of from the instruction description in this expansion error of with the same validation. Allow packets from	Check the response code from the destination FTP server in the value of the <i>ErrorIDEx</i> output variable from the instruction and refer to the description in this manual for the expansion error code (<i>ErrorIDEx</i>) with the same value for the instruction. Allow packets from the FTP server		Read the description of <i>ErrorIDEx</i> in advance for the instruction and program correctly. Allow packets from the FTP server	
	function is enable the FTP server ar	-	in the Controller's Packet Filter settings.		in the Packet Filter settings of the Controller and execute the instruction.		
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached Information 4: Expansion Error Code (ErrorIDEx)						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Kelliaiks							

^{*1.} Error code 16#2407 occurs for unit version 1.08 or later of the CPU Unit.

^{*2.} Assumed cause for the following CPU Units.

[•] NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

[•] NX701 CPU Unit: Version 1.29 or later

Event name	SD Memory Card	Access Failed for	FTP	Event code	54012408 hex*1		
	,			Event code	54012408 nex 1		
Meaning	-	access from the F					
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An SD Memory C	ard is not insert-	Insert an SD Men	nory Card and	Insert an SD Mer	mory Card.	
	ed. The SD Memory Card was removed during execution of the FTP		then execute the instruction again.				
			Insert an SD Memory Card and		Do not remove the SD Memory		
			then execute the instruction again.		Card during execution of the FTP		
	client communica	tions instruction.			client communications instruction.		
	The capacity of the	•	Replace the SD Memory Card for		Use an SD Memory Card with suffi-		
	Card is insufficier	nt.	one with sufficient available capacity.		cient available capacity.		
	The SD Memory	Card is write pro-	· ·	Remove write protection from the		Make sure that the SD Memory	
	tected.		SD Memory Card		Card is not write	protected.	
Attached infor-		tion 1: Error Location					
mation	1		on Details (Rung N	,	ram section, the ru	ng number from	
		•	ST, the line number	•			
			e Instruction and In				
	1	essible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot	
	be identified.				e a		
		•	Error Code (ErrorID	, •		•	
		-	iven for instruction				
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	
Remarks							

^{*1.} Error code 16#2408 occurs for unit version 1.08 or later of the CPU Unit.

Event name	Specified File Do	es Not Exist		Event code	54012409 hex*1		
Meaning	A file specified for	r an FTP client com	nmunications instru	ction does not exist	t.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	- Assumed cause		Correction		Prevention		
rection	A file specified for an FTP client		Correct the program so that the file		Write the program so that the file		
	communications instruction does		specified for the FTP client com-		specified for the FTP client com-		
	not exist.		munications instru	ction exists. munications instruction exists		uction exists.	
Attached information	Attached Informathe start of the se Attached Informathore than one pobe identified. Attached informations	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x0000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	
Remarks							

^{*1.} Error code 16#2409 occurs for unit version 1.08 or later of the CPU Unit.

Event name	Specified File Is Write Protected			Event code	5401240A hex*1	
Meaning	The data was not with the same na		se the FTP client co	ommunications inst	ruction was set to r	not overwrite files
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The data was not transferred be-		Set the FTP client communications		Set the FTP client communications	
	cause the FTP client communica-		instruction to overwrite files with		instruction to overwrite files with	
	tions instruction was set to not		the same name a		the same name.	
	overwrite files wit	h the same name	the instruction again.		Or, make sure different file names	
	and a file with the	•	Or, change the file name at the		are used at the source and desti-	
	name already exi	sted at the desti-	source or destination and then ex-		nation.	
	nation.		ecute the instruct	on again.		
Attached infor-	Attached Informa	tion 1: Error Location	on			
mation			on Details (Rung N	,	ram section, the ru	ng number from
		•	ST, the line number	•		
			e Instruction and In			
		ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot
	be identified.					
			Error Code (ErrorIDI	, •		•
			jiven for instructions			
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.
Remarks						

^{*1.} Error code 16#240A occurs for unit version 1.08 or later of the CPU Unit.

Event name	Failed To Delete	Specified File		Event code	5401240B hex*1		
Meaning	A file was not del	eted after it was tra	nsferred with an F1	ΓP client communic	ations instruction.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	struction was set ter they are trans not possible to de file because it had tribute. It was not possibl specified for the Finunications instru	ferred, but it was elete the specified d a read-only at- e to delete the file eTP client com- uction because it	instruction to not they are transferroute the instruction or, change the at source file to enal then execute the Execute the FTP cations instruction	Set the FTP client communications instruction to not delete files after they are transferred and then execute the instruction again. Or, change the attribute of the source file to enable writing it and then execute the instruction again. Execute the FTP client communications instruction when the specified file is not in use by another ap-		Set the FTP client communications instruction to not delete files after they are transferred. Or do not set the attribute of source files to read-only. Do not use the file specified for the FTP client communications instruction in another application.	
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

^{*1.} Error code 16#240B occurs for unit version 1.08 or later of the CPU Unit.

Event name	Specified File Acc	cess Failed		Event code	5401240C hex*1	
Meaning	An FTP transfer f	or an FTP client co	mmunications instr	uction failed becau	se file access faile	d.
Source	PLC Function Mo	PLC Function Module		Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The file specified	for the FTP client	Execute the FTP	client communi-	Do not use the file	e specified for the
	communications i	nstruction was in	cations instruction	•	FTP client communications instruc-	
	use by another ap	oplication.	fied file is not in u	se by another ap-	tion in another application.	
	The file or directory specified for		plication.	Remove write protection from the		
						ect the file speci-
	the FTP client cor		file specified for the FTP client communications instruction to		fied for an FTP client communica-	
	struction to write	is write protected.			tions instruction to	o write.
			write. Or, change the file to write.	the mename of		
Attached infor-	Attached Informa	tion 1: Error Location				
mation			on Details (Rung Ni	umber). For a prog	ram section, the ru	na number from
			ST, the line number	,		
		•	e Instruction and In	•	Where the Error O	ccurred. If there is
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot
	be identified.					
		•	Error Code (ErrorIDI	, •		•
	Codes (ErrorIDE)	(). 0x00000000 is g	given for instructions	s that do not have I	Expansion Error Co	odes (ErrorIDEx).
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.
Remarks						

^{*1.} Error code 16#240C occurs for unit version 1.08 or later of the CPU Unit.

Event name	IP Address Settin	g Invalid		Event code	5401240D hex*1	
Meaning		tion was not possib struction and the o	le because there is ther port settings.	an error between	the IP address sett	ing of the port
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The network addr specified in the in same as the netw another port. Both the port spectruction and all cas unused ports.	struction is the vork address of	specifies a networn not the same as the dress of another port, change the network the other port in a Correct the setting specified in the inthing but an unus	Correct the instruction so that it specifies a network address that is not the same as the network address of another port. Or, change the network address of the other port in advance. Correct the setting of the port specified in the instruction to anything but an unused port. Or, change the unused port setting		uctions to change ecify network adnot the same as esses of other in instruction to ldress, make sure cified in the inother ports are sed ports.
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					ccurred. If there is instruction cannot Expansion Error odes (ErrorIDEx).
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	it is displayed may	not be correct.
Remarks						

^{*1.} Error code 16#240D occurs for unit version 1.10 or later of the CPU Unit.

Event name	NX Message Erro	or		Event code	54012C00 hex*1	
Meaning	An error response	e code was returne	d for an NX messa	ge.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Operation The relevant instructions.		ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Cause and correction Assumed cause Depends on the nature of the error.		Correction		Prevention	
rection			Check the value of the <i>ErrorIDEx</i> output variable from the instruction and refer to the description in this manual of the NX message error code.		Depends on the nature of the error. Refer to the description in this manual of the NX message error code.	
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached Information 4: Expansion Error Code (<i>ErrorIDEx</i>)					
Precautions/ Remarks		anged after an erro	,	,	t is displayed may	not be correct.

^{*1.} Error code 16#2C00 occurs for unit version 1.05 or later of the CPU Unit.

Event name	NX Message Resource Overflow			Event code	54012C01 hex*1	
Meaning	The maximum res	sources that you ca	n use for NX mess	age instructions at	the same time was	exceeded.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acco	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	More than 32 NX message instructions were executed at the same time.		Correct the user program so that no more than 32 NX message instructions are executed at the same time.		Write the user program so that no more than 32 NX message instructions are executed at the same time.	
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/	-				t is displayed may	
Remarks						

^{*1.} Error code 16#2C01 occurs for unit version 1.05 or later of the CPU Unit.

Event name	NX Message Time	eout		Event code	54012C02 hex*1	
Meaning	A timeout occurre	ed during execution	of an NX message			
Source	PLC Function Mo	PLC Function Module		Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	uction will end acco	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The specified NX ist.	Unit does not ex-	Make corrections specification and configuration agree	the remote Unit	Make sure that U and the remote U agree.	•
	The NX message was closed because it timed out.		Increase the response timeout time that is specified for the <i>TimeOut</i> input variable in the instruction.		Execute instructions after setting suitable response timeout times for the <i>TimeOut</i> input variable.	
	Power to the rem	ote Unit is OFF.	Check the status	of the remote Unit	Check the status	of the remote Unit
	Communications are stopped at the remote Unit.		and start it normally.		and start it normally.	
	The communications cable connector is disconnected.		Reconnect the connector and make sure it is mated correctly.		Connect the connector securely.	
	The communications cable is broken.		Replace the communications cable.		None	
	Noise		Implement noise countermeasures if there is excessive noise.		Implement noise countermeasures if there is excessive noise.	
Attached infor-	Attached Informat	tion 1: Error Location	on			
mation			on Details (Rung Nu		ram section, the rui	ng number from
		•	ST, the line number	•		
			e Instruction and In nformation is given			
	be identified.	, .			9 10 9.10.1 11 11.10	
	1	•	error Code (ErrorIDI			•
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

^{*1.} Error code 16#2C02 occurs for unit version 1.05 or later of the CPU Unit.

Event name	Incorrect NX Message Length			Event code	54012C03 hex*1		
Meaning	The length of the	NX message is no	t correct.				
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	uction will end according to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The size that is specified for Write-		Correct the progra	am so that the	Write the progran	n so that the size	
	Dat or Path is too	Dat or Path is too long.		size that is specified for WriteDat		or WriteDat or	
			or Path is within t	or Path is within the restriction.		Path is within the restriction.	
Attached infor-	Attached Informat	tion 1: Error Location	on				
mation	Attached Informati	tion 2: Error Location	on Details (Rung N	umber). For a prog	ram section, the ru	ng number from	
	the start of the se	ction is given. For	ST, the line number	is given.			
	Attached Informat	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
		ssible instruction, i	nformation is given	on all of them. No	thing is given if the	instruction cannot	
	be identified.						
		•	Frror Code (ErrorID	, •		•	
	Codes (ErrorIDE)	(). 0x00000000 is g	jiven for instruction	s that do not have	Expansion Error Co	odes (ErrorIDEx).	
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	

^{*1.} Error code 16#2C03 occurs for unit version 1.05 or later of the CPU Unit.

Event name	NX Message Ethe	erCAT Network Erro	or	Event code	54012C05 hex*1	
Meaning	An error occurred	in EtherCAT comn	nunications on the	NX message path.		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction
					ing	execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation		ruction will end acco	ording to specifi-
				cations.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An error occurred in EtherCAT		Check for errors in EtherCAT com-		Depends on the nature of the error.	
	communications on the NX mes-		munications and execute the in-			
	sage path.		struction after cle	aring any errors.		
Attached infor-		tion 1: Error Location				
mation			on Details (Rung N	, , ,	ram section, the ru	ng number from
		•	ST, the line number	•		
			e Instruction and Ir			
	· ·	essible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot
	be identified.	tion 4. Expansion F	Tura Cada (Euranio	Tulia siyan farinat	mustians that have	Evansian Errar
		•	Error Code (ErrorID) given for instructions	, 0		•
Precautions/	·	-	or occurs, the attacl			
Remarks	i a program is cir	anged alter all ellt	o occurs, me allaci	ied information tha	i is displayed Illay	not be conect.

^{*1.} Error code 16#2C05 occurs for unit version 1.05 or later of the CPU Unit.

Event name	External Restart Already Executed for Specified NX Units			Event code	54012C06 hex*1		
Meaning	A restart was alre	A restart was already in execution from the Sysmac Studio when the instruction was executed.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A restart was already in execution		Restarting with an instruction is not		Do not execute re	estarts from the	
	from the Sysmac Studio when the		necessary if a restart was already		Sysmac Studio during operation.		
	instruction was ex	recuted.	executed from the	e Sysmac Studio.			
Attached information	Attached Information the start of the sea Attached Information more than one pobe identified. Attached information attached informatio	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	

^{*1.} Error code 16#2C06 occurs for unit version 1.05 or later of the CPU Unit.

Event name	Unapplicable Uni	t Specified for Instr	uction	Event code	54012C07 hex*1		
Meaning	A slave that cann Unit.	A slave that cannot be specified for the instruction was connected at the slave node address of the specified Unit.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A slave that cannot be specified for the instruction was connected to the slave node address of the specified Unit.		Connect the applicable Unit for the instruction that is specified in the network configuration information.		Do not connect a slave that cannot be specified for the instruction to the slave node address of the specified Unit.		
Attached information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).						
Precautions/ Remarks	,	anged after an erro			· ·		

^{*1.} Error code 16#2C07 occurs for unit version 1.05 or later of the CPU Unit.

Event name	Invalid Total Power ON Time Record			Event code	54012C08 hex*1		
Meaning	Failed to read the	total power ON tin	ne		04012000 NCX		
Source	PLC Function Module		Source details	Instruction	Detection tim-	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instruction will end according to speci cations.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	nd cor- Assumed cause		Correction		Prevention		
rection	Non-volatile memory failure		Replace the Unit from which the to-		None		
			tal power ON time	e cannot be read.			
Attached information	Attached Informa the start of the se Attached Informa more than one po be identified. Attached informa	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) is given for instructions that have Expansion Error Codes (ErrorIDEx). 0x000000000 is given for instructions that do not have Expansion Error Codes (ErrorIDEx).					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.	

^{*1.} Error code 16#2C08 occurs for unit version 1.10 or later of the CPU Unit.

Front name	D D-4- Obi			Frank and	54040404 b		
Event name		ect Setting Missing		Event code	54013461 hex		
Meaning	The PDO mappin	<u> </u>					
Source	PLC Function Mo	C Function Module Source details Instruction		Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The PDOs that are required for the motion control instruction are not mapped. The relevant instruction was executed for a device that does not have an object that supports the instruction.		the instruction. Refer to the Func	Refer to the Function section of the relevant instruction for the required		Map the PDOs that are required for the instructions that are used. Refer to the NJ/NX-series CPU Unit Motion Control User's Manual (Cat. No. W507) for the PDOs (Servo Drive settings) that you must map for each instruction.	
			Some devices do not support the relevant instruction. Refer to the manual for the target device, check to see if the relevant instruction is supported, and correct the program so that unsupported instructions are not executed.		Refer to the manual for the target device and write the program so that unsupported instructions are not executed.		
	A motion control i specifies phase Z Mark) as the trigg executed for an a ped to an OMROI EtherCAT Encode	(_mcEncoder- er conditions was xis that is map- N GX-EC02□□	Use an external input (_mcEXT) as the trigger conditions for an axis that is mapped to an OMRON GX-EC02 EtherCAT Encoder slave.		Use an external input (_mcEXT) as the trigger conditions for an axis that is mapped to an OMRON GX-EC02□□ EtherCAT Encoder slave.		
Attached infor-	Attached Informat	tion 1: Error Locatio	on				
mation		Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	Device Error Rec	eived		Event code	54014800 hex*1		
Meaning	An error response	e from the device w	as received.				
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acco	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	An error response from the device		The error code that is returned by		Check the error cause in the man-		
	was received.		the device is outp	the device is output to the Error-		before you write	
			Type output variable of the instruc-		the user program and execute the		
			tion. Check the error information in		instruction.		
				the manual for the target device			
A // 1 11 5	A		and correct the pi	robiem.			
Attached infor-		tion 1: Error Locatio			C		
mation			, ,	umber). For a prog	ram section, the rul	ng number from	
		0	ST, the line number	ris given. istruction Instance '	Mhara tha Errar O	and If there is	
				istruction instance on all of them. Not			
	be identified.	issible ilistruction, i	mormation is given	on all of them. Not	uning is given in the	instruction carmot	
		tion 4: Expansion E	Error Code (ErrorTy	pe)			
Precautions/ Remarks		· · · · · · · · · · · · · · · · · · ·		hed information tha	t is displayed may	not be correct.	

^{*1.} Error code 16#4800 occurs for unit version 1.12 or later of the CPU Unit.

Event name	Specified Unit Do	es Not Exist		Event code	54014801 hex ^{*1}	
Meaning	The specified Uni	t does not exist.				
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	uction will end acco	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The IO-Link mast	er is not connect-	Connect or mount the IO-Link mas-		Connect or mount the IO-Link mas-	
	ed to or mounted	on the specified	ter to or on the specified position.		ter to or on the specified position.	
	position.		Or, specify the position where the		Or, specify the position where the	
			IO-Link master is mounted.	connected or	IO-Link master is connected or mounted.	
Attached infor-	Attached Informa	tion 1: Error Locatio	on			
mation	Attached Informa	tion 2: Error Location	on Details (Rung N	umber). For a progi	ram section, the rui	ng number from
		J	ST, the line number	O		
				struction Instance		
	more than one po	ossible instruction, i	ntormation is given	on all of them. Not	ning is given if the	instruction cannot
		tion 4: Expansion F	Error Code (ErrorTy	ne)		
Precautions/		· · · · · · · · · · · · · · · · · · ·	, ,	ned information tha	t is displayed may	not he correct
Remarks	i a program is chi	anged alter all ellt	n occurs, the attack	ied information tha	t is displayed fliay	not be conect.

^{*1.} Error code 16#4801 occurs for unit version 1.12 or later of the CPU Unit.

Event name	Message Process	sing Limit Exceeded	d	Event code	54014802 hex*1		
Meaning	An instruction car cation.	nnot be executed be	ecause the IO-Link	master is process	ing the message fro	om another appli-	
Source	PLC Function Module		Source details	Instruction	Detection tim-	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instructions.	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	or- Assumed cause		Correction	Correction			
rection	An instruction cannot be executed because the IO-Link master is processing the message from another application (an instruction execution or a tool connection).		Execute the instruction again.		Perform processing for exclusive control of messages in applications (an instruction execution or a tool connection). Or, increase the number of retries.		
Attached information	Attached Informa the start of the se Attached Informa more than one po be identified.	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot					
Precautions/ Remarks		anged after an erro		. ,	nt is displayed may	not be correct.	

^{*1.} Error code 16#4802 occurs for unit version 1.12 or later of the CPU Unit.

Event name	Specified Unit Status Error			Event code	54014803 hex*1		
Meaning	The specified Uni	t is not in a condition	on to receive messa	ages.			
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instruction will end according to spec cations.		ording to specifi-	
System-de-	Variable Data ty		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The specified Uni	t is not in a condi-	Execute the instruction again.		When this error occurs, execute		
	tion to receive me	essages.			the instruction again.		
Attached information	Attached Information the start of the se Attached Information	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
	Attached Informati	tion 4: Expansion E	rror Code (ErrorTy	pe)			
Precautions/	If a program is ch	anged after an erro	r occurs, the attacl	hed information tha	t is displayed may	not be correct.	
Remarks							

^{*1.} Error code 16#4803 occurs for unit version 1.12 or later of the CPU Unit.

Event name	Too Many Simulta	aneous Instruction	Executions	Event code	54014804 hex*1		
Meaning	The number of in	structions that can	be simultaneously	executed was exce	eded.		
Source	PLC Function Module		Source details	Instruction	Detection tim-	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	More than 32 NX	message instruc-	Correct the user	Correct the user program so that		Write the user program so that no	
	tions and EtherC	AT communica-	no more than 32 NX message in-		more than 32 NX message instruc-		
	tions instructions	were executed at	structions and EtherCAT communi-		tions and EtherCAT communica-		
	the same time.		cations instructions are executed		tions instructions are executed at		
			at the same time.		the same time.		
Attached infor-	Attached Informa	tion 1: Error Location	on				
mation	Attached Informa	tion 2: Error Location	on Details (Rung N	umber). For a prog	ram section, the ru	ng number from	
	the start of the se	ection is given. For	ST, the line number	r is given.			
	Attached Informa	tion 3: Names of th	e Instruction and Ir	struction Instance	Where the Error O	ccurred. If there is	
	more than one po	ossible instruction, i	nformation is given	on all of them. No	thing is given if the	instruction cannot	
	be identified.	be identified.					
	Attached Informa	tion 4: Expansion E	Frror Code (ErrorTy	pe)			
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	
Remarks							

^{*1.} Error code 16#4804 occurs for unit version 1.12 or later of the CPU Unit.

Event name	Communications	Timeout		Event code	54014805 hex*1		
Meaning	A timeout occurre	ed in communicatio	ns.				
Source	PLC Function Mo	PLC Function Module		Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The communicati	ons timeout time	Calculate the mes	Calculate the message response		ssage response	
	is shorter than the	e message re-		time, and make a setting so that		time, and make a setting so that	
	sponse time.		the communications timeout time is longer than the message response time.		the communications timeout time is		
					longer than the message response time.		
	The cable for Eth	erCAT or for IO	Replace the cable.		None		
	Link is broken.	ercar or for fo-	Replace the cable.		Notice		
	Noise		Implement noise countermeasures.		Implement noise countermeasures.		
	Device failure		Replace the relev		None		
Attached infor-	Attached Informa	tion 1: Error Location	· ·		I		
mation	Attached Informa	tion 2: Error Location	on Details (Rung N	umber). For a progi	ram section, the ru	ng number from	
	the start of the se	ction is given. For	ST, the line number	is given.			
			e Instruction and In				
	1	essible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot	
	be identified.		O1- (F T				
- "		· · · · · · · · · · · · · · · · · · ·	Frror Code (ErrorTy	. ,			
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

^{*1.} Error code 16#4805 occurs for unit version 1.12 or later of the CPU Unit.

Event name	Invalid Mode			Event code	54014806 hex*1	
Meaning	The specified IO-	Link master port is	not the IO-Link mo	de.		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The specified IO-Link master port		Set the specified IO-Link master		Set the IO-Link master port to	
	is not the IO-Link	mode.	port to the IO-Lini	k mode, and exe-	specify to the IO-Link mode, and	
			cute the instruction	on again.	execute the instruction.	
Attached infor-	Attached Informa	tion 1: Error Location	on			
mation	Attached Informa	tion 2: Error Location	on Details (Rung N	umber). For a prog	ram section, the ru	ng number from
	the start of the se	ction is given. For	ST, the line number	r is given.		
	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot
	be identified.					
	Attached Informa	tion 4: Expansion E	Frror Code (ErrorTy	pe)		
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	it is displayed may	not be correct.
Remarks						

^{*1.} Error code 16#4806 occurs for unit version 1.12 or later of the CPU Unit.

Event name	I/O Power OFF S	tatus		Event code	54014807 hex*1	
Meaning	The I/O power is	not supplied to the	specified IO-Link n	naster port.	•	
Source	PLC Function Module		Source details	Instruction	Detection tim-	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Cause and cor- Assumed cause		Correction		Prevention	
rection	The I/O power is the specified IO-L		Supply the I/O power to the speci- fied IO-Link master port, and then execute the instruction.		Make sure that an I/O power is supplied to the specified IO-Link master port before you execute the instruction.	
Attached information	Attached Informa the start of the se Attached Informa more than one po be identified.	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached Information 4: Expansion Error Code (ErrorType)				
Precautions/ Remarks		anged after an erro			t is displayed may	not be correct.

^{*1.} Error code 16#4807 occurs for unit version 1.12 or later of the CPU Unit.

Event name	Verification Error			Event code	54014808 hex*1	
Meaning	The specified IO-	Link master port ha	ad a verification erro	or or a communicat	ions error.	
Source	PLC Function Mo	PLC Function Module		Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	uction will end acco	ording to specifi-
System-de-	Variable	Variable			Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The specified IO-Link master port		Clear the error, and then execute		Execute the instruction while there	
	had a verification	error or a com-	the instruction ag	in. is no error.		
	munications error	-				
Attached infor-	Attached Informat	tion 1: Error Location	on			
mation			on Details (Rung N	, ,	ram section, the rui	ng number from
	the start of the se	ction is given. For	ST, the line number	is given.		
	Attached Informat	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error Od	ccurred. If there is
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot
	be identified.					
	Attached Informat	tion 4: Expansion E	rror Code (ErrorTy	pe)		
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.
Remarks						

^{*1.} Error code 16#4808 occurs for unit version 1.12 or later of the CPU Unit.

Event name	Incorrect Device	Port Setting		Event code	54014809 hex *1	
Meaning	The device port s	ettings are not cor	ect.			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instructions.	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The device port settings are not correct.		Confirm the type of an IO-Link Master Unit and then confirm the device type, specified Unit, specified slave, and port number of the device port. Set the device type, specified slave, and the device port in active type of an IO-Lin the type		and port number of accordance with	
Attached information	Attached Informathe start of the seattached Informather more than one posterior be identified.	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached Information 4: Expansion Error Code (ErrorType)				
Precautions/ Remarks	If a program is ch	nanged after an erro	or occurs, the attack	hed information tha	at is displayed may	not be correct.

^{*1.} Error code 16#4809 occurs for unit version 1.12 or later of the CPU Unit.

Event name	Electronic Gear Ratio Numerator Setting Out of Range			Event code	54015420 hex			
Meaning	The parameter sp	The parameter specified for the RatioNumerator input variable to a motion control instruction is out of ra						
Source	PLC Function Mo	PLC Function Module		Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	uction will end according to specifi-		
System-de-			Data type		Name			
fined variables			BOOL	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction	Correction				
rection	Instruction input p ceeded the valid of variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	Attached Informa	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.		

Event name	Electronic Gear Ratio Denominator Setting Out of Range			Event code	54015421 hex				
Meaning	The parameter specified for the <i>RatioDenominator</i> input variable to a motion control instruction is out of range.								
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution			
Error attributes	Level	Observation	Recovery		Log category	System			
Effects	User program	Continues.	Operation	The relevant instr	uction will end according to specifi-				
System-de- fined variables	Variable		Data type		Name				
	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence				
Cause and correction	Assumed cause		Correction		Prevention				
	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.				
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.								
Precautions/ Remarks	If a program is changed after an error occurs, the attached information that is displayed may not be correct.								

Event name	Target Velocity Setting Out of Range			Event code	54015422 hex				
Meaning	The parameter specified for the <i>Velocity</i> input variable to a motion control instruction is out of range.								
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution			
Error attributes	Level	Observation	Recovery		Log category	System			
Effects	User program	Continues.	Operation	The relevant instr	uction will end according to specifi-				
System-de-	Variable		Data type		Name				
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence				
	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur- rence				
Cause and cor-	Assumed cause		Correction		Prevention				
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.				
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.								
Precautions/ Remarks	If a program is changed after an error occurs, the attached information that is displayed may not be correct.								

Event name	Acceleration Sett	ing Out of Range		Event code	54015423 hex		
Meaning	The parameter sp	pecified for the Acc	eleration input varia	able to a motion co	ntrol instruction is o	out of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur-		
					rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p	oarameter ex-	Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid	range of the input	valid range of the input variable is		struction so that the valid range of		
	variable.		not exceeded for the relevant in-		the input variable is not exceeded.		
			struction.				
Attached infor-	Attached Informa	tion 1: Error Location	on				
mation	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot						
	be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	it is displayed may	not be correct.	
Remarks							

					T =		
Event name	Deceleration Setting Out of Range		Event code	54015424 hex			
Meaning	The parameter sp	ecified for the Dec	<i>eleration</i> input varia	able to a motion co	ntrol instruction is o	out of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instruction will end according to cations.		ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p ceeded the valid i variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	

Event name	Jerk Setting Out	of Range		Event code	54015425 hex	
Meaning	The parameter sp	pecified for the Jerk	input variable to a	motion control inst	ruction is out of rar	nge.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instruction will en cations.		ruction will end acc	ording to specifi-
System-de-			Data type		Name	
fined variables			BOOL	BOOL		Occurrence
	_MC_GRP[*].MF	aultLvl.Active	BOOL		Axes Group Minor Fault Occur-	
					rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input p	oarameter ex-	Correct the parameter so that the		Set the input parameter to the in-	
	ceeded the valid	range of the input	valid range of the	input variable is	struction so that t	he valid range of
	variable.		not exceeded for	the relevant in-	the input variable	is not exceeded.
			struction.			
Attached infor-	Attached Informa	tion 1: Error Location	on			
mation	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is
	more than one po	ssible instruction, i	nformation is given	on all of them. No	thing is given if the	instruction cannot
	be identified.					
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	it is displayed may	not be correct.
Remarks						

Event name	Torque Ramp Set	ting Out of Range		Event code	54015427 hex		
Meaning			gueRamp input varia	able to a motion co	ntrol instruction is o	out of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim-	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instructions.		ording to specifi-	
System-de-			Data type		Name		
fined variables			BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p ceeded the valid i variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attack	ned information tha	t is displayed may	not be correct.	

Event name	Master Coefficient Scaling Out of Range			Event code	54015428 hex		
Meaning	The parameter sp	The parameter specified for the <i>MasterScaling</i> input variable to a motion control instruction is out of range.					
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acco	ording to specifi-	
			cations.				
System-de-	Variable _MC_AX[*].MFaultLvl.Active		Data type	Data type			
fined variables			BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex-		Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid range of the input		valid range of the input variable is		struction so that the valid range of		
	variable.		not exceeded for the relevant in-		the input variable is not exceeded.		
			struction.				
Attached infor-	Attached Informati	tion 1: Error Locatio	on				
mation	Attached Informat	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error Od	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot	
	be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Slave Coefficient	Scaling Out of Rar	nge	Event code	54015429 hex		
Meaning	The parameter sp	ecified for the <i>Slav</i>	eScaling input vari	able to a motion co	ntrol instruction is	out of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction will end according cations.		ording to specifi-		
System-de-			Data type	Data type			
fined variables			BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter exceeded the valid range of the input variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
Attached information	Attached Informa	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	

Event name	Feeding Velocity Setting Out of Range			Event code	5401542A hex		
Meaning	The parameter sp	ecified for the <i>Fee</i>	dVelocity input varia	able to a motion co	ntrol instruction is o	out of range.	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation		uction will end acco	ording to specifi-	
			cations.				
System-de-	Variable		Data type	Data type			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The Feed Velocity	The Feed Velocity (input variable		Specify a positive value for the		Set the input parameter to the in-	
	FeedVelocity) is s	FeedVelocity) is still at the default		Feed Velocity (input variable		struction so that the valid range of	
	(0).		FeedVelocity).		the input variable	is not exceeded.	
Attached infor-	Attached Informa	tion 1: Error Location	on				
mation	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error Od	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot	
	be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

	I						
Event name	Buffer Mode Selection Out of Range			Event code	5401542B hex		
Meaning). <i>BufferMode</i> inpu	ut variable to a mot	ion control instructi	on is out of range.			
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-	
				cations.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur-		
					rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p	parameter ex-	Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid	range of the input	valid range of the	input variable is	struction so that t	he valid range of	
	variable.	variable.		not exceeded for the relevant in-		the input variable is not exceeded.	
				struction.			
Attached infor-	Attached Informa	tion 1: Error Location	on				
mation	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot						
	be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Coordinate Syste	m Selection Out of	Range	Event code	5401542C hex		
Meaning	The parameter sp	ecified for the Coo	<i>rdSystem</i> input var	iable to a motion co	ontrol instruction is	out of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		uction will end acc	ording to specifi-	
System-de-	-		Data type		Name		
fined variables			BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input page ceeded the valid variable.	parameter ex- range of the input	valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	

Event name	Circular Interpola	Circular Interpolation Mode Selection Out of Range Event code 5401542D hex					
Meaning				e to a motion contro		of range	
Source	· · · · · · · · · · · · · · · · · · ·		Source details	Instruction	Detection tim-	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction will end according cations.		ording to specifi-		
System-de-	Variable		Data type		Name		
fined variables	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

Event name	Direction Selection Out of Range			Event code	5401542E hex		
Meaning	The parameter sp	ecified for the <i>Dire</i>	<i>ction</i> input variable	to a motion contro	l instruction is out o	of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		uction will end acc	ording to specifi-	
System-de-	Variable _MC_AX[*].MFaultLvl.Active		Data type		Name		
fined variables			BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p ceeded the valid i variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	Path Selection O	ut of Range		Event code	5401542F hex			
Meaning	The parameter sp	The parameter specified for the <i>PathChoice</i> input variable to a motion control instruction is out of range.						
Source	PLC Function Mo	dule	Source details Instruction		Detection tim-	At instruction		
					ing	execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-		
				cations.				
System-de-	Variable		Data type		Name			
fined variables	_MC_GRP[*].MFa	aultLvl.Active	BOOL	BOOL Axes Group Minor Fault Occur- rence		r Fault Occur-		
						rence		
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Instruction input p	arameter ex-	Correct the paran	neter so that the	Set the input parameter to the in-			
	ceeded the valid	range of the input	valid range of the	input variable is	struction so that the valid range of			
	variable.		not exceeded for	the relevant in-	the input variable	is not exceeded.		
			struction.					
Attached infor-	Attached Informa	tion 1: Error Locatio	on					
mation	Attached Informa	tion 3: Names of th	e Instruction and Ir	struction Instance	Where the Error O	ccurred. If there is		
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot		
	be identified.							
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.		
Remarks								

Event name	Position Type Se	lection Out of Rang	le	Event code	54015430 hex	
Meaning	The parameter s	pecified for the Refe	erenceType input va	ariable to a motion	control instruction	is out of range.
Source	PLC Function Mo	odule	Source details	Source details Instruction		At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	ording to specifi-
System-de- Variable			Data type		Name	
fined variables	_MC_COM.MFaultLvl.Active		BOOL		MC Common Minor Fault Occur- rence	
	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Occurrence
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	nanged after an erro	or occurs, the attach	ned information tha	at is displayed may	not be correct.

Event name	Travel Mode Sele	ction Out of Range		Event code	54015431 hex	
Meaning	The parameter sp	pecified for the Mov	eMode input variab	le to a motion con	trol instruction is ou	ıt of range.
Source	PLC Function Mo	dule	The state of the s		Detection tim-	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instruction will end a cations.		ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence	
	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

Event name	Transition Mode Selection Out of Range		Event code	54015432 hex					
Meaning	The parameter sp	ecified for the <i>Trar</i>	nsitionMode input va	ariable to a motion	control instruction i	s out of range.			
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution			
Error attributes	Level	Observation	Recovery		Log category	System			
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acco	ording to specifi-			
System-de-	Variable		Data type		Name				
fined variables	_MC_GRP[*].MF	aultLvl.Active	BOOL		Axes Group Mino rence	r Fault Occur-			
Cause and cor-	Assumed cause Cor		Correction		Prevention				
rection	Instruction input parameter exceeded the valid range of the input variable. _mcAborting or _mcBuffered was specified for BufferMode and _mcTMCornerSuperimposed was specified for TransitionMode.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction. If you specify _mcAborting or _mcBuffered for BufferMode, specify _mcTMNone for TransitionMode. If you specify _mcTMCornerSuperimposed for TransitionMode, specify _mcBlendingLow, _mcBlendingPrevious, _mcBlendingNext, or _mcBlendingHigh for BufferMode.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded. If you specify _mcAborting or _mcBuffered for BufferMode, specify _mcTMNone for TransitionMode. If you specify _mcTMCornerSuperimposed for TransitionMode, specify _mcBlendingLow, _mcBlendingPrevious, _mcBlendingNext, or _mcBlendingHigh for BufferMode.				
Attached infor-		tion 1: Error Location							
mation		Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.							
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.			
Kelliaiks									

Event name	Continue Method	Selection Out of R	ange	Event code	54015433 hex		
Meaning	The value of the f	The value of the reserved input variable <i>Continuous</i> to a motion control instruction changed.					
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acco	ording to specifi-	
			cations.				
System-de-	Variable		Data type	Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The value of the r	The value of the reserved input		Correct the program so that the		Write the user program so that the	
	variable Continuo	variable <i>Continuous</i> changed.		value of the reserved input variable		value of the reserved input variable	
			Continuous does not change.		Continuous does not change.		
Attached infor-	Attached Informati	tion 1: Error Location	on				
mation	Attached Informati	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error Oc	ccurred. If there is	
	more than one po	ssible instruction i	nformation is given	on all of them Not	hing is given if the	instruction cannot	
	be identified.	ooibio mondonon, i	mormation to given	on an or mom. No	aming to given in the	motraotion oarmot	
Precautions/	It a program is ch	anged atter an erro	or occurs, the attach	ned intormation tha	t is displayed may	not be correct.	
Remarks							

Event name	Combine Mode Selection Out of Range			Event code	54015434 hex		
Meaning	The parameter sp	ecified for the Con	nbineMode input va	riable to a motion o	control instruction is	out of range.	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	ser program Continues. Operation The relevant instru		uction will end acco	ording to specifi-		
			cations.				
System-de-	Variable		Data type	Data type			
fined variables	_MC_AX[*].MFau	ItLvl.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p	arameter ex-	Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid i	ange of the input	valid range of the input variable is		struction so that the valid range of		
	variable.		not exceeded for	ot exceeded for the relevant in-		the input variable is not exceeded.	
			struction.				
Attached infor-	Attached Informat	tion 1: Error Locatio	on .				
mation	Attached Informati	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error Od	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot	
	be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Synchronization S Range	Synchronization Start Condition Select Range		Event code	54015435 hex		
Meaning	The parameter sp	ecified for the <i>Link</i>	<i>Option</i> input variab	le to a motion cont	rol instruction is ou	t of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program Continues.		Operation	The relevant instr	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p	arameter ex-	Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid i	range of the input	valid range of the input variable is		struction so that the valid range of		
	variable.		not exceeded for	not exceeded for the relevant in-		the input variable is not exceeded.	
			struction.				
Attached information	Attached Informati	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	
Remarks							

Event name	Master and Slave	Defined as Same	Axis	Event code	54015436 hex	
Meaning	The same axis is	specified for the M	<i>aster</i> and <i>Slave</i> inp	out variables to a m	otion control instru	ction.
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction
					ing	execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFau	ItLvI.Active	BOOL		MC Common Min	or Fault Occur-
					rence	
	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The parameter is	the same for the	Correct the paran	Correct the parameters so that dif-		axes for the
	Master and Slave	input variables to	ferent axes are sp	pecified for the	Master and Slave	input variables to
	the instruction.		Master and Slave	input variables to	the instruction.	
			the instruction.			
Attached infor-	Attached Informat	tion 1: Error Location	on			
mation	Attached Informati	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is
		ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot
	be identified.					
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.
Remarks						

Event name	Master and Auxili	ary Defined as San	ne Axis	Event code	54015437 hex		
Meaning	The same axis is	specified for the M	aster and Auxiliary	input variables to a	motion control ins	truction.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		uction will end acco	ording to specifi-	
System-de-	em-de- Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The parameter is Master and Auxili bles to the instruc	<i>ary</i> input varia-	ferent axes are sp Master and Auxilia	Correct the parameters so that dif- ferent axes are specified for the Master and Auxiliary input varia- bles to the instruction		Specify different axes for the Master and Auxiliary input varia- bles to the instruction.	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	Master/Slave Axis	s Numbers Not in A	scending Order	Event code	54015438 hex		
Meaning			Master and Slave in	put variables to a r	motion control instru	uction are not in	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type	•	Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Occurrence	
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	The parameters for the <i>Master</i> and <i>Slave</i> input variables to the instruction were not in ascending order when _mcLatestCommand was specified for the <i>ReferenceType</i> input variable to the instruction.		When specifying _mcLatestCommand for the ReferenceType input variable to the instruction, correct the parameters so that the axis numbers specified for the Master and Slave input variables to the instruction are in ascending order. Or, specify _mcCommand for the Master Axis Position Type Selection.		When specifying _mcLatestCommand for the ReferenceType input variable, make sure to specify the master axis and slave axis input variables so that they are in ascending order.		
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attack	ned information tha	at is displayed may	not be correct.	

Event name	Incorrect Cam Table Specification			Event code	54015439 hex		
Meaning	The parameter sp	ecified for the <i>Can</i>	nTable input variabl	e to a motion contr	ol instruction is out	of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction will end according to cations.		ording to specifi-		
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFaultLvl.Active		BOOL		MC Common Minor Fault Occur- rence		
	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Something other variable was spec <i>CamTable</i> input v struction.	cified for the	the CamTable inp	Correct the parameter specified for the <i>CamTable</i> input variable to the instruction so that it is a cam data variable		Specify a cam data variable for the <i>CamTable</i> input variable to the instruction.	
Attached information	Attached Informa	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified					
Precautions/ Remarks	If a program is changed after an error occurs, the attached information that is displayed may not be correct.						

Event name	Synchronization S	Stopped		Event code	5401543A hex	
Meaning	A synchronized of met.	ontrol motion contr	ol instruction was e	xecuted, but condi	tions required for e	xecution were not
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
Cause and cor-	Assumed cause		Correction		Prevention	
Attached infor-	The MC_CamOut (End Cam Operation) instruction was executed even though the MC_CamIn (Start Cam Operation) instruction is not being executed. The MC_GearOut (End Gear Operation) instruction was executed even though the MC_GearIn (Start Gear Operation) or the MC_GearInPos (Positioning Gear Operation) instruction is not being executed. The MC_Phasing (Shift Master Axis Phase) instruction was executed even though the MC_CamIn (Start Cam Operation), MC_GearIn (Start Gear Operation), MC_GearInPos (Start Gear Operation), MC_GearInPos (Start Gear Operation), or MC_MoveLink (Synchronous Positioning) instruction is not being executed.		Correct the program so that required conditions are met when the instruction is executed.		Prevention Make sure that required conditions for execution are met when you execute synchronized control instructions.	
mation	Attached Information		e Instruction and Ir nformation is given			
Precautions/ Remarks		anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.

_								
Event name	Motion Control In	struction Re-execu	tion Disabled	Event code	5401543B hex			
Meaning	An attempt was n	nade to re-execute	a motion control in	struction that canr	not be re-executed.			
Source	PLC Function Mo	dule	Source details Instruction		Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instruction will end according to specations.		ording to specifi-		
System-de-	Variable		Data type		Name			
fined variables	_MC_COM.MFaultLvl.Active		BOOL		MC Common Mir rence	nor Fault Occur-		
	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence			
	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur- rence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	A motion control cannot be re-executed.	instruction that cuted was re-exe-	Execute input var change to TRUE	when using instruction not be re-executed, incompleted the proof of the execute in the previous instruction of the execute in		ed, include a con- cute input variable of change to TRUE output variable for ruction is FALSE.		
Attached information	Attached Informa	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/	If a program is changed after an error occurs, the attached information that is displayed may not be correct.							

Event name	Motion Control Instruction Multi-execution Disabled			Event code	5401543C hex		
Meaning	Multiple functions axis, or axes grou	that cannot be exe	ecuted simultaneou	sly were executed	for the same target	t (MC common,	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At multi-execu- tion of instruc- tions	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFau	ltLvl.Active	BOOL		MC Common Minor Fault Occur- rence		
	_MC_AX[*].MFau	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence	
	_MC_GRP[*].MF	aultLvl.Active	BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Multiple functions that cannot be executed simultaneously were executed for the same target (MC common or axis).		Check the specifications of multi- execution of instructions for this in- struction and correct the program so that instructions that cannot be executed at the same time are not executed simultaneously.		Check the specifications for multi- execution of instructions for the in- struction and do not execute in- structions that cannot be executed at the same time.		
Attached infor-		tion 1: Error Locatio					
mation	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

E	Instruction Not Allowed for Encoder Axis Type Event code 5401543D hex						
Event name	Instruction Not Al	lowed for Encoder	Axis Type	Event code	5401543D hex		
Meaning	An operation inst	ruction was execute	ed for an encoder a	xis.			
Source	PLC Function Module		Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An operation instruction was exe-		Specify either a Servo axis or virtu-		Only execute motion instructions		
	cuted for an enco	der axis.	al Servo axis as t	he axis type for	for Servo axes or virtual Servo ax-		
			the instruction, or	correct the pro-	es.		
			gram so that the i	nstruction is not			
			executed for an e	ncoder axis.			
Attached infor-	Attached Informa	tion 1: Error Location	on				
mation	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot	
	be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks		-					

Event name	Instruction Canno ordinated Control	t Be Executed duri	ng Multi-axes Co-	Event code	5401543E hex		
Meaning	 An operation instruction was executed for an axis or an axes group that was in a coordinated multi-axes motion. A robot instruction that you cannot use for an axes group in a GroupEnable state was executed. 						
Source			Source details	Instruction	Detection timing	At multi-execution of instructions	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
	_MC_GRP[*].MFa	aultLvI.Active	BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An operation instruction was executed for an axis or an axes group that was in a coordinated multi-axes motion.		Correct the program so that axis operation instructions are executed only for axes or axes groups that are not in coordinated multi-axes motion.		Execute axis operation instructions only for axes or axes groups that are not in coordinated multi-axes motion.		
		dinated multi-ax-		• .		nated multi-axes	
		ransform (Set formation) in- cuted for an axes	are not in coordin motion. Correct the progra	ated multi-axes am so that the inted only when the		uction only when	
Attached information	es motion. The MC_SetKinTi Kinematics Trans struction was exe group in a Groupl Attached Informat Attached Informat more than one po be identified.	ransform (Set formation) in- cuted for an axes Enable state. iion 1: Error Locatio iion 3: Names of th ssible instruction, i	are not in coordin motion. Correct the prograstruction is execu axes group is in a state.	ated multi-axes am so that the inted only when the GroupDisable astruction Instance on all of them. Not	motion. Execute the instruction the axes group is ble state. Where the Error Outling is given if the	uction only when in a GroupDisa-ccurred. If there is instruction cannot	

Event name	Multi-axes Coordinated Control Instruction Executed for Disabled Axes Group			Event code	5401543F hex	
Meaning	A multi-axes coor	dinated control inst	truction was execut	ed for an axes gro	up that was in a Gr	oupDisable state.
Source	PLC Function Module Source detail		Source details	Instruction	Detection tim-	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instructions.	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_GRP[*].MF	aultLvl.Active	BOOL		Axes Group Mino	or Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Assumed cause A multi-axes coordinated control instruction was executed for an axes group that was in a GroupDisable state. One of the following instructions was executed for an axes group that was in a GroupDisable state. • Execute the instruction only when the axes group is in a GroupDisable state. • MC_SyncLinearConveyor (Start Conveyor Synchronization) instruction • MC_SyncOut (End Synchronization) instruction • MC_RobotJog (Axes Group Jog)		Correct the program so that the instruction is executed only after changing the axes group to the Axes Group Enabled state. Execute the MC_GroupEnable (Enable Axes Group) instruction to change an axes group to the Axes Group Enabled state.			
Attached information	Attached Informa	tion 1: Error Location 3: Names of the ossible instruction, i	e Instruction and Ir			
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	at is displayed may	not be correct.

Event name	Axes Group Canr	not Be Enabled		Event code	54015440 hex		
Meaning	Execution of the I	MC_GroupEnable(Enable Axes Group	o) instruction failed	-		
Source	PLC Function Mo	PLC Function Module		Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instruction will end according to spec			
				cations.			
System-de-	Variable		Data type		Name		
fined variables	_MC_GRP[*].MF	aultLvl.Active	BOOL		Axes Group Mind	or Fault Occur-	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	When the MC_GroupEnable (Ena-		Correct the program so that the		Write the programs so that the		
	ble Axes Group) instruction was		MC_GroupEnable (Enable Axes		MC_GroupEnable (Enable Axes		
	executed, there w	executed, there was a composition		Group) instruction is executed only		Group) instruction is executed only	
	axis that was not	axis that was not stopped.		when all composition axes are		when all composition axes are	
			stopped. An axis is stopped if		stopped. An axis is stopped if		
			Status.Disabled or Status.Standstill		Status.Disabled or Status.Standstill		
			is TRUE in the Axis Variable.		is TRUE in the Axis Variable.		
	When the MC_Gr	roupEnable (Ena-	Correct the program so that the		Write the program so that the		
	ble Axes Group) i		MC_GroupEnable	•	MC_GroupEnabl	•	
		vas a composition		n is executed only		n is executed only	
		MC_TouchProbe	_	uchProbe (Enable	_	uchProbe (Enable	
	(Enable External		1	External Latch) instruction is not		nstruction is not	
	was being execut	ted.	being executed fo	or any of the com-	_	or any of the com-	
			position axes.		position axes.		
Attached infor-		tion 1: Error Location					
mation			e Instruction and In				
	more than one pobe be identified.	ossible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot	
Dresevtions/		anged offer or		and information 41-	tie dienleved	not be correct	
Precautions/	i ii a program is ch	ianged after an erro	or occurs, the attacl	ned information tha	ı is displayed may	not be correct.	
Remarks							

Event name	Impossible Axis C	Operation Specified	when the Servo	Event code	54015441 hex		
Meaning	An operation inst	ruction was execute	ed for an axis for w	hich the Servo is O	FF.		
Source	PLC Function Mo	dule	Source details Instruction		Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence	
	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Mind	or Fault Occur-	
Cause and cor-	Assumed cause		Correction		Prevention		
rection				Correct the program so that the instruction is executed after the Ser-		Make sure to execute the axis operation instruction after the Servo is turned ON.	
			Data Communica systemdefined va EtherCAT master is is FALSE, remo execute the MC_ MC_HomeWithPa tion to preset hom	Ilf the _EC_PDSlavTbl (Process Data Communicating Slave Table) systemdefined variable for the EtherCAT master of the master axis is FALSE, remove the cause and execute the MC_Home or MC_HomeWithParameter instruction to preset home after _EC_PDSlavTbl changes to TRUE.		If you execute the MC_Home or MC_HomeWithParameter instruction to preset home immediately after you turn ON the power supply to the Controller, download data, reset a slave communications error, disconnect the slave, reconnect the slave, enable the slave, or disable the slave, write the program to make sure that the _EC_PDSlavTbl (Process Data Communicating Slave Table) systemdefined variable for the Ether-CAT master is TRUE before you execute MC_Home or MC_Home-WithParameter.	
Attached information	Attached Information 3: Names of the Instruction and Instruction Instance Where the Er more than one possible instruction, information is given on all of them. Nothing is given be identified.				thing is given if the	instruction cannot	
Precautions/ Remarks	ii a program is ch	anged alter an erro	o occurs, the attack	hed information tha	ii is dispiayed may	not be correct.	

Event name	Composition Axis	Stopped Error		Event code	54015442 hex		
Meaning	A motion instruction was executed for an axes group while the MC_Stop instruction was being executed for a composition axis.						
Source	PLC Function Mo	dule	Source details Instruction		Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction will end according to special cations.			ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A motion instructi for an axes group MC_Stop instruct executed for a co	while the ion was being	to the MC_Stop in composition axis the error, and the	Change the <i>Execute</i> input variable to the MC_Stop instruction for the composition axis to FALSE, reset the error, and then execute the motion control instruction.		ute input varia- top instructions position axes to u execute motion	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

Event name	Motion Control In Exceeded	struction Multi-exec	cution Buffer Limit	Event code	54015443 hex		
Meaning	The number of m buffer limit.	The number of motion control instructions that is buffered for Buffered or Blending Buffer Modes exceeded the buffer limit.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At multi-execu- tion of instruc- tions	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An axis instruction was executed when there was already a current instruction and a buffered instruction for the same axis.		Correct the program so that the number of executed instructions does not exceed the buffer limit.		Do not execute an axis instruction when there is already a current instruction and a buffered instruction for the same axis.		
	An axes group instruction was executed when there was already eight current instructions and buffered instructions for the same axis				Do not execute a struction when the eight current and tions for the same	ere are already buffered instruc-	
Attached information	Attached Informa	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.	

Event name	Insufficient Travel	Distance		Event code	54015444 hex	
Meaning			cuted for the decele	eration rate or acce	leration rate that w	as specified for
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instructions.	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
	_MC_GRP[*].MFaultLvl.Active BOOL			Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Stopping at the target position was not possible for the specified acceleration/deceleration rate for multi-execution or re-execution of a positioning instruction when the Acceleration/Deceleration Over parameter was set to generate a minor fault and stop.		Correct the program based on the operating specifications for the instruction so that the target position is not exceeded at the deceleration rate or acceleration rate specified for multi-execution or re-execution of the positioning instruction. Or, change the Acceleration / Deceleration Over parameter to a setting other than to generate a minor fault and stop.		Check the operating specifications for the relevant instruction and write the program so that this error does not occur. Or, change the Acceleration/ Deceleration Over parameter to a setting other than to generate a minor fault and stop.	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.

Event name	Insufficient Travel Distance to Achieve Blending Transit Velocity			Event code	54015445 hex	
Meaning	There is not suffic	cient travel distance	e to accelerate or d	ecelerate to the tra	nsit velocity.	
Source	PLC Function Module Source d		Source details	Instruction	Detection tim- ing	At multi-execu- tion of instruc- tions
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL	BOOL		Occurrence
	_MC_GRP[*].MF	aultLvl.Active	tive BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	There was not sufficient travel distance to accelerate the current command to the transit velocity when the Acceleration/ Deceleration Over parameter was set to generate a minor fault and stop.		Correct the program to allow a sufficient travel distance according to the operating specifications of the instruction. Or, change the Acceleration/ Deceleration Over parameter to a setting other than to generate a minor fault and stop.		Check the operating specifications for the relevant instruction and write the program so that this error does not occur. Or, change the Acceleration/ Deceleration Over parameter to a setting other than to generate a minor fault and stop.	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.

Event name	Move Link Constant Velocity Insufficie tance		ient Travel Dis-	Event code	54015446 hex		
Meaning	The constant-velocity travel distance of the master axis			is less than zero.	1		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end according to specifi-		
System-de-	em-de- Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The constant velo tance of the mast for the MC_Move nous Positioning)	er axis is below 0 Link (Synchro-	Correct the programaster distance is equal to the mast celeration plus the in deceleration.	s greater than or er distance in ac-	Check the operat for the relevant in write the program does not occur.	struction and	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/	be identified. If a program is changed after an error occurs, the attached information that is displayed may not be correct.						

Event name	Docitioning Coor	Operation Inquifficia	ent Target Volesity	Event code	54015447 hex	
		<u> </u>	ent Target Velocity			
Meaning	_	·	Gear Operation) in	istruction, the targe	et velocity of the sl	lave axis is too
	small to achieve t	he required velocity	у.			
Source	PLC Function Module		Source details	Instruction	Detection tim-	At instruction
					ing	execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-
				cations.		
System-de-	Variable	•	Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	For the MC_Gear	InPos (Position-	Set the value of the Velocity		Check the operating specifications	
	ing Gear Operation	on) instruction, the	(Target Velocity) input variable to a		for the relevant instruction and	
	value of the <i>Velo</i> d	city (Target	value that is greater than the mas-		write the program so that this error	
	Velocity) input va	riable is smaller	ter axis velocity m	nultiplied by the	does not occur.	
	than the master a	xis velocity multi-	gear ratio when the	he instruction is		
	plied by the gear	ratio when the in-	executed based of	on the operating		
	struction was exe	cuted.	specifications of t	he instruction.		
Attached infor-	Attached Informa	tion 1: Error Location	on			
mation	Attached Informa	tion 3: Names of th	e Instruction and Ir	struction Instance	Where the Error O	ccurred. If there is
	more than one po	ssible instruction, i	nformation is given	on all of them. No	thing is given if the	instruction cannot
	be identified.					
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	it is displayed may	not be correct.
Remarks						

Event name	Same Start Point	and End Point for 0	Circular Interpola-	Event code	54015448 hex	
	tion					
Meaning	lar2D (Circular 2D		ne same when the ruction. Or, the starepositied.		•	_
Source	PLC Function Mo	dule			Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur-	
					rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The start point and end point were		Correct the program so that the ra-		Do not use the sa	ame start point
	the same when the radius method		dius specification is not used when		and end point wh	•
	was specified for the MC_MoveCir-		the start point and end point for the		circular interpolation with a radius	
	cular2D (Circular 2D Interpolation) instruction.		instruction are the same.		specification.	
	The start point, er	nd point, and bor-	Correct the program so that border		Do not use the same start point,	
	der point were the	e same when the	point specification	is not used	end point, and bo	order point when
	border point meth	•	when the start po	int, end point, and	you execute circular interpolation	
	_	Circular2D (Circu-	border point for th	e instruction are	with a border poir	nt specification.
	lar 2D Interpolation		the same.			
Attached infor-		tion 1: Error Locatio				
mation			e Instruction and In			
	more than one pobe identified.	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot
5 " '				11.6		
Precautions/	It a program is ch	anged after an erro	or occurs, the attach	ned information tha	it is displayed may	not be correct.
Remarks	1					

Event name	Circular Interpola Out of Range	tion Center Specific	cation Position	Event code	54015449 hex			
Meaning	· · ·	cified for the center Circular2D (Circula		_	en the center meth	od was specified		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instructions.	ruction will end acc	ording to specifi-		
System-de-	Variable		Data type		Name			
fined variables	_MC_GRP[*].MF	aultLvl.Active	BOOL		Axes Group Minor Fault Occur- rence			
Cause and cor-	Assumed cause		Correction		Prevention			
Attached infor-	The difference between the distance from the start point to the center point and the distance between the end point to the center point exceeded the permitted value specified for the correction allowance ratio in the axes group settings when the center designation method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction.		difference between from the start point input variable tance between the center point input than the permitter.	nt to the center les and the dis- e end point to the t variables is less d value specified n allowance ratio	Correct the difference distance from the center point and to tween the end popoint so that it do correction allow axes group setting	e start point to the the distance be- point to the center lies not exceed the rance ratio in the		
Precautions/	Attached Informa more than one pobe identified.	tion 3: Names of th possible instruction, i nanged after an erro	e Instruction and Ir nformation is given	on all of them. No	thing is given if the	instruction canno		
Event name	Instruction Execu	tion Error Caused b	y Count Mode		E404E44A b			
	Setting			Event code	5401544A hex			
Meaning		it cannot be used w	hen the Count Mod			d for an axis that		
	An instruction that	it cannot be used w Mode.	hen the Count Mod			d for an axis that At instruction execution		
Source	An instruction that	it cannot be used w Mode.		de is set to Rotary I	Mode was executed	At instruction		
Source Error attributes	An instruction that was set to Rotary PLC Function Mo	it cannot be used w Mode. dule	Source details	de is set to Rotary I	Mode was executed Detection timing	At instruction execution System		
Source Error attributes Effects	An instruction that was set to Rotary PLC Function Mc	t cannot be used w Mode. dule	Source details Recovery	Instruction The relevant instruction	Detection timing Log category	At instruction execution System		
Source Error attributes Effects System-de-	An instruction that was set to Rotary PLC Function Mo Level User program	of cannot be used we'd Mode. Indule Observation Continues.	Source details Recovery Operation	Instruction The relevant instruction	Detection timing Log category ruction will end acc	At instruction execution System ording to specifi-		
Source Error attributes Effects System-de- fined variables	An instruction that was set to Rotary PLC Function McLevel User program Variable	ot cannot be used we'd Mode. Indule Observation Continues.	Source details Recovery Operation Data type	Instruction The relevant instruction	Detection timing Log category ruction will end acco	At instruction execution System ording to specifi-		
Source Error attributes Effects System-de- fined variables Cause and cor- rection	An instruction that was set to Rotary PLC Function McLevel User program Variable _MC_GRP[*].MF. Assumed cause An instruction that when the Count Natury Mode was exist that was set to	Observation Continues. aultLvl.Active at cannot be used work dode is set to Ro- kecuted for an ax- Rotary Mode.	Recovery Operation Data type BOOL Correction Change the Courevant axis to Line	Instruction The relevant instructions.	Detection timing Log category ruction will end acco	At instruction execution System ording to specifi- or Fault Occur- at Mode in which the instruction		
Meaning Source Error attributes Effects System-de- fined variables Cause and cor- rection Attached infor- mation	An instruction that was set to Rotary PLC Function McLevel User program Variable _MC_GRP[*].MF. Assumed cause An instruction that when the Count Name that was set to Attached Informal Attached Informal	Observation Continues. aultLvl.Active It cannot be used word in the cannot be used word in the cannot be used word is set to Rocecuted for an ax-	Recovery Operation Data type BOOL Correction Change the Courevant axis to Line on e Instruction and Ir	Instruction The relevant instructions. The Mode of the relear Mode.	Detection timing Log category ruction will end accompany Name Axes Group Minorence Prevention Confirm the Couryou can execute and set the corrette axis.	At instruction execution System ording to specifiant Mode in which the instruction ct Count Mode for courred. If there is secured.		

Event name	Parameter Soloet	Parameter Selection Out of Range Event code 5401544C hex					
Event name							
Meaning	The parameter sp	pecified for the Para	ameterNumber inpu	it variable to a moti	on control instruction	on is out of range.	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instru		uction will end acc	ording to specifi-	
				cations.			
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFau	IltLvl.Active	BOOL		MC Common Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p	arameter ex-	Correct the paran	neter so that the	Set the input parameter to the in-		
	ceeded the valid	range of the input	valid range of the	input variable is	struction so that t	he valid range of	
	variable.		not exceeded for	the relevant in-	the input variable	is not exceeded.	
			struction.				
Attached infor-	Attached Informa	tion 1: Error Locatio	on				
mation	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot	
	be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Stop Method Sele	ection Out of Range	 e	Event code	5401544D hex	
Meaning	The parameter sp	pecified for the <i>Stop</i>	o <i>Mode</i> input variabl	e to a motion contr	ol instruction is out	of range.
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	relevant instruction will end according to specifins.	
System-de-	Variable Data		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input p ceeded the valid variable.	parameter ex- range of the input	Correct the paran valid range of the not exceeded for struction.	input variable is	Set the input para struction so that t the input variable	he valid range of
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance more than one possible instruction, information is given on all of them. No be identified					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.

Event name	Latch ID Selection Condition	n Out of Range for	Trigger Input	Event code	5401544E hex		
Meaning	The parameter sprange.	pecified for the <i>Trig</i> g	gerInput::LatchID ir	nput variable to a m	notion control instru	ction is out of	
Source	PLC Function Mo	dule	Source details			At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instruction will end according to special cations.		ording to specifi-	
System-de-	Variable	Variable Data type			Name		
fined variables	_MC_AX[*].MFau	ltLvl.Active	BOOL	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction	Prevention			
rection	Instruction input p ceeded the valid in variable.	parameter ex- range of the input	Correct the parar valid range of the not exceeded for struction.	input variable is	Set the input para struction so that t the input variable	he valid range of	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If the more than one possible instruction, information is given on all of them. Nothing is given if the instruction of be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	at is displayed may	not be correct.	

Event name	Setting Out of Ra	nge for Writing MC	Setting	Event code	5401544F hex	
Meaning	The parameter sp	pecified for the Sett	<i>ingValue</i> input varia	able to a motion co	ntrol instruction is o	out of range.
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instruction will end according cations.		ording to specifi-	
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFau	ıltLvl.Active	BOOL		MC Common Minor Fault Occur- rence	
Cause and cor-	e and cor- Assumed cause		Correction		Prevention	
rection	Instruction input p ceeded the valid variable.	parameter ex- range of the input	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
	The parameter sp the data type of the do not agree.		Make corrections rameter settings a types of the setting	and the data	Make sure the pa and the data type ues agree.	rameter settings of the setting val-
Attached information	Attached Informa		on e Instruction and In nformation is given			
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

Event name Trigger Input Condition Mode Selection Out of Range Event code 54015450 hex Meaning The parameter specified for the TriggerInput::Mode input variable to a motion control instruct Source PLC Function Module Source details Instruction Detection timing Error attributes Level Observation Recovery Log category	At instruction execution	
Source PLC Function Module Source details Instruction Detection timing	At instruction	
ing		
	execution	
Error attributes Level Observation Recovery Log category		
	System	
Effects User program Continues. Operation The relevant instruction will end accompany to the continues.	ording to specifi-	
cations.		
System-de- Variable Data type Name	Name	
fined variables _MC_AX[*].MFaultLvl.Active BOOL Axis Minor Fault	Axis Minor Fault Occurrence	
Cause and cor- Assumed cause Correction Prevention	Prevention	
rection Instruction input parameter ex- Correct the parameter so that the Set the input parameter parameter in the set of the parameter in the set of the input parameter in the set of the th	Set the input parameter to the in-	
ceeded the valid range of the input valid range of the input variable is struction so that	struction so that the valid range of	
variable. not exceeded for the relevant in-	e is not exceeded.	
struction.		
Attached infor- Attached Information 1: Error Location		
mation Attached Information 3: Names of the Instruction and Instruction Instance Where the Error C	ccurred. If there is	
more than one possible instruction, information is given on all of them. Nothing is given if the	instruction cannot	
be identified.		
Precautions/ If a program is changed after an error occurs, the attached information that is displayed may	not be correct.	
Remarks		

Event name	Drive Trigger Sign ger Input Condition	nal Selection Out o	f Range for Trig-	Event code	54015451 hex		
Meaning	The parameter sprange.	pecified for the <i>Trig</i>	gerInput::InputDriv	e input variable to	a motion control ins	truction is out of	
Source	PLC Function Mo	dule	Source details	Instruction Detection timing		At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instruction will end according to spe cations.		ording to specifi-	
System-de-	Variable Data type			Name			
fined variables	_MC_AX[*].MFau	IltLvl.Active	BOOL	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	Prevention	
rection	Instruction input p ceeded the valid variable.	parameter ex- range of the input	Correct the parar valid range of the not exceeded for struction.	input variable is	Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If the more than one possible instruction, information is given on all of them. Nothing is given if the instruction can be identified						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information th	at is displayed may	not be correct.	

Event name	Motion Control In is Specification)	struction Re-execu	tion Disabled (Ax-	Event code	54015453 hex		
Meaning	· ·	•	parameter for the a	•	•	a motion control	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instruction will end according to speciations.		ording to specifi-	
System-de-	Variable		Data type Na		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL	BOOL Axis Minor		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for a that cannot be ch cution was chang	anged for re-exe- ed.	rameter for the re ble does not char vant instruction is	am so that the pa- levant input varia- nge when the rele- re-executed.	control instruction	ne relevant motion of can be changed Write the program parameters for e that cannot be	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannube identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	

Event name	Motion Control In (Buffer Mode Sele	struction Re-execu	tion Disabled	Event code	54015454 hex		
Meaning	An attempt was made to change the control instruction. (This input variable		•			•	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	nstruction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	IltLvl.Active	BOOL		Axis Minor Fault Occurrence		
	_MC_GRP[*].MF	aultLvl.Active	BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention	revention	
rection	A parameter for a that cannot be ch	anged for re-exe-		am so that the pa- levant input varia-	Check the manual to see if the input variables to the relevant motion control instruction can be changed by re-execution. Write the program so that the input parameters for any input variable that cannot be changed do not change upon re-		
	cution was chang		vant instruction is	•	by re-execution. It so that the input pany input variable	Write the program parameters for e that cannot be	
Attached information	Attached Informa	tion 1: Error Location tion 3: Names of th pssible instruction, i	vant instruction is on e Instruction and In	re-executed.	by re-execution. No so that the input pany input variable changed do not continue execution.	Write the program parameters for that cannot be change upon re-	

Event name		struction Re-execu	tion Disabled (Di-	Event code	54015455 hex	
Magning	rection Selection)		navamentar for the	Direction innerty and		uting a marting
Meaning		nade to change the n. (This input variab	•			•
Source	PLC Function Mo	-	Source details	Instruction	Detection tim-	At instruction re-
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-
System-de-	Variable	'	Data type		Name	
fined variables	_MC_AX[*].MFau	ıltLvl.Active	BOOL		Axis Minor Fault	Occurrence
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An input variable that cannot be changed for re-execution was changed.		Correct the program so that the parameter for the relevant input variable does not change when the relevant instruction is re-executed.		Check the manual to see if the input variables to the relevant motion control instruction can be changed by re-execution. Write the program so that the input parameters for any input variable that cannot be changed do not change upon reexecution.	
Attached infor- mation	Attached Informa	tion 1: Error Location 3: Names of the pssible instruction, i	e Instruction and Ir			
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.
Event name	Motion Control In ecution Mode)	struction Re-execu	tion Disabled (Ex-	Event code	54015456 hex	
Meaning		nade to change the	-	-		ting a motion con-
Source	PLC Function Mo	odule	Source details	Instruction	Detection tim- ing	At instruction re- execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-
System-de-	Variable		Data type	Cations.	Name	
fined variables	_MC_AX[*].MFau	ultl vl. Active	BOOL		Axis Minor Fault	Occurrence
Cause and cor-					Prevention	Occurrence
rection	A parameter for an input variable that cannot be changed for re-execution was changed. Correct the program so that the prameter for the relevant input variable does not change when the revant instruction is re-executed.		elevant input variange when the rele-	Check the manual put variables to the control instruction	ne relevant motion n can be changed Write the program parameters for e that cannot be	
Attached infor- mation	Attached Informa	tion 1: Error Location tion 3: Names of th possible instruction, i	e Instruction and Ir			
Precautions/ Remarks		anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.

Event name	Motion Control In	struction Re-execuration)	tion Disabled (Ax-	Event code	54015457 hex	
Meaning		•	parameter for the AxesGroup input valle cannot be changed when re-executi		•	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction re- execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	or- Assumed cause Co		Correction		Prevention	
rection	A parameter for a that cannot be ch cution was chang	anged for re-exe-	rameter for the re	am so that the palevant input variage when the relere-executed.	control instruction	ne relevant motion of can be changed Write the program parameters for that cannot be
Attached information	Attached Informa		on e Instruction and In nformation is given			
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

Event name	Motion Control Instruction Re-execution Disabled (Jerk Setting)			Event code	54015458 hex	
Meaning	An attempt was made to change the parameter for the <i>Jerk</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction re- execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instruction will end according to cations.		ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence	
	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A parameter for a that cannot be ch cution was chang	anged for re-exe-	rameter for the re	am so that the palevant input varia- ige when the rele- re-executed.	ria- put variables to the relevan	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.

Event name	Motion Control Ins (Master Axis)	struction Re-execu	tion Disabled	Event code	54015459 hex	
Meaning		•		meter for the <i>Master</i> input variable when re-executing a motion be changed when re-executing an instruction.)		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction re- execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instructions.		uction will end according to specifi-	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A parameter for an input variable that cannot be changed for re-execution was changed. Correct the program so that rameter for the relevant input ble does not change when vant instruction is re-execution.		levant input varia- ige when the rele-	control instruction	ne relevant motion of can be changed Write the program parameters for that cannot be	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/	If a program is ch	anged after an erro	or occurs, the attack	ned information tha	t is displayed may	not be correct.
Remarks						

Event name	Motion Control In (MasterOffset)	struction Re-execu	tion Disabled	Event code	5401545A hex		
Meaning	An attempt was made to change the control instruction. (This input variable		•	•		•	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		uction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL	Axis Minor I		or Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	that cannot be ch	A parameter for an input variable that cannot be changed for re-execution was changed. Correct the program so that the rameter for the relevant input ble does not change when the vant instruction is re-executed.		levant input varia- nge when the rele-	- put variables to the relevant motion		
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred more than one possible instruction, information is given on all of them. Nothing is given if the instruction be identified.						
Precautions/ Remarks	If a program is ch	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

Event name	Motion Control In (MasterScaling)	struction Re-execu	tion Disabled	Event code	5401545B hex	
Meaning	An attempt was n	nade to change the ction. (This input va	-			_
Source	PLC Function Mo		Source details	Instruction	Detection tim-	At instruction re- execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ıltLvl.Active	BOOL		Axis Minor Fault	Occurrence
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A parameter for an input variable that cannot be changed for re-execution was changed.		Correct the program so that the parameter for the relevant input variable does not change when the relevant instruction is re-executed.		Check the manual to see if the input variables to the relevant motion control instruction can be changed by re-execution. Write the program so that the input parameters for any input variable that cannot be changed do not change upon re-execution.	
Attached infor- mation	Attached Informa	tion 1: Error Location tion 3: Names of th pssible instruction, i	e Instruction and Ir			
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.
Event name	Motion Control Instruction Re-execution Disabled (MasterStartDistance) Event code 5401545C hex					
Meaning		nade to change the struction. (This inpu	-		-	_
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction re- execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	MC AX[*].MFau	ıltLvl.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A parameter for an input variable that cannot be changed for re-execution was changed.		Correct the program so that the parameter for the relevant input variable does not change when the relevant instruction is re-executed.		put variables to the relevant motio	
Attached infor- mation	Attached Informa more than one po	tion 1: Error Location tion 3: Names of the possible instruction, i	e Instruction and Ir			
	be identified.					

Event name	Motion Control Instruction Re-execution (Continuous)		tion Disabled	Event code	5401545D hex	
Meaning		•	parameter for the le cannot be chang	•		•
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction re- execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	struction will end according to specifi-	
System-de-	- Variable Data type			Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A parameter for a that cannot be ch cution was chang	anged for re-exe- ed.	rameter for the re ble does not char vant instruction is	am so that the palevant input variage when the relere-executed.	Check the manual to see if the input variables to the relevant motion control instruction can be changed by re-execution. Write the program so that the input parameters for any input variable that cannot be changed do not change upon re-execution.	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	If a program is changed after an error occurs, the attached information that is displayed may not be correct.				

Event name	Motion Control In: (MoveMode)	struction Re-execu	tion Disabled	Event code	5401545E hex	
Meaning	An attempt was made to change the control instruction. (This input variable		•	•		· ·
Source	PLC Function Mo	dule			Detection tim- ing	At instruction re- execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instructions.		uction will end according to specifi-	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ltLvl.Active	BOOL	Axis Minor Fault Occurre		Occurrence
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A parameter for a that cannot be ch cution was chang	anged for re-exe-	rameter for the re	am so that the pa- levant input varia- nge when the rele- re-executed.	ria- put variables to the relevant	
Attached information	Attached Informa		e Instruction and In	estruction Instance to on all of them. Not		
Precautions/ Remarks	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

Event name	Illegal Auxiliary Axis Specification		Event code	5401545F hex			
Meaning	The axis specified	for the <i>Auxiliary</i> in	nput variable to a m	otion control instru	ction does not exis	t.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instruction cations.		ction will end according to specifi-	
System-de-	Variable Data type			Name			
fined variables	_MC_AX[*].MFau	_MC_AX[*].MFaultLvl.Active BOOL			Axis Minor Fault Occurrence		
Cause and cor-	- Assumed cause		Correction	rection		Prevention	
rection	ble specified for the	An axis does not exist for the variable specified for the <i>Auxiliary</i> input variable to the instruction. Correct the instruction so that the variable exists for the axis that was specified for the instruction.		the axis that was	Make sure to specify variables that exist when specifying variables for the input parameters to an instruction.		
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	

Event name	Illegal Axis Specification Event code 54015460 hex						
Meaning	The axis specified for the Axis input variable to a motion control instruction does not exist.						
Source	PLC Function Mo	dule	Source details Instruction		Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	ording to specifi-	
System-de-	Variable		Data type BOOL		Name		
fined variables	_MC_COM.MFau	IltLvl.Active			MC Common Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An axis does not exist for the varia-		Correct the instruction so that the		Make sure to specify variables that		
	ble specified for the	he <i>Axis</i> input vari-	variable exists for	the axis that was	exist when specifying variables for		
	able to the instruc	ction.	specified for the in	nstruction.	the input parameters to an instruc-		
					tion.		
Attached infor-	Attached Information 1: Error Location						
mation			e Instruction and In				
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					instruction cannot	
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	Illegal Axes Grou	p Specification		Event code	54015461 hex		
Meaning		The axes group specified for the <i>AxesGroup</i> input variable to a motion control instruction does not exist or is not a used group.					
Source	PLC Function Mo	dule	The state of the s		Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instructions.	ant instruction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables _MC_COM.M		ltLvl.Active	BOOL		MC Common Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction	Correction			
rection	An axes group does not exist for the variable specified for the AxesGroup input variable to the instruction			Correct the specification for the instruction so that the specified axes group exists.		e that exists when able for an input nstruction.	
	The axes group s AxesGroup input struction is not sp group.	variable to the in-	Correct the axes group specified by the instruction to a used group.		Set a used axes group for the <i>AxesGroup</i> input variable to the instruction.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	at is displayed may	not be correct.	
Remarks							

Event name	Illegal Master Axi	s Specification		Event code	54015462 hex		
Meaning		pecified for the <i>Mas</i>	ster input variable to			rrect.	
Source		PLC Function Module		Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	vant instruction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFau	ıltLvl.Active	BOOL		MC Common Mir rence	nor Fault Occur-	
	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Occurrence	
Cause and cor-	An axis does not exist for the variable specified for the <i>Master</i> input variable to the instruction. The axis that was specified for the <i>Master</i> input variable to the MC_Phasing (Shift Master Axis Phase) instruction is not the master axis for syncing.		Correction		Prevention		
rection			specified for the in Correct the variate the <i>Master</i> input of MC_Phasing (Shiphase) instruction ble that is specificaxis of the synchrostruction.	specifying a variable parameter to an instruction. The extra the variable that is input to parameter to an instruction and instruction. The extra the variable that is input to parameter to an instruction to the master input variable the master input variable the master instruction to the axis variation to the synchronized control in-		nstruction. ble that is input to variable of the ift Master Axis in to the axis variated as the master ronized control in-	
	The master axis and a slave axis are not assigned to the same task.		Assign the axes that are input to the <i>Master</i> and <i>Slave</i> input variables to the instruction to the same task.		Specify axes that are assigned to the same tasks for the master and slave axes.		
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	it is displayed may	not be correct.	
Remarks							

Event name	Motion Control In: (SlaveOffset)	struction Re-execu	tion Disabled	Event code	54015463 hex	
Meaning		•	SlaveOffset input ved when re-execut		ecuting a motion o	control instruction.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction re- execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ant instruction will end according to speci	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A parameter for an input variable that cannot be changed for re-execution was changed.		Correct the program so that the parameter for the relevant input variable does not change when the relevant instruction is re-executed.		put variables to the relevant motion	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	hed information tha	t is displayed may	not be correct.

Event name	Motion Control In: (SlaveScaling)	struction Re-execu	tion Disabled	Event code	54015464 hex		
Meaning		•	SlaveScaling input variable when re-executing a motion control instruc- hanged when re-executing an instruction.)				
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction will end according cations.		ording to specifi-		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable that cannot be changed for re-execution was changed.		Correct the program so that the parameter for the relevant input variable does not change when the relevant instruction is re-executed.		put variables to the relevant motion		
Attached information	Attached Informa	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is changed after an error occurs, the attached information that is displayed may not be correct.						

Event name	Motion Control In (StartPosition)	struction Re-execu	tion Disabled	Event code	54015465 hex		
Meaning		•		StartPosition input variable when re-executing a motion control instruc- nanged when re-executing an instruction.)			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instruction will end according cations.		ording to specifi-	
System-de-	Variable		Data type	Data type			
fined variables	_MC_AX[*].MFau	ltLvl.Active	BOOL	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	'	rameter for the relevant input variable does not change when the relevant instruction is re-executed.		Check the manual to see if the input variables to the relevant motion control instruction can be changed by reexecution. Write the program so that the input parameters for any input variable that cannot be changed do not change upon reexecution.			
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	Instruction Execu	tion Error with Und	efined Home	Event code	54015466 hex			
Meaning	High-speed homi	ng or an interpolation	on instruction was	executed when hor	me was undefined.			
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant inst cations.	ruction will end acc	uction will end according to specifi-		
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence		
	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Mind rence	or Fault Occur-		
Cause and cor-	Assumed cause		Correction		Prevention			
rection	High-speed homing was executed when home was undefined.		Execute the high-speed homing operation only after homing to define home.		Execute the high-speed homing instruction only after home is defined by homing.			
	An interpolation in executed for an a cludes an axis withome. One of the followitions was executed group that include with no defined here. MC_SetKinTra MC_MoveTime MC_SyncLines MC_SyncLut MC_GroupMor MC_GroupMor	xes group that in- th no defined ng robot instruc- ed for an axes es a logical axis ome. nsform eAbsolute arConveyor	all axes in the axe	ng to define home for axes group before interpolation instruction. Perform homing to defin all axes in the axes group executing the interpolation.		es group before		
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannobe identified.							
Precautions/ Remarks	If you execute	_	struction after perfo		that is displayed m	=		

Event name	Motion Control Insition Type)	struction Re-execu	tion Disabled (Po-	Event code	54015467 hex		
Meaning	An attempt was n	An attempt was made to change the <i>ReferenceType</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		uction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable that cannot be changed for re-execution was changed.		rameter for the re	am so that the pa- elevant input varia- nge when the rele- re-executed.	· .	ne relevant motion or can be changed Vrite the program parameters for e that cannot be	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	

Event name	Unused Axis Spe	cification for Maste	r Axis	Event code	54015468 hex	
Meaning	The master axis s	pecified for a motion	on control instruction	n is an unused axi	S.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instruction will end accordant cations.		ording to specifi-	
System-de-	Variable		Data type	Data type		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The master axis specified for a motion control instruction is an unused axis.			Set a used axis for the master axis that is specified for the instruction.		aster axis speci- n control instruc- s.
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.

Event name	First Position Set	ting Out of Range		Event code	54015469 hex		
Meaning	The parameter sp	ecified for the First	<i>Position</i> input varia	ble to a motion cor	ntrol instruction is o	ut of range.	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acco	ording to specifi-	
			cations.				
System-de-			Data type	Data type		Name	
fined variables			BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex-		Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid	range of the input	valid range of the input variable is		struction so that the valid range of		
	variable.		not exceeded for	not exceeded for the relevant in-		the input variable is not exceeded.	
			struction.				
Attached infor-	Attached Informa	tion 1: Error Locatio	on				
mation	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error Oc	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot	
	be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Last Position Sett	ing Out of Range		Event code	5401546A hex		
Meaning	The parameter sp	ecified for the <i>Last</i>	<i>tPosition</i> input varia	ble to a motion cor	ntrol instruction is o	ut of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instruction will end according to sp cations.		ording to specifi-	
System-de-			Data type	Data type			
fined variables			BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter exceeded the valid range of the input variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	Attached Informa	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	

Event name	Illegal First/Last F	Position Size Relation	onship (Linear	Event code	5401546B hex			
Meaning	The parameter sp	The parameter specified for the <i>LastPosition</i> input variable to a motion control instruction is smaller than the parameter specified for the <i>FirstPosition</i> input variable.						
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-		
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The value of the I put parameter is I ue of the <i>FirstPos</i> ble for the instruc Count Mode is se	ess than the val- sition input varia- tion when the		Position specified is larger than the Position.	Write the program of the LastPositi the instruction is value of the First check to make su Mode of the relev Rotary Mode.	larger than the Position. Or, ire that the Count		
Attached infor- mation	Attached Informati	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	it is displayed may	not be correct.		
Event name	Master Sync Star	t Position Setting C	out of Range	Event code	5401546C hex			
Meaning	The parameter sp	pecified for the <i>Mas</i>	terSyncPosition inp	out variable to a mo	otion control instruc	tion is out of		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-		
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.			
Attached information	Attached Informati	tion 1: Error Location tion 3: Names of th essible instruction, i	e Instruction and Ir					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	it is displayed may	not be correct.		

Event name	Slave Sync Start	Position Setting Ou	ıt of Range	Event code	5401546D hex		
Meaning	The parameter sp	The parameter specified for the <i>SlaveSyncPosition</i> input variable to a motion control instruction is out of range.					
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acco	ording to specifi-	
			cations.				
System-de-			Data type	Data type		Name	
fined variables			BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex-		Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid range of the input		valid range of the input variable is		struction so that the valid range of		
	variable.		not exceeded for the relevant in-		the input variable is not exceeded.		
			struction.				
Attached infor-	Attached Informat	tion 1: Error Locatio	on				
mation	Attached Informat	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error Od	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot	
	be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Duplicate Latch II	O for Trigger Input (Condition	Event code	5401546E hex		
Meaning	The same latch I	O was specified for	more than one mo	tion control instruc	tion.		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		truction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	robe (Enable Extended Struction, MC_Monous Positioning) MC_MoveFeed (Instruction.	than one of the ons: MC_TouchP- ernal Latch) in- oveLink (Synchro- instruction, and nterrupt Feeding)	same latch ID is nother instruction as this instruction ferent latch ID or any instructions to latch ID at the sallatch 1 and latch being in use during the MC_Home or Parameter instructions.	Correct the program so that the same latch ID is not used by another instruction at the same time as this instruction. Either use a different latch ID or do not execute any instructions that use the same latch ID at the same time. Both latch 1 and latch 2 are treated as being in use during execution of the MC_Home or MC_HomeWith-Parameter instruction.		Do not use the same latch ID simultaneously for more than one of the following instructions: MC_TouchProbe (Enable External Latch) instruction, MC_MoveLink (Synchronous Positioning) instruction, and MC_MoveFeed (Interrupt Feeding) instruction.	
	The MC_AbortTrigger (Disable External Latch) instruction was executed to cancel a latch that was used by an instruction other than the MC_TouchProbe (Enable External Latch) instruction.		Do not use the Disable External Latch instruction to cancel a latch that is used by an instruction other than the Enable External Latch instruction.		Do not execute the Disable External Latch instruction for a latch that is used by an instruction other than the Enable External Latch instruction.		
Attached information	Attached Informa	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified					
Precautions/ Remarks		•			that is displayed m ot used by any othe	•	

Event name	Jerk Override Fac	ctor Out of Range		Event code	5401546F hex			
Meaning	The parameter sp	pecified for the <i>Jerk</i>	<i>Factor</i> input variab	le to a motion cont	rol instruction is out	of range.		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instructions.	ruction will end acc	ording to specifi-		
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	IltLvl.Active	BOOL		Axis Minor Fault	Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention			
rection	ceeded the valid range of the input valid range of the input variable is struction		Set the input para struction so that t the input variable	he valid range of				
Attached infor- mation	Attached Informa	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	at is displayed may	not be correct.		
Event name	Acceleration/Dec	eleration Override l	Factor Out of	Event code	54015470 hex			
Meaning	The parameter sp	pecified for the Acc	Factor input variabl	e to a motion contr	ol instruction is out	of range.		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instructions.	ruction will end acc	ording to specifi-		
System-de-	Variable	•	Data type	•	Name			
fined variables	_MC_AX[*].MFau	IltLvI.Active	BOOL		Axis Minor Fault	Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention			
Instruction inpu ceeded the valid variable.		parameter ex- range of the input	Correct the paran valid range of the not exceeded for struction.	input variable is	Set the input para struction so that t the input variable	he valid range of		
Attached infor-	Attached Informa	tion 1: Error Location	on					

Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot

If a program is changed after an error occurs, the attached information that is displayed may not be correct.

mation

Precautions/

Remarks

be identified.

	E: (B ::: 14 (540454741	
Event name	First Position Met	hod Specification C	Jut of Range	Event code	54015471 hex	
Meaning	The parameter sp	ecified for the Star	tMode input variabl	e to a motion contr	ol instruction is out	of range.
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction
					ing	execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Operation The relevant instructions.		ording to specifi-
						-
System-de-	Variable Data type _MC_AX[*].MFaultLvl.Active BOOL		Data type	Name		
fined variables			BOOL	BOOL		Axis Minor Fault Occurrence
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input parameter ex-		Correct the parameter so that the		Set the input parameter to the in-	
	ceeded the valid range of the input		valid range of the input variable is		struction so that the valid range of	
	variable.		not exceeded for	the relevant in-	the input variable is not exceeded.	
			struction.		-	
Attached infor-	Attached Informat	tion 1: Error Location	on			
mation	Attached Informati	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot
	be identified.		-			
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.
Remarks						

Event name	Motion Control In: (First Position Me	struction Re-execu	tion Disabled	Event code	54015472 hex		
Meaning		•	StartMode input voled when re-execut		ecuting a motion co	ontrol instruction.	
Source	PLC Function Mo	dule	ocaroo dotano		Detection tim- ing	At instruction re- execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instruction will end according to speciations.		ording to specifi-	
System-de-	Variable Data type _MC_AX[*].MFaultLvl.Active BOOL			Name			
fined variables				Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention		
rection	that cannot be changed for re-exe- cution was changed.		rameter for the re	Correct the program so that the parameter for the relevant input variable does not change when the relevant instruction is re-executed.		put variables to the relevant motion	
Attached information	Attached Informati	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	f a program is changed after an error occurs, the attached information that is displayed may not be correct.					

Event name	Unused Axis Specification for Auxiliary Axis			Event code	54015474 hex	
Meaning	The axis specified	for the <i>Auxiliary</i> ir	nput variable to a m	otion control instru	ction is an unused	axis.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instruction will cations.		uction will end acc	ording to specifi-
System-de-	Variable Data type			Name		
fined variables	_MC_AX[*].MFaultLvl.Active B0		BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The axis specified input variable to the an unused axis.		Set a used axis for specified for the incorrect the param specifies a used a	nstruction. Or, neter so that it	Make sure that the for the instruction	•
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.

Event name	Position Gear Val	ue Error		Event code	54015475 hex	
Meaning			for the velocity, ac	celeration rate, and	deceleration rate	that were input to
	a motion control i	nstruction.				
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction
					ing	execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-
				cations.		
System-de-	Variable I		Data type	Data type		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The specified syn	chronized motion	Correct the program to enable		Check the processing of the rele-	
	cannot be perforn	ned at the veloci-	synchronized motion according to		vant instruction and set a value	
	ty, acceleration ra		the operating spe	•	that allows for sy	nchronized mo-
	tion rate that is in	•	MC GearInPos (I		tion.	
	tion.		Operation) instruc	•		
Attached infor-	Attached Informat	tion 1: Error Location	. ,			
mation			e Instruction and Ir	atruction Instance	Where the Error O	courred If there is
mation						
		issible instruction, I	nformation is given	on all of them. Not	ining is given if the	msuuction cannot
	be identified.					
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.
Remarks						

Event name	Position Gear Ma	ster Axis Zero Velo	city	Event code	54015476 hex		
Meaning	The velocity of the	e master axis was z	zero when a motior	control instruction	was started.		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acco	ording to specifi-	
			cations.				
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The velocity of the master axis was		Correct the program so that the ve-		Write the program so that the ve-		
	0 when the instru	ction was started.	locity of the maste	ocity of the master axis is not 0		er axis is not 0	
			when the instructi	on is started.	when the instructi	on is started.	
Attached infor-	Attached Informat	tion 1: Error Locatio	on				
mation	Attached Informat	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error Oc	curred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot	
	be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Target Position S	etting Out of Range)	Event code	54015478 hex	
Meaning	The parameter sp	pecified for the Posi	ition input variable to a motion control instruction is out of range.			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end according to specifi-	
System-de-	n-de- Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Occurrence
	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction	Correction		
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
	The target position Mode axis is not ting range.	on of a Rotary within the ring set-	Correct the target position of the Rotary Mode axis to within the ring setting range.		Set the target position of the Rotary Mode axis to within the ring setting range.	
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	f a program is changed after an error occurs, the attached information that is displayed may not be correct.				

Event name	Travel Distance C	Out of Range		Event code	54015479 hex			
Meaning	· ·	at was specified for tion with the value o			on control instructio	n is out of range		
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acco	ording to specifi-		
System-de-	Variable	•	Data type		Name			
fined variables	_MC_AX[*].MFaultLvl.Active _MC_GRP[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Occurrence		
			BOOL		Axes Group Minor Fault Occur-			
Cause and cor-	Assumed cause		Correction		Prevention			
Attached infor-	when the absolute verted to pulses. Attached Informa	ter exceeded the ata when it is con- e axis, the target aravel distance signed 40-bit data e value is con- tion 1: Error Location	Correct the input parameter specified for the <i>Distance</i> input variable of the instruction so that the travel distance and the target position are not out of range. Write the program so that the distance and the target position are not out of the instruction are not out of the			target position for e not out of range.		
mation		Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.		

Event name	Com Toble Start [Point Cotting Out of	f Danga	Event code	5401547A box	Cam Table Start Point Setting Out of Range Event code 5401547A hex						
Event name												
Meaning	The parameter sp	ecified for the Star	<i>tPosition</i> input varia	able to a motion co	ntrol instruction is o	out of range.						
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction						
					ing	execution						
Error attributes	Level	Observation	Recovery		Log category	System						
Effects	User program	Continues.	Operation	Operation The relevant instru		ording to specifi-						
				cations.								
System-de-	Variable Da		Data type	Data type		Name						
fined variables	_MC_AX[*].MFaultLvl.Active BOOL		BOOL	3OOL		Axis Minor Fault Occurrence						
Cause and cor-	Assumed cause		Correction		Prevention							
rection	Instruction input parameter ex-		Correct the parameter so that the		Set the input parameter to the in-							
	ceeded the valid i	range of the input	valid range of the	input variable is	struction so that the valid range of							
	variable.		not exceeded for	the relevant in-		is not exceeded.						
			struction.									
Attached infor-	Attached Informati	tion 1: Error Location	on									
mation	Attached Informati	tion 3: Names of th	e Instruction and Ir	struction Instance	Where the Error O	ccurred. If there is						
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot						
	be identified.											
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.						
Remarks												

Event name	Com Master Avia	ram Master Axis Following First Position Setting Out Event code 5401547B hex						
Event name		Following First For	Sition Setting Out	Event code	3401347B flex			
	of Range							
Meaning	The parameter sp	ecified for the <i>Mas</i>	<i>sterStartDistance</i> in	put variable to a m	otion control instruc	ction is out of		
	range.							
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction		
					ing	execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-		
				cations.				
System-de-			Data type	Data type BOOL		Name		
fined variables			BOOL			Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Instruction input p	arameter ex-	Correct the parameter so that the		Set the input parameter to the in-			
	ceeded the valid i	range of the input	valid range of the input variable is		struction so that the valid range of			
	variable.		not exceeded for the relevant in-		the input variable is not exceeded.			
			struction.					
Attached infor-	Attached Informati	tion 1: Error Location	on		1			
mation	Attached Informat	tion 3: Names of th	e Instruction and Ir	struction Instance	Where the Error O	ccurred. If there is		
	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot							
	be identified.	oololo modadollon, i	morniation to given	on all of thom. No	aming to given it the	mondonon odmiot		
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct		
Remarks	in a program is on	angoa anor an enc	o oodis, inc allaci		it is aispiayed fliay	not be correct.		
Itelliaika	l							

Event name	Circular Interpolat	tion Radius Setting	Error	Event code	5401547C hex	
Meaning				rified radius when the	he radius method v	vas specified for
	the MC_MoveCirc	cular2D (Circular 2	D Interpolation) ins	truction.		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction
					ing	execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	·		uction will end acc	ording to specifi-
			cations.			
System-de-	-		Data type	Data type		
fined variables			BOOL		Axes Group Minor Fault Occur-	
						rence
Cause and cor-	Assumed cause		Correction		Prevention	
rection	For the MC_MoveCircular2D (Cir-		Correct the radius so that the circu-		Check the processing of the rele-	
	cular 2D Interpolation) instruction,		lar path can be created.		vant instruction and set a radius	
	it was not possible to create a cir-				that allows the creation of a circular	
	cular path for the specified radius				path.	
	when the radius n	nethod was				
	specified for circu	lar interpolation.				
Attached infor-	Attached Informat	tion 1: Error Location	on			
mation	Attached Informat	tion 3: Names of th	e Instruction and Ir	struction Instance	Where the Error O	ccurred. If there is
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot
	be identified.					
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.
Remarks						

Event name	Circular Interpola	tion Radius Overflo	DW .	Event code	5401547D hex		
Meaning	For the MC_Move	eCircular2D (Circul	ar 2D Interpolation)) instruction, the rac	dius of the circle ex	ceeded the maxi-	
	mum value for the	e border point or ce	enter specification n	nethod.			
Source	PLC Function Mc	dule	Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instructions.	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_GRP[*].MF	aultLvl.Active	BOOL		Axes Group Mind	or Fault Occur-	
						rence	
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	For the MC_Move	eCircular2D (Cir-	Correct the input	parameter so that	Check the processing of the in-		
	cular 2D Interpola	ation) instruction,	the circle radius of	the circle radius does not exceed		struction and correct the input pa-	
	the radius of the	circle exceeded	40-bit data when	it is converted to	rameters so that the circle radius		
	40-bit data when	it is converted to	pulses based on	the operating	does not exceed 40-bit data it is		
	pulses for the bor	der point or cen-	specifications of t	the instruction.	when converted to pulses.		
	ter specification r	nethod.	Border point spec	cification: Start			
			point, border poin	•			
			Center point spec	cification: Start			
			point, end point, a	and center point			
Attached infor-	Attached Informa	tion 1: Error Location	on				
mation	Attached Informa	tion 3: Names of th	e Instruction and Ir	nstruction Instance	Where the Error O	ccurred. If there is	
	more than one po	ossible instruction, i	information is given	on all of them. No	thing is given if the	instruction cannot	
	be identified.						
Precautions/	If a program is	changed after an e	error occurs, the att	ached information	that is displayed m	ay not be correct.	
Remarks	If the maximun	n radius is exceede	ed when the radius	specification metho	od is used, a Borde	r Point/Center Po-	
	sition/Radius S	Specification Out of	Range error occurs	S.			

Event name	Circular Internala	Circular Interpolation Setting Out of Range Event code 5401547E hex							
Meaning	· ·		Axes input variable						
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction			
					ing	execution			
Error attributes	Level	Observation	Recovery		Log category	System			
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-			
System-de-	Variable		Data type		Name				
fined variables	_MC_GRP[*].MF	aultLvl.Active	BOOL		Axes Group Mino	or Fault Occur-			
					rence				
Cause and cor-	and cor- Assumed cause		Correction		Prevention				
	Instruction input parameter exceeded the valid range of the input		Correct the parameter so that the valid range of the input variable is		Set the input parameters to the instruction so that the valid range of				
	variable.			not exceeded for the relevant in-		the input variables is not exceeded.			
	variable.		struction.		the input variables is not exceeded.				
	The axes that were specified in		Set the axes that are specified for		Make sure that the axes that are				
	CircAxes are not included in the		CircAxes so that they are in an ax-		specified for CircAxes are in an ax-				
	composition axes in the Axes		es group configuration.		es group configuration.				
	Group Settings.								
	The same axis w	-		Correct the settings so that the two axes specified for <i>CircAxes</i> are dif-		n so that the two			
	both axes of Circ.	Axes.	'			r CircAxes are dif-			
			ferent axes.		ferent axes.				
Attached infor-		tion 1: Error Location							
mation			e Instruction and In						
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cabe identified.								
Precautions/	If a program is ch	If a program is changed after an error occurs, the attached information that is displayed may not be correct.							
Remarks									

Event name	Auxiliary/Slave Ax	ris Numbers Not in	Ascending Order	Event code	5401547F hex		
Meaning		The values of the parameters for the <i>Auxiliary</i> and <i>Slave</i> input variables to a motion control instruction are not in ascending order.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instruction w cations.		ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The parameters for and <i>Slave</i> input volumestruction are not inder.	ariables to the in-	for the <i>Auxiliary</i> a parameters to the	Correct the axis numbers specified or the <i>Auxiliary</i> and <i>Slave</i> input parameters to the instruction so that they are in ascending order.		Write the program so that the axis numbers specified for <i>Auxiliary</i> and <i>Slave</i> are in ascending order.	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	

Event name	Cam Table Prope	rty Ascending Data	Error at Update	Event code	54015480 hex			
Meaning	A phase that was not in ascending order was found during calculating the number of valid data. Or, after calculations, the number of valid data is 0.							
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	During instruc- tion execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	uction will end according to specifi-		
System-de-	Variable		Data type		Name			
fined variables	_MC_COM.MFau	IltLvl.Active	BOOL		MC Common Minor Fault Occur- rence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	order was found \	A phase that was not in ascending order was found when calculating the number of valid data.		Place the phase data into ascending order in the cam table data.		Place the phase data into ascending order in the cam table data.		
	After calculations, the number of valid data is 0.		Correct the cam table data so that it includes phases that are not 0.		Create the cam table data so that it includes phases that are not 0.			
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.							
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.		

Event name	MC_Write Target	Out of Range		Event code	54015481 hex		
Meaning			get input variable to	a motion control in	struction is out of r	ange.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-	
System-de-	Variable Data type		Data type		Name		
fined variables	_MC_COM.MFau	ltLvl.Active	BOOL		MC Common Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p ceeded the valid variable.	parameter ex- range of the input	valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	

Event name	Master Travel Distance Specification Out of Range Event code 54015482 hex						
		· · · · · · · · · · · · · · · · · · ·		1 11111			
Meaning	The parameter sp	The parameter specified for the <i>MasterDistance</i> input variable to a motion control instruction is out of range.					
Source	PLC Function Module S		Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acco	ording to specifi-	
				cations.			
System-de-	Variable	Variable Data type			Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL	Axis Minor Fault		Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p	parameter ex-	Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid	range of the input	valid range of the	valid range of the input variable is		struction so that the valid range of	
	variable.		not exceeded for	the relevant in-	the input variable is not exceeded.		
			struction.				
Attached infor-	Attached Informa	tion 1: Error Location	on				
mation	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error Oc	curred. If there is	
	more than one po	ssible instruction. i	nformation is given	on all of them. Not	thing is given if the	instruction cannot	
	be identified.	,	3		5 5		
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Master Distance in Acceleration Specification Out of Range			Event code	54015483 hex		
Meaning	The parameter sprange.	The parameter specified for the <i>MasterDistanceInACC</i> input variable to a motion control instruction is out of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant inst cations.	vant instruction will end according to specifi		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input page ceeded the valid variable.	parameter ex- range of the input	'		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	nanged after an erro	or occurs, the attac	hed information tha	at is displayed may	not be correct.	

Event name	Master Distance in Deceleration Specification Out of Range			Event code	54015484 hex			
Meaning	The parameter sprange.	The parameter specified for the <i>MasterDistanceInDEC</i> input variable to a motion control instruction is out of range.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instruction will end according to sp cations.		ording to specifi-		
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Instruction input p			Correct the parameter so that the		ameter to the in-		
	ceeded the valid range of the input			valid range of the input variable is not exceeded for the relevant in-		struction so that the valid range of the input variable is not exceeded.		
	variable.		struction.		the input variable	is not exceeded.		
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.							
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	ned information tha	at is displayed may	not be correct.		

					I		
Event name	Execution Mode Selection Out of Range			Event code	54015487 hex		
Meaning	The parameter sp	pecified for the Exe	<i>cutionMode</i> input v	ariable to a motion	control instruction	is out of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acco	ording to specifi-	
				cations.			
System-de-	Variable Data type			Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p	parameter ex-	Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid	range of the input	valid range of the	valid range of the input variable is		struction so that the valid range of	
	variable.		not exceeded for	the relevant in-	the input variable is not exceeded.		
			struction.				
Attached infor-	Attached Informa	tion 1: Error Location	on				
mation	Attached Informa	tion 3: Names of th	e Instruction and Ir	struction Instance	Where the Error Oc	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot	
	be identified.	·	· ·				
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	
Remarks			<u> </u>				

					1		
Event name	Permitted Followi	ng Error Out of Rai	nge	Event code	54015488 hex		
Meaning	The parameter sp	ecified for the <i>Peri</i>	mittedDeviation inp	ut variable to a mot	ion control instruct	ion is out of	
	range.						
Source	PLC Function Module		Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-	
				cations.			
System-de-	Variable		Data type	Data type			
fined variables	_MC_COM.MFaultLvl.Active		BOOL		MC Common Minor Fault Occur-		
					rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p	arameter ex-	Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid	range of the input	valid range of the	input variable is	struction so that the valid range of		
	variable.		not exceeded for	the relevant in-	the input variable is not exceeded.		
			struction.				
Attached infor-	Attached Informa	tion 1: Error Location	on				
mation	Attached Informa	tion 3: Names of th	e Instruction and Ir	struction Instance	Where the Error O	ccurred. If there is	
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot						
	be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	
Remarks							

Event name	Border Point/Center Position/Radius Specification Out of Range			Event code	54015489 hex		
Meaning	The parameter sp	pecified for the Aux	<i>Point</i> input variable	to a motion contro	ol instruction is out	of range.	
Source	PLC Function Mo	odule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Operation The relevant instruction cations.		ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_GRP[*].MF	_MC_GRP[*].MFaultLvl.Active BOOL		BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction	Correction			
rection	The value of <i>AuxPoint</i> exceeded signed 40-bit data when converted to pulses for the border point or center specification method.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.			ameter to the in- the valid range of is not exceeded.	
	For a radius spec solute value of At ceeded 40-bit dat verted to pulses.						
Attached infor- mation	Attached Informa	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

Event name	End Point Specification Out of Range			Event code	vent code 5401548A hex		
Meaning	The parameter sp	ecified for the <i>End</i>	<i>Point</i> input variable	to a motion contro	l instruction is out o	of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim-	At instruction	
		r				execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acco	ording to specifi-	
				cations.			
System-de-			Data type		Name		
fined variables			BOOL		Axes Group Minor Fault Occur-		
					rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The instruction input parameter ex-		Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the range	of signed 40-bit	valid range of the	valid range of the input variable is		struction so that the valid range of	
	data when it was	converted to	not exceeded for	the relevant in-	the input variable is not exceeded.		
	pulses.		struction.				
Attached infor-	Attached Informati	tion 1: Error Locatio	on				
mation	Attached Informat	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error Od	curred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot	
	be identified.						
Precautions/	If a program is changed after an error occurs, the attached information that is displayed may not be correct.						
Remarks							

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Event name	Slave Travel Distance Specification Out of Range			Event code	5401548B hex	
Meaning	The parameter sp	ecified for the <i>Slav</i>	<i>eDistance</i> input va	riable to a motion o	ontrol instruction is	out of range.
Source	PLC Function Module		Source details	Instruction	Detection tim-	At instruction
					ing	execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	uction will end acco	ording to specifi-
				cations.		
System-de-	Variable Data type		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault (Occurrence
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The instruction in	put parameter ex-	Correct the parameter so that the		Set the input parameter to the in-	
	ceeded the range	of 40-bit data	valid range of the input variable is		struction so that the valid range of	
	when it is convert	ed to pulses.	not exceeded for	the relevant in-	the input variable is not exceeded.	
		-	struction.		-	
Attached infor-	Attached Informati	tion 1: Error Location	on .			
mation	Attached Informati	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error Od	ccurred. If there is
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot
	be identified.				-	
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.
Remarks						

Event name	Phase Shift Amou	ınt Out of Range		Event code	5401548C hex		
Meaning	The parameter sp	ecified for the <i>Pha</i>	<i>seShift</i> input variab	le to a motion cont	rol instruction is ou	t of range.	
Source	PLC Function Module S		Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acco	ording to specifi-	
				cations.			
System-de-	Variable		Data type	Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The absolute valu	ie of the instruc-	Correct the parameter so that the		Set the input parameter to the in-		
	tion input parame	ter exceeded the	valid range of the	alid range of the input variable is		struction so that the valid range of	
	range of 40-bit da	ta when it is con-	not exceeded for	the relevant in-	the input variable	is not exceeded.	
	verted to pulses.		struction.				
Attached infor-	Attached Informa	tion 1: Error Locatio	on				
mation	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot	
	be identified.						
Precautions/	If a program is ch	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					
Remarks							

Event name	Feeding Distance Out of Range			Event code	5401548D hex		
Meaning	The parameter sp	ecified for the <i>Fee</i>	dDistance input var	iable to a motion c	ontrol instruction is	out of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim-	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction will end according to cations.		ording to specifi-		
System-de-	Variable		Data type	Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The absolute valution input parame range of 40-bit daverted to pulses.	ter exceeded the	valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

Event name	Auxiliary and Slave Defined as Same Axis			Event code	5401548E hex	
Meaning			Auxiliary and Slave	e input variables to	a motion control in	struction.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instruction will cations.		ruction will end acc	ording to specifi-
System-de-	Variable	Variable Data type			Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The parameter wa	as the same for	Correct the parameters so that dif-		Specify different axes for the auxili-	
	the <i>Auxiliary</i> and	<i>Slave</i> input varia-	ferent axes are sp	pecified for the	ary axis and slave axis for a motion	
	bles to the instruc	tion.	Auxiliary and Slav	∕e input variables	control instruction	١.
			to the instruction.			
Attached infor-	Attached Informati	tion 1: Error Location	on			
mation	Attached Informati	tion 3: Names of th	e Instruction and Ir	struction Instance	Where the Error O	ccurred. If there is
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot
	be identified.					
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.
Remarks						

Event name	Relative Position	Selection Out of Ra	ange	Event code	5401548F hex		
Meaning	The parameter sp	ecified for the Rela	ative input variable	to a motion control	instruction is out of	range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction will end according cations.		ording to specifi-		
System-de-	le- Variable I		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p ceeded the valid variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	

	O T ''' O	·r. ·· · · · · ·			540454001		
Event name	Cam Transition Specification Out of Range			Event code	54015490 hex		
Meaning	The parameter sp	The parameter specified for the <i>CamTransition</i> input variable to a motion control instruction is out of range.					
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acco	ording to specifi-	
				cations.			
System-de-	Variable		Data type	Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL	Axis Minor Fault Occurrence		Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex-		Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid i	eded the valid range of the input		valid range of the input variable is		struction so that the valid range of	
	variable.		not exceeded for	ot exceeded for the relevant in-		the input variable is not exceeded.	
			struction.				
Attached infor-	Attached Informat	tion 1: Error Location	on .				
mation	Attached Informati	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error Oc	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot	
	be identified.	,	3		5 5		
Precautions/	If a program is ch	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					
Remarks							

Event name	Synchronized Control End Mode Selection Out of Range			Event code	54015491 hex		
Meaning		ecified for the Outl	<i>Mode</i> input variable	to a motion contro	l I instruction is out o	of range.	
Source			Source details	Instruction	Detection tim-	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		uction will end acco	ording to specifi-	
System-de-	Variable E		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p	Instruction input parameter ex-		Correct the parameter so that the		Set the input parameter to the in-	
	ceeded the valid r	range of the input	valid range of the	input variable is	struction so that the valid range of		
	variable.		not exceeded for	the relevant in-	the input variable	is not exceeded.	
			struction.				
Attached infor-	Attached Informat	tion 1: Error Location	on				
mation	Attached Informat	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error Oc	ccurred. If there is	
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/	If a program is ch	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					
Remarks							

Event name	Enable External L	atch Instruction Ex	ecution Disabled	Event code	54015492 hex			
Meaning	_	_mcImmediateStop was specified for the StopMode input variable when the MC_TouchProbe (Enable External Latch) instruction was executed in Drive Mode for an encoder axis.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instruction cations.		ording to specifi-		
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ltLvl.Active	BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	_mcImmediateStop was specified for the StopMode input variable when the MC_TouchProbe (Enable External Latch) instruction was executed in Drive Mode for an encoder axis.		Correct the program so that _mcImmediateStop is not specified for StopMode for the encoder axis.		If you specify _mcImmediateStop and use Drive Mode, execute the MC_TouchProbe (Enable External Latch) instruction only for a servo axis.			
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.							
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.		

Event name	Master Avis Offse	at Out of Range		Master Axis Offset Out of Range Event code 54015493 hex				
			torOffcot input vari			out of range		
Meaning	The parameter sp	The parameter specified for the <i>MasterOffset</i> input variable to a motion control instruction is out of range.						
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation The relevant instruction will end according to cations.		ording to specifi-			
System-de-	le- Variable [Data type	Data type		Name		
fined variables	_MC_AX[*].MFau	ltLvI.Active	BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction Correct the parameter so that the		Prevention			
rection	The instruction in	put parameter ex-			Set the input parameter to the in-			
	ceeded the range	of signed 40-bit	valid range of the	valid range of the input variable is		struction so that the valid range of		
	data when it was	converted to	not exceeded for	the relevant in-	the input variable is not exceeded.			
	pulses.		struction.					
Attached infor-	Attached Informa	tion 1: Error Location	on .					
mation	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error Oc	ccurred. If there is		
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.							
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.		
Remarks								

Event name	Slave Axis Offset Out of Range			Event code	54015494 hex		
Meaning	The parameter sp	ecified for the <i>Slav</i>	<i>eOffset</i> input varial	ole to a motion con	trol instruction is ou	ıt of range.	
Source	rce PLC Function Module		Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acco	ording to specifi-	
				cations.			
System-de-	Variable		Data type	Data type		Name	
fined variables	_MC_AX[*].MFau	ltLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The instruction in	put parameter ex-	Correct the parameter so that the valid range of the input variable is		Set the input parameter to the in-		
	ceeded the range	of signed 40-bit			struction so that the valid range of		
	data when it was	converted to	not exceeded for	the relevant in-	he relevant in- the input variable is not exceed		
	pulses.		struction.				
Attached infor-	Attached Informa	tion 1: Error Locatio	on				
mation	Attached Informa	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot	
	be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Command Current Position Count Selection Out of Range			Event code	54015495 hex		
Meaning	The parameter sp	ecified for the <i>Cm</i>	<i>dPosMode</i> input va	riable to a motion c	ontrol instruction is	out of range.	
Source	PLC Function Mo	PLC Function Module		Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acco	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p	arameter ex-	Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid i	ange of the input	valid range of the input variable is		struction so that the valid range of		
	variable.		not exceeded for	not exceeded for the relevant in-		the input variable is not exceeded.	
			struction.	on.			
Attached information	Attached Informati	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	
Remarks							

Event name	Master Axis Gear	Ratio Numerator 0	Out of Range	Event code	54015496 hex		
Meaning	The parameter sprange.	The parameter specified for the <i>RatioNumeratorMaster</i> input variable to a motion control instruction is out of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acco	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p ceeded the valid i variable.	earameter ex- range of the input	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	Master Axis Gear	Ratio Denominato	r Out of Range	Event code	54015497 hex		
Meaning	The parameter sprange.	The parameter specified for the <i>RatioDenominatorMaster</i> input variable to a motion control instruction is out of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instruction will end according to specifications.		ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction	Correction			
rection	Instruction input parameter exceeded the valid range of the input variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	it is displayed may	not be correct.	

Event name	Auxiliary Axis Gea	ar Ratio Numerator	Out of Range	Event code	54015498 hex			
Meaning	The parameter sp range.	The parameter specified for the <i>RatioNumeratorAuxiliary</i> input variable to a motion control instruction is out of range.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end according to specifi-			
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.			
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.							
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.		

Event name	Auxiliary Axis Ge	ar Ratio Denomina	tor Out of Range	Event code	54015499 hex			
Meaning	The parameter sp of range.	The parameter specified for the <i>RatioDenominatorAuxiliary</i> input variable to a motion control instruction is out of range.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	uction will end according to specifi-		
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Instruction input parameter exceeded the valid range of the input variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.							
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attack	hed information tha	t is displayed may	not be correct.		

Event name	Master Axis Position Type Selection Out of Range			Event code	5401549A hex			
Meaning	The parameter sprange.	The parameter specified for the <i>ReferenceTypeMaster</i> input variable to a motion control instruction is out of range.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instructions.	instruction will end according to specifi-			
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause	Assumed cause		Correction				
rection	Instruction input p ceeded the valid variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.							
Precautions/ Remarks	If a program is changed after an error occurs, the attached information that is displayed may not be correct.							

Event name	Auxiliary Axis Pos	sition Type Selectio	n Out of Range	Event code	5401549B hex			
Meaning	The parameter sprange.	The parameter specified for the <i>ReferenceTypeAuxiliary</i> input variable to a motion control instruction is out of range.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr	truction will end according to specifi-			
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Instruction input parameter exceeded the valid range of the input variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.							
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attack	ned information tha	t is displayed may	not be correct.		

Event name	Target Position R	ing Counter Out of	Range	Event code	5401549C hex			
Meaning	Operation is not p struction.	Operation is not possible because the target position is out of range for the ring counter of the executed instruction.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-		
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ltLvI.Active	BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	High-speed homing was executed when 0 was not included in the ring counter.		High-speed homing cannot be executed when the ring counter range does not include 0. Correct the program so that high-speed homing is not performed. Or change the settings so that the ring counter range includes 0.		High-speed homing cannot be executed when the ring counter range does not include 0. Write the program so that high-speed homing is not performed. Or make the settings so that the ring counter range includes 0.			
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.							
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attack	ned information tha	t is displayed may	not be correct.		

Event name	Axes Group Com	position Axis Settin	g Out of Range	Event code	5401549D hex *1		
Meaning	The parameter sp	ecified for the Axe.	s input variable to a	motion control ins	truction is out of ra	nge.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acco	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_GRP[*].MFaultLvl.Active		BOOL	BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
	The composition axes in the axes group are not assigned to the same task.		Assign all of the axes that are specified for the Axes input variable to the instruction to the same task.		Specify axes that are assigned to the same task for all of the composition axes in an axes group.		
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attack	ned information tha	at is displayed may	not be correct.	

^{*1.} Error code 16#549D occurs for unit version 1.01 or later of the CPU Unit.

Event name	Axis Use Setting	Out of Range		Event code	5401549E hex *1		
Meaning	The parameter sp	ecified for the Axis	Use input variable	to a motion control	instruction is out o	f range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFau	_MC_COM.MFaultLvl.Active BOOL		MC Common Minor Fault Occ rence		or Fault Occur-	
	_MC_AX[*].MFau	ItLvI.Active	BOOL	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p ceeded the valid variable.	parameter ex- range of the input	valid range of the	l range of the input variable is exceeded for the relevant in-		he valid range of	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	

^{*1.} Error code 16#549E occurs for unit version 1.04 or later of the CPU Unit.

Event name	Homing Parameter Setting Out of Range			Event code	54015700 hex *1	
Meaning	The parameter sp	ecified for the <i>Hom</i>	<i>ningParameter</i> inpu	t variable to a moti	on control instruction	on is out of range.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFau	IltLvl.Active	BOOL		MC Common Minor Fault Occur-	
					rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input parameter ex-		Correct the parameter so that the		Set the input parameter to the in-	
	ceeded the valid	range of the input	valid range of the	f the input variable is struction so that the valid ran		he valid range of
	variable.		not exceeded for	the relevant in-	the input variable	is not exceeded.
			struction.			
Attached infor-	Attached Informa	tion 1: Error Location	on			
mation		tion 3: Names of th				
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					
Remarks						

^{*1.} Error code 16#5700 occurs for unit version 1.03 or later of the CPU Unit.

Event name	Axis Use Change	Error		Event code	54015702 hex *1			
Meaning		The MC_ChangeAxisUse (Change Axis Use) instruction was executed when the axis was not stopped or when the command velocity of the axis was saturated.						
Source	PLC Function Mo	odule	Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-		
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ultLvl.Active	BOOL		Axis Minor Fault	Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The MC_ChangeAxisUse (Change Axis Use) instruction was executed when the axis was not stopped or when the command velocity of the axis was saturated.		Reset the error and execute the MC_ChangeAxisUse (Change Axis Use) instruction when the axis is stopped or when the command velocity of the axis is not saturated. An axis is stopped if Status. Disabled or Status. Standstill is TRUE in the Axis Variable. The command velocity for an axis is saturated if Details. VelLimit is TRUE in the Axis Variable.		Execute the MC_ (Change Axis Us when the axis is command velocit	e) instruction stopped and the		
Attached infor- mation	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified							
Precautions/ Remarks	If a program is ch	nanged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.		

^{*1.} Error code 16#5702 occurs for unit version 1.04 or later of the CPU Unit.

Event name	Cannot Change A	Axis Use		Event code	54015703 hex *1	
Meaning		AxisUse (Change <i>A</i> ised real axes or th	·		-	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFau	ıltLvl.Active	BOOL		MC Common Mir	or Fault Occur-
					rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The MC_ChangeAxisUse (Change		Correct the program so that the		Write the program so that the maxi-	
	Axis Use) instruct	tion was executed	maximum number of axes that can		mum number of axes that can ac-	
	, ,	ld cause the max-	actually be used by the CPU Unit is		tually be used by the CPU Unit is	
	imum number of	•	not exceeded.		not exceeded.	
	axes to be excee					
		AxisUse (Change	Correct the progra			n so that the maxi-
	·	tion was executed	maximum numbe		mum number of u	
	in a way that wou imum number of	ld cause the max-	control servo axe used by the CPU		the CPU Unit is n	at can be used by
	trol servo axes to		ceeded.	Officis flot ex-	the CPO Officis in	ot exceeded.
Attached infor-		tion 1: Error Location				
mation		tion 3: Names of th		struction Instance	Where the Error O	ccurred. If there is
		essible instruction, i				
	be identified.	,	3		2 0	
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.
Remarks					•	

^{*1.} Error code 16#5703 occurs for unit version 1.06 or later of the CPU Unit.

Event name	Motion Control Pa	arameter Setting Er	ror When Chang-	Event code	54015720 hex *1	
	ing Axis Use					
Meaning	The motion contro	ol parameter setting	gs for the axis that v	was changed to a ι	used axis are incor	rect.
Source	PLC Function Mo	dule	Source details Instruction		Detection tim-	At instruction
					ing	execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-
				cations.		
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFau	ıltLvl.Active	BOOL		MC Common Mir	nor Fault Occur-
					rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The MC_Change	AxisUse (Change	Use the Sysmac Studio to change		Make sure that operation is correct	
	Axis Use) instruction was used to change an unused axis to a used		the Axis Use of the axis where the error occurred to a Used Axis , and		when the axis is set to a Used	
					Axisand then download the set-	
	axis, but the moti	on control param-	then check and correct the error lo- cation. If an error does not occur, change the setting to an Unused Axis and then download the set- tings again.		tings with it set to	an Unused Axis .
	eter settings of th	e axis are not cor-				
	rect.					
	The power supply	•		parameters from	Do not interrupt the	
	while a download		the Sysmac Studi	0.	while saving the	parameter set-
	control parameter	r settings was in			tings.	
	progress.	:- £!£	If the :		Name	
	The non-volatile r	nemory is faulty on-volatile memo-	If this error remain		None	
	ry has been exce		making the above place the CPU Ur	· ·		
Attached infor-	+ '	tion 1: Error Location		iit.		
mation		tion 1: End Locald		etruction Instance	Where the Error O	courred If there is
mation		essible instruction, i				
	be identified.		givon	2 dii 01 di0111. 110		
Precautions/	If a program is ch	anged after an erro	or occurs, the attack	ned information tha	it is displayed may	not be correct.
Remarks	' 5	9	,		, ,,	

^{*1.} Error code 16#5720 occurs for unit version 1.04 or later of the CPU Unit.

Event name	Required Process Data Object Not Set When Changing Axis Use			Event code	54015721 hex *1		
Meaning	The objects that are required for the axis type of the axis that was changed to a used axis are not set.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFaultLvl.Active		BOOL		MC Common Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The objects that are required for the axis type of the axis that was changed to a used axis are not set in the PDO map settings.		Edit the PDO map settings on the Sysmac Studio and set the objects that are required for the axis where the error occurred. For details on the required objects, refer to the NJ/NX-series Motion Control Instructions Reference Manual (Cat. No. W508).		Make sure that operation is correct when the axis is set to a Used Axis and then download the settings with it set to an Unused Axis .		
	The power supply was interrupted while a download of the motion control parameter settings was in progress.		Download the MC parameters from the Sysmac Studio.		Do not interrupt the power supply while saving the parameter settings.		
	The non-volatile memory is faulty or the life of the non-volatile memory has been exceeded.		If this error remains even after making the above corrections, replace the CPU Unit.		None		
	The MC_ChangeAxisUse (Change Axis Use) instruction was executed for an axis that Axis Use is set to Unused axis (unchangeable to used axis) .		Correct the program so that the MC_ChangeAxisUse (Change Axis Use) instruction is not executed for an axis that Axis Use is set to Unused axis (unchangeable to used axis).		Write the program so that the MC_ChangeAxisUse (Change Axis Use) instruction is not executed for an axis that Axis Use is set to Unused axis (unchangeable to used axis).		
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is changed after an error occurs, the attached information that is displayed may not be correct.						

^{*1.} Error code 16#5721 occurs for unit version 1.04 or later of the CPU Unit.

Event name	Actual Position O	Actual Position Overflow/Underflow			54015722 hex *1		
Meaning	An instruction wa	s executed that is r	not supported during	l g an actual positior		<i>N</i> .	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acco	ording to specifi-	
System-de-			Data type	Data type		Name	
fined variables			BOOL		Axis Observation Occurrence		
Cause and cor-	cor- Assumed cause		Correction		Prevention		
rection	An instruction was executed that is		Execute an error reset and then		Write the program so that over-		
	not supported during an actual po-		clear the overflow or underflow		flows and underflows do not occur.		
	sition overflow or underflow.		state by changing the current posi-				
			tion or homing.				
Attached infor-		tion 1: Error Location					
mation			e Instruction and In				
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

^{*1.} Error code 16#5722 occurs for unit version 1.06 or later of the CPU Unit.

Event name	Switch Structure	Track Number Setti	ing Out of Range	Event code	54015723 hex *1	
Meaning			ecified in the Switch			instruction is out
	of range.					
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction
					ing	execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-
				cations.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].Obsr.Active		BOOL		Axis Observation Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The value of the member of the		Correct the value of the member of		Make sure that the value of the	
	structure variable	that was speci-	the structure variable that is speci-		member of the structure variable	
	fied for the in-out	variable of the in-	fied for the in-out variable of the		that is specified for the in-out varia-	
	struction is out of	struction is out of range.		relevant instruction so that it is in		t instruction is in
			the valid range.		the valid range.	
Attached infor-	Attached Informat	tion 1: Error Locatio	on			
mation	Attached Informat	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot					
	be identified.					
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.
Remarks						

^{*1.} Error code 16#5723 occurs for unit version 1.06 or later of the CPU Unit.

Event name	Switch Structure First ON Position Setting Out of Range			Event code	54015724 hex *1		
Meaning	The value of <i>First</i> out of range.	The value of <i>FirstOnPosition</i> that is specified in the <i>Switches</i> in-out variable to a motion control instruction is out of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		ruction will end acc	uction will end according to specifi-	
System-de-	Variable		Data type		Name		
fined variables	es _MC_AX[*].Obsr.Active BOOL			Axis Observation Occurrence			
Cause and cor-	Assumed cause		Correction	Correction			
rection	The value of the r structure variable fied for the in-out struction is out of	that was speci- variable of the in-	the structure vari	Correct the value of the member of the structure variable that is speci- fied for the in-out variable of the relevant instruction so that it is in the valid range.		Make sure that the value of the member of the structure variable that is specified for the in-out variable of the relevant instruction is in the valid range.	
Attached infor- mation	Attached Information more than one posterior be identified.	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					

^{*1.} Error code 16#5724 occurs for unit version 1.06 or later of the CPU Unit.

Event name	Switch Structure Last ON Position Setting Out of Range			Event code	54015725 hex *1		
Meaning	The value of <i>Last</i> out of range.	The value of <i>LastOnPosition</i> that is specified in the <i>Switches</i> in-out variable to a motion control instruction is out of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	uction will end according to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].Obsr./	Active	BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The value of the member of the		Correct the value of the member of		Make sure that the value of the		
	structure variable that was speci-		the structure variable that is speci-		member of the structure variable		
	fied for the in-out variable of the in-		fied for the in-out variable of the		that is specified for the in-out varia-		
	struction is out of range.		relevant instruction so that it is in		ble of the relevant instruction is in		
			the valid range.		the valid range.		
Attached infor-	Attached Informat	tion 1: Error Location	on				
mation	Attached Informat	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

^{*1.} Error code 16#5725 occurs for unit version 1.06 or later of the CPU Unit.

Event name	Switch Structure	Axis Direction Out	of Range	Event code	54015726 hex *1		
Meaning	The value of Axis of range.	The value of <i>AxisDirection</i> that is specified in the <i>Switches</i> in-out variable to a motion control instruction is out of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction will end according cations.		ording to specifi-		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].Obsr.	_MC_AX[*].Obsr.Active		BOOL		Axis Observation Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The value of the r	The value of the member of the		Correct the value of the member of		Make sure that the value of the	
	structure variable	that was speci-	the structure variable that is speci-		member of the structure variable		
	fied for the in-out variable of the in-		fied for the in-out variable of the		that is specified for the in-out varia-		
	struction is out of range.		relevant instruction so that it is in		ble of the relevant instruction is in		
			the valid range.		the valid range.		
Attached infor-	Attached Informat	tion 1: Error Location	on				
mation	Attached Informati	tion 3: Names of th	e Instruction and Ir	struction Instance	Where the Error O	ccurred. If there is	
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot						
	be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.	
Remarks							

^{*1.} Error code 16#5726 occurs for unit version 1.06 or later of the CPU Unit.

Event name	Switch Structure	Cam Switch Mode	Out of Range	Event code	54015727 hex *1		
Meaning	The value of <i>Can</i> out of range.	he value of CamSwitchMode that is specified in the Switches in-out variable to a motion control instruction is ut of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		uction will end acc	uction will end according to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].Obsr.Active		BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.		Correct the value of the member of the structure variable that is speci- fied for the in-out variable of the relevant instruction so that it is in the valid range.		Make sure that the value of the member of the structure variable that is specified for the in-out variable of the relevant instruction is in the valid range.		
Attached information	Attached Informa	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attack	hed information tha	t is displayed may	not be correct.	

^{*1.} Error code 16#5727 occurs for unit version 1.06 or later of the CPU Unit.

Event name	Switch Structure	Duration Setting O	ut of Range	Event code	54015728 hex *1		
Meaning	The value of <i>Dura</i> range.	The value of <i>Duration</i> that is specified in the <i>Switches</i> in-out variable to a motion control instruction is out of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instruction will end according to spe cations.		ording to specifi-	
System-de-	Variable		Data type	Data type			
fined variables	_MC_AX[*].Obsr.Active		BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The value of the r	nember of the	Correct the value of the member of		Make sure that the value of the		
	structure variable	that was speci-	the structure variable that is speci-		member of the structure variable		
	fied for the in-out	variable of the in-	fied for the in-out	ied for the in-out variable of the		that is specified for the in-out varia-	
	struction is out of	range.	relevant instruction	n so that it is in	ble of the relevant instruction is in		
			the valid range.		the valid range.		
Attached infor-	Attached Informa	tion 1: Error Location	on				
mation	Attached Informa	tion 3: Names of th	e Instruction and Ir	struction Instance	Where the Error O	ccurred. If there is	
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot						
	be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	
Remarks							

^{*1.} Error code 16#5728 occurs for unit version 1.06 or later of the CPU Unit.

Event name	Track Option Structure ON Compensation Setting Out of Range			Event code	54015729 hex *1		
Meaning		The value of <i>OnCompensation</i> that is specified in the <i>TrackOptions</i> in-out variable to a motion control instruction is out of range.					
Source	PLC Function Module §		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end according to specifi-		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].Obsr./	Active	BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The value of the member of the		Correct the value of the member of		Make sure that the value of the		
	structure variable	that was speci-	the structure variable that is speci-		member of the structure variable		
	fied for the in-out	variable of the in-	fied for the in-out	variable of the	that is specified for	or the in-out varia-	
	struction is out of	range.	relevant instruction	relevant instruction so that it is in		ble of the relevant instruction is in	
			the valid range.		the valid range.		
Attached infor-	Attached Informat	tion 1: Error Location	on				
mation	Attached Informat	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error Od	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot	
	be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

^{*1.} Error code 16#5729 occurs for unit version 1.06 or later of the CPU Unit.

Event name	Track Option Structure OFF Compensation Setting Out of Range			Event code	5401572A hex *1			
Meaning		The value of <i>TrackOptions</i> that is specified in the <i>OffCompensation</i> in-out variable to a motion control instruction is out of range.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr	elevant instruction will end according to spens.			
System-de-	e- Variable		Data type		Name			
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The value of the r structure variable fied for the in-out struction is out of	that was speci- variable of the in-	the structure variable that is speci- fied for the in-out variable of the		Make sure that the value of the member of the structure variable that is specified for the in-out variable of the relevant instruction is in the valid range.			
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.							
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.		

^{*1.} Error code 16#572A occurs for unit version 1.06 or later of the CPU Unit.

Event name	Number of Array lble Out of Range	Elements in Switch	Structure Varia-	Event code	5401572B hex *1	
Meaning		ements in an array nstruction is out of	in the structure var range.	iable that is specifi	ed in the Switches	in-out variable to
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	User program Continues. Operation The relevant instructions.		ruction will end according to specifi-		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].Obsr.Active		BOOL		Axis Observation Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The number of elements in an array of the structure variable that was specified for the in-out variable of the instruction is out of range. Correct the number of elements in the array in the structure variable ments in the array in the structure variable was specified for the in-out variable of the relevant instruction so that it is in the valid range. Make sure that the number of elements in ments in the array in the structure variable that is specified for the in-out variable of the relevant instruction so that it is in the valid range.					y in the structure pecified for the in- e relevant instruc-
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.

^{*1.} Error code 16#572B occurs for unit version 1.06 or later of the CPU Unit.

Event name	Number of Array Variable Out of Ra	Elements in Outpu ange	t Signal Structure	Event code	5401572C hex *1		
Meaning		The number of elements in an array in the structure variable that is specified in the <i>Outputs</i> in-out varia motion control instruction is out of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Operation The relevant instructions.		ruction will end according to specifi-			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].Obsr.Active		BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause		Correction	Correction			
rection	The number of elements in an array of the structure variable that was specified for the in-out variable of the instruction is out of range. Correct the number of elements in the array in the structure variable that is specified for the in-out variable that is specified for the in-out variable of the relevant instruction so that it is in the valid range. Make sure that the number of elements in the array in the structure variable that is specified for the in-out variable that is specified for the in-out variable of the relevant instruction so that it is in the valid range.					y in the structure pecified for the in- e relevant instruc-	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.	

^{*1.} Error code 16#572C occurs for unit version 1.06 or later of the CPU Unit.

Event name	Number of Array Elements in Track Option Structure Variable Out of Range			Event code	5401572D hex *1		
Meaning		The number of elements in an array in the structure variable that is specified in the <i>TrackOptions</i> in-out variable to a motion control instruction is out of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].Obsr	Active	BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The number of elements in an ar-		Correct the number of elements in		Make sure that the number of ele-		
	ray of the structur	e variable that	the array in the structure variable		ments in the array in the structure		
	was specified for	the in-out varia-	that is specified for	or the in-out varia-	variable that is specified for the in-		
	ble of the instruct	on is out of	ble of the relevant instruction so		out variable of the relevant instruc-		
	range.		that it is in the val	that it is in the valid range.		tion is in the valid range.	
Attached infor-	Attached Informati	tion 1: Error Location	on				
mation	Attached Informat	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot	
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks	p. egram 10 om	angea andran dire	, trio attaol	adorrana			

^{*1.} Error code 16#572D occurs for unit version 1.06 or later of the CPU Unit.

Event name	Numbers of Elements in Output Signals and Track Option Arrays Not Matched		Event code	5401572E hex *1		
Meaning	The arrays in the	The arrays in the structure variables that are specified for the <i>Outputs</i> and <i>TrackOptions</i> in-out variables to motion control instruction do not have the same number of elements.				
Source	PLC Function Mo	dule			At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instruction will end according to cations.		ording to specifi-	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence	
Cause and cor-	ise and cor- Assumed cause		Correction		Prevention	
rection	The arrays in the structure variable structure variable for the in-out varia struction do not h number of elemen	and track option that are specified ables to the in- ave the same	Correct the output signal structure variable and track option structure variable that are specified for the in-out variables to the relevant instruction so that the arrays in them have the same number of elements.		Make sure that the arrays in the output signal structure variable and track option structure variable that are specified for the in-out variables to the relevant instruction have the same number of elements.	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

^{*1.} Error code 16#572E occurs for unit version 1.06 or later of the CPU Unit.

Event name	Motion Control Instruction Multi-execution Disabled (Master Axis)		Event code	5401572F hex *1		
Meaning	A <i>Master</i> in-out va	ariable that cannot	be changed during	multi-execution of	instructions was ch	nanged.
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instruction will end according to speciations.		ording to specifi-
System-de-	ystem-de- Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A <i>Master</i> in-out variable that cannot be changed during multiexecution of instructions was changed. Correct the program so that the value of the <i>Master</i> in-out variable is not changed during multi-execution of the relevant instructions. Write the program so that the value of the <i>Master</i> in-out variable is not changed during multi-execution of the relevant instructions.					
Attached information	Attached Informa	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.				
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attack	ned information tha	t is displayed may	not be correct.

^{*1.} Error code 16#572F occurs for unit version 1.06 or later of the CPU Unit.

Event name	Motion Control In:	struction Multi-exec	cution Disabled	Event code	54015730 hex *1		
	(Position Type Se		Janon Bioabioa	210111 0000	540 157 30 flex		
Meaning			t cannot be change	d during multi-exec	cution of instruction	s was changed.	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
				ing	execution		
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-	
				cations.			
System-de-	Variable		Data type	Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A ReferenceType	inout variable	Correct the progra	am so that the	Write the progran	n so that the value	
	that cannot be ch	anged during	value of the Refe	renceType in-out	of the ReferenceType in-out varia-		
	multi-execution of	f instructions was	variable is not cha	anged during mul-	ble is not changed during multi-ex-		
	changed.		ti-execution of the	e relevant instruc-	ecution of the rele	evant instructions.	
			tions.				
Attached infor-	Attached Informati	tion 1: Error Location	on				
mation	Attached Informati	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot	
	be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	
Remarks							

^{*1.} Error code 16#5730 occurs for unit version 1.06 or later of the CPU Unit.

Event name	Same Track Number Setting in Switch Structure Out of Range			Event code	54015731 hex *1	
Meaning		The same track number was specified more than the allowable number of times for the <i>TrackNumber</i> in the <i>Switches</i> in-out variable to a motion control instruction.				
Source	PLC Function Module Source		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instruction will end according to sp cations.		ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	fied more than the	e <i>TrackNumber</i> in ut variable to a	um- trackNumber so that the same track number is not specified more		Set the values in the <i>TrackNumber</i> so that the same track number is not specified more than the maximum number of times.	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
		·				

^{*1.} Error code 16#5731 occurs for unit version 1.06 or later of the CPU Unit.

Event name	Cannot Write Axis	Parameters		Event code	5401573A hex *1		
Meaning	The instruction wa	as executed for an	axis that is not an u	unused axis.			
Source	PLC Function Mo	dule	Source details	Source details Instruction		At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	struction will end according to specifi		
System-de-	Variable Data type		Name				
fined variables	_MC_COM.MFau	ItLvI.Active			MC Common Minor Fault Occur- rence		
Cause and cor-	Assumed cause Correction			Prevention			
rection	The instruction wa	as executed for a	xecuted for a Correct the program so that the		Write the program so that the		
	used axis or an u	ndefined axis.	MC_ChangeAxist	Jse (Change Axis	specified axis is an unused axis		
			Use) instruction is	s executed after	when the instruct	ion is executed.	
			the specified axis	is changed to an			
			unused axis.				
Attached infor-	Attached Informat	tion 1: Error Location	on				
mation	Attached Informat	tion 3: Names of th	e Instruction and In	struction Instance	Where the Error O	ccurred. If there is	
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction can be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

^{*1.} Error code 16#573A occurs for unit version 1.08 or later of the CPU Unit.

Event name	Axis Parameter S	etting Out of Range	e	Event code	5401573B hex *1	
Meaning	The parameter sp	The parameter specified for the <i>AxisParameter</i> input variable to a motion control instruction is outside of the valid range.				
Source	PLC Function Mo	dule	Source details			At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instructions.	ruction will end acc	ording to specifi-
System-de-	em-de- Variable		Data type		Name	
fined variables	_MC_COM.MFau	ıltLvl.Active	BOOL		MC Common Minor Fault Occur- rence	
Cause and cor-	Assumed cause	Assumed cause The parameter specified for the AxisParameter input variable to the instruction is out of range for the input variable. Correct the parameter so the valid range of the input varial not exceeded for the instruct Confirm which parameter exed the range or what parameter inconsistent in the attach formation.			Prevention	
rection	AxisParameter in instruction is out			the instruction. arameter exceed- what parameters	struction so that the valid range of the input variable is not exceeded. Refer to information on the MC_WriteAxisParameter (Write Ax-	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	at is displayed may	not be correct.

^{*1.} Error code 16#573B occurs for unit version 1.08 or later of the CPU Unit.

Event name	Cam Property Se	tting Out of Range		Event code	5401573C hex *1		
Meaning	The parameter spid range.	The parameter specified for the <i>CamProperty</i> input variable to a motion control instruction is outside of the valid range.					
Source	PLC Function Mo	dule	Source details Instruction		Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Operation The relevant instruction will end according to cations.		ording to specifi-	
System-de-	- Variable Data type			Name			
fined variables	_MC_COM.MFau	IltLvl.Active	BOOL		MC Common Minor Fault Occur- rence		
Cause and cor-	d cor- Assumed cause		Correction	Correction			
rection	The parameter sp CamProperty inprinstruction is out of input variable.	ut variable to the	Correct the parameter so that the valid range of the input variable is not exceeded for the instruction. Confirm which parameter exceeded the range in the attached information.		Set the input para struction so that t the input variable	he valid range of	
Attached infor-	Attached Informa	tion 1: Error Locatio	on				
mation	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.	

^{*1.} Error code 16#573C occurs for unit version 1.08 or later of the CPU Unit.

Event name	Cam Node Settin	g Out of Range		Event code	5401573D hex *1		
Meaning	The parameter sprange.	The parameter specified for the <i>CamNodes</i> input variable to a motion control instruction is outside of the valid range.					
Source	PLC Function Mo	dule			Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Operation The relevant instruction will end according to cations.		ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFau	IltLvl.Active	BOOL		MC Common Minor Fault Occur- rence		
Cause and cor-	Assumed cause C		Correction		Prevention		
rection	The parameter sp CamNodes input struction is out of put variable.	variable to the in-	Correct the parameter so that the valid range of the input variable is not exceeded for the instruction. Confirm which parameter exceeded the range in the attached information.		Set the input para struction so that the input variable	ne valid range of	
Attached infor-	Attached Informa	tion 1: Error Location	on				
mation	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	

^{*1.} Error code 16#573D occurs for unit version 1.08 or later of the CPU Unit.

Event name	Incorrect Cam No	de Type Specificat	ion	Event code	e 5401573E hex *1		
Meaning		The parameter specified for the <i>CamNodes</i> input variable to a motion control instruction is not an _sMC_CAM_NODE array variable.					
Source	PLC Function Mo	dule			Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instruction will end according to specifications.		ording to specifi-	
System-de-	Variable				Name		
fined variables	_MC_COM.MFau	ItLvI.Active			MC Common Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The parameter specified for the CamNodes input variable to the instruction is not an _sMC_CAM_NODE array variable. Correct the program to specify sMC_CAM_NODE array variable for the input variable to the instruction.		E array variable	Write the program to specify an sMC_CAM_NODE array variable for the input variable to the instruction.			
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	

^{*1.} Error code 16#573E occurs for unit version 1.08 or later of the CPU Unit.

Event name	Insufficient Nodes	s in Cam Table		Event code	5401573F hex *1		
Meaning	The array variable of the parameter specified for the <i>CamNodes</i> input variable to a motion control instruction has a Phase value of 0 for element number 0.						
Source	PLC Function Mo	dule	Source details	Source details Instruction Detection timing		At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instruction will end according to cations.		ording to specifi-		
System-de-	Variable		Data type		Name	Name	
fined variables	_MC_COM.MFau	ıltLvl.Active	BOOL MC Common Min- rence		MC Common Minor Fault Occur-		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The array variable of the parameter		Correct the program so that the		Write the program so that the value		
	specified for the CamNodes input		value of Phase (master axis phase)		of Phase (master axis phase) for		
	variable to the ins	struction has a	for element number 0 in the array		element number 0 in the array vari-		
	`	is phase) value of	variable for the parameter speci-		able for the parameter specified for		
	0 for element nun	nber 0.	fied for the CamNodes input varia-		the CamNodes input variable is not		
			ble is not 0.		0.		
Attached infor-	Attached Informa	tion 1: Error Location	on				
mation	Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is						
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attac	hed information tha	t is displayed may	not be correct.	

^{*1.} Error code 16#573F occurs for unit version 1.08 or later of the CPU Unit.

phase) in the array variable of the parameter specified for the CamNodes input variable to the instruction are not in ascending order according to the element numbers. Or, truncating the digits that are not effective more than seven digits caused the phases not to be in ascending order. Attached information phase) in the array variable for the parameter specified for the parameter specifie	Event name	Cam Node Master Axis Phase Not in Ascending			Event code	54015740 hex *1		
tion control instruction are not in ascending order according to the element numbers. Source PLC Function Module Source details Instruction Detection timing At instruction ing Error attributes Effects Level Observation Recovery Log category System Effects User program Continues. Operation The relevant instruction will end according to specific cations. System-defined variables MC_COM.MFaultLvI.Active BOOL MC Common Minor Fault Occurrence Cause and correction The values of Phase (master axis phase) in the array variable of the parameter specified for the CamNodes input variable are not effective more than seven digits caused the phases not to be in ascending order according to the element numbers. Attached Information Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be received in the element numbers. At instruction Detection Instruction ing At instruction Detection timing. At instruction execution Attached information 2. Source details Instruction Detection The relevant instruction will end according to specifications. Name MC Common Minor Fault Occurrence Prevention Write the program so that the values of Phase (master axis phase) in the array variable for the parameter specified for the CamNodes input variable are in ascending order according to the element numbers. Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be interested as a cannot are a cannot								
PLC Function Module Source details Instruction Detection timing At instruction execution	Meaning		•	•	•		variable to a mo-	
Effects User program Continues. Operation The relevant instruction will end according to specifications. System-defined variables MC_COM.MFaultLvl.Active BOOL MC Common Minor Fault Occurrence Cause and correction The values of Phase (master axis phase) in the array variable of the parameter specified for the CamNodes input variable to the instruction are not in ascending order according to the element numbers. Attached information MC Common Minor Fault Occurrence Correction Prevention Correct the program so that the values of Phase (master axis phase) in the array variable for the parameter specified for the CamNodes input variable are in ascending order according to the element numbers. Attached information Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be calculated according to specific actions. Name MC Common Minor Fault Occurrence Correction Write the program so that the values of Phase (master axis phase) in the array variable for the parameter specified for the CamNodes input variable are in ascending order according to the element numbers. CamNodes input variable are in ascending order according to the element numbers. Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be calculated according to the element instruction and instruction cannot be calculated according to the element instruction and instruction listance.		tion control instru	ction are not in asc	ending order accor	ding to the element	t numbers.		
Effects User program Continues. Operation The relevant instruction will end according to specifications. System-defined variables Variable _MC_COM.MFaultLvl.Active BOOL MC Common Minor Fault Occurrence Cause and correction The values of Phase (master axis phase) in the array variable of the parameter specified for the CamNodes input variable to the instruction are not in ascending order according to the element numbers. Camse and correction The values of Phase (master axis phase) in the array variable for the parameter specified for the CamNodes input variable are in ascending order according to the element numbers. Attached information Attached Information Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be rectally according to specific actions. Defection The relevant instruction will end according to specific actions. The relevant instruction will end according to specific actions. MC Common Minor Fault Occurrence Prevention Write the program so that the values of Phase (master axis phase) in the array variable for the parameter specified for the CamNodes input variable are in ascending or der according to the element numbers. Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be actions.	Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
Effects User program Continues. Operation The relevant instruction will end according to specifications. Name MC Common Minor Fault Occurrence MC Common Minor Fault Occurrence Cause and correction The values of Phase (master axis phase) in the array variable of the parameter specified for the CamNodes input variable to the instruction are not in ascending order according to the element numbers. Or, truncating the digits that are not effective more than seven digits caused the phases not to be in ascending order. Attached information Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannel.						ing	execution	
System-de- fined variables MC_COM.MFaultLvl.Active BOOL MC Common Minor Fault Occurrence	Error attributes	Level	Observation	Recovery		Log category	System	
System-de- fined variables MC_COM.MFaultLvl.Active BOOL MC Common Minor Fault Occurrence	Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-	
The values of Phase (master axis phase) in the array variable to the parameter specified for the CamNodes input variable to the element numbers. Or, truncating the digits that are not effective more than seven digits caused the phases not to be in ascending order. Attached information MC Common Minor Fault Occurrence Prevention Correct the program so that the values of Phase (master axis phase) in the array variable for the values of Phase (master axis phase) in the array variable for the parameter specified for the CamNodes input variable are in ascending order according to the element numbers. Attached information Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be reacted to correct the program so that the values of Phase (master axis phase in the array variable for the parameter specified for the CamNodes input variable are in ascending order according to the element numbers. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be reacted to correct the program so that the values of Phase (master axis phase in the array variable for the parameter specified for the CamNodes input variable are in ascending or der according to the element numbers. Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there					cations.			
Cause and correction The values of Phase (master axis phase) in the array variable of the parameter specified for the CamNodes input variable to the instruction are not in ascending order according to the element numbers. CamNodes input variable to the instruction are not effective more than seven digits caused the phases not to be in ascending order. Attached information Attached Information Assumed cause Correction Correct the program so that the values of Phase (master axis phase in the array variable for the parameter specified for the CamNodes input variable are in ascending order according to the element numbers. CamNodes input variable are in ascending order according to the element numbers. CamNodes input variable are in ascending order according to the element numbers. Attached information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be read to contribute the program so that the values of Phase (master axis phase in the array variable for the camNodes input variable are in ascending order according to the element numbers.	System-de-	Variable		Data type		Name		
Cause and correction The values of Phase (master axis phase) in the array variable of the parameter specified for the CamNodes input variable to the instruction are not in ascending order according to the element numbers. Or, truncating the digits that are not effective more than seven digits caused the phases not to be in ascending order. Attached information Assumed cause Correction Correct the program so that the values of Phase (master axis phase) in the array variable for the parameter specified for the CamNodes input variable are in ascending order according to the element numbers. CamNodes input variable are in ascending order according to the element numbers. CamNodes input variable are in ascending order according to the element numbers. Attached information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be also as the program so that the values of Phase (master axis phase in the array variable for the parameter specified for the CamNodes input variable are in ascending order according to the element numbers.	fined variables	_MC_COM.MFau	ıltLvl.Active			MC Common Mir	nor Fault Occur-	
The values of Phase (master axis phase) in the array variable of the parameter specified for the CamNodes input variable to the instruction are not in ascending order according to the element numbers. Or, truncating the digits that are not effective more than seven digits caused the phases not to be in ascending order. Attached information The values of Phase (master axis phase) walues of Phase (master axis phase) in the array variable for the parameter specified for the						rence		
phase) in the array variable of the parameter specified for the CamNodes input variable to the instruction are not in ascending order according to the element numbers. Or, truncating the digits that are not effective more than seven digits caused the phases not to be in ascending order. Attached information The Values of Phase (master axis phase) in the array variable for the parameter specified for the CamNodes input variable are in ascending order according to the element numbers. Values of Phase (master axis phase in the array variable for the parameter specified for the CamNodes input variable are in ascending order according to the element numbers. Attached information Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot recommend the program so that the values of Phase (master axis phase in the array variable for the camNodes input variable are in ascending or der according to the element numbers. Vine the program so that the values of Phase (master axis phase in the array variable for the camNodes input variable are in ascending or der according to the element numbers.	Cause and cor-	Assumed cause		Correction		Prevention		
parameter specified for the CamNodes input variable to the instruction are not in ascending order according to the element numbers. Or, truncating the digits that are not effective more than seven digits caused the phases not to be in ascending order. Attached information phase) in the array variable for the parameter specified for the CamNodes input variable are in ascending order according to the element numbers. in the array variable for the parameter specified for the camNodes input variable are in ascending order according to the element numbers. Attached information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be array variable for the parameter specified for the CamNodes input variable are in ascending or der according to the element numbers. Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there	rection	The values of Pha	ase (master axis	Correct the progra	Correct the program so that the		Write the program so that the val-	
CamNodes input variable to the instruction are not in ascending order according to the element numbers. Or, truncating the digits that are not effective more than seven digits caused the phases not to be in ascending order. Attached information Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be eter specified for the CamNodes input variable are in ascending or der according to the element numbers. eter specified for the CamNodes input variable are in ascending or der according to the element numbers. Attached information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there		phase) in the array variable of the		values of Phase (master axis		ues of Phase (ma	aster axis phase)	
struction are not in ascending order according to the element numbers. Or, truncating the digits that are not effective more than seven digits caused the phases not to be in ascending order. Attached information Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot der according to the element numbers. CamNodes input variable are in ascending order according to the element numbers. CamNodes input variable are in ascending order according to the element numbers. CamNodes input variable are in ascending order according to the element numbers.		·				in the array variable for the param-		
der according to the element numbers. Or, truncating the digits that are not effective more than seven digits caused the phases not to be in ascending order. Attached information Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be der according to the element numbers. der according to the element numbers. der according to the element numbers.		CamNodes input	variable to the in-	parameter specifi	ed for the	eter specified for the CamNodes		
bers. Or, truncating the digits that are not effective more than seven digits caused the phases not to be in ascending order. Attached information Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be seen.		1	•			1 '	•	
are not effective more than seven digits caused the phases not to be in ascending order. Attached information Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be in ascending order.					cording to the ele-	der according to the element num-		
digits caused the phases not to be in ascending order. Attached information Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be in ascending order.			•	ment numbers.		bers.		
in ascending order. Attached information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be a second or an extension of them.								
Attached information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be a supplied to the instruction of them.		"						
mation Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be a support of the instruction of them.	Attached infor							
more than one possible instruction, information is given on all of them. Nothing is given if the instruction cann					estruction Instance	Whore the Error O	courred If there is	
	mation							
l be identified		be identified.	instruction, i	morniauon is given	on an or mem. Not	umig is given il tile	manuchon carmot	
Precautions/ If a program is changed after an error occurs, the attached information that is displayed may not be correct.	Procautions/		anged after an erro	or occurs the attack	ned information tha	t is displayed may	not be correct	
Remarks		in a program is on	anged alter all ellt	o occurs, the attack	ica information tha	t is displayed Illay	not be conect.	

^{*1.} Error code 16#5740 occurs for unit version 1.08 or later of the CPU Unit.

Event name	Too Many Data P	oints in Cam Table		Event code	54015741 hex *1		
Meaning	The number of as	enerated cam data	points exceeded the	l e number of eleme	0.0.0	he cam data vari-	
g		ied for the <i>CamTab</i>	•		•		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-	
				cations.			
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFau	IltLvl.Active	BOOL	BOOL		or Fault Occur-	
					rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The number of ca	ım data points in	Correct the progra	Correct the program so that the		Write the program so that the num-	
	the generated car		number of cam da	•	ber of cam data points in the gen-		
	the number of ele		generated cam table does not ex-		erated cam table does not exceed		
	ray in the cam da		ceed the number of elements in		the number of elements in the ar-		
	specified for the ('	the array in the ca		ray in the cam data variable that is		
	variable to the ins	struction.	that is specified for		specified for the (•	
			input variable to t		variable to the instruction.		
			Refer to informati		Refer to informati		
			_	mTable (Generate	_	mTable (Generate	
			ber of cam data p	ction for the num-	ber of cam data p	uction for the num-	
			ed cam tables.	onits in general-	ed cam tables.	onits in general-	
Attached infor-	Attached Informa	tion 1: Error Location			od dam tableo.		
mation		tion 3: Names of th		struction Instance	Where the Error O	ccurred If there is	
auon		ssible instruction, i					
	be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks		-					

^{*1.} Error code 16#5741 occurs for unit version 1.08 or later of the CPU Unit.

Event name	Cam Table Displa	cement Overflow		Event code	54015742 hex *1			
Meaning	Distance in the ge	enerated cam table	exceeded the rang	ge of REAL data.	•			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution or during instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr	uction will end acco	ording to specifi-		
System-de-	Variable		Data type		Name			
fined variables	_MC_COM.MFau	IltLvl.Active	BOOL		MC Common Min	or Fault Occur-		
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Distance in the generated cam table exceeded the range of REAL data.		Correct the values of InitVel (initial velocity), ConnectingVel (connecting velocity), and ConnectingAcc (connecting acceleration) so that Distance does not overflow when a polynomic 3 curve or polynomic 5 curve is specified for Curve (curve shape) in the <i>CamNodes</i> input variable. Refer to information on the MC_GenerateCamTable (Generate Cam Table) instruction for the method to calculate Distance.		polynomic 3 curve curve is specified shape) in the <i>Car</i> iable. Refer to informati	tingVel (connect- ConnectingAcc leration) so that it overflow when a e or polynomic 5 for Curve (curve mNodes input var- on on the mTable (Generate action for the		
Attached information	Attached Informa	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attack	ned information tha	t is displayed may	not be correct.		

^{*1.} Error code 16#5742 occurs for unit version 1.08 or later of the CPU Unit.

Event name	Aborted Cam Tab	le Used		Event code	54015743 hex *1		
Meaning			d during generation		the <i>CamTable</i> A ca	m data variable	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFau	ıltLvl.Active	BOOL		MC Common Mir	nor Fault Occur-	
					rence		
	_MC_AX[*].MFau	ItLvI.Active	ve BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A cam data varia	ble that was	Check the ErrorID (end code), Er-		Write the program	n so that the	
	aborted during ge	eneration due to	rorParameterCode (parameter de-		MC_GenerateCamTable (Generate		
	an error in the M0		tail code), and ErrorNodePointIn-		Cam Table) instruction creates cor-		
	CamTable (Gene	•	dex (node point element number)		rect cam data variables. Or, write		
	instruction was s			output variables from the MC_Gen-		the program so that the relevant in-	
	CamTable input v	ariable to the in-	erateCamTable (Generate Cam Ta-			uted only when the	
	struction.		ble) instruction and correct the pro-		MC_GenerateCamTable (Generate		
			gram so that correliables are created		Cam Table) instru	uction ends nor-	
Attached infor-	Attached Informs	tion 1: Error Location		J.	mally.		
mation			อก e Instruction and In	estruction Instance	Whore the Error O	courred If there is	
mation			nformation is given				
	be identified.	osibic ilisti dotioli, i	morniauon is given	on all of them. No	umig is given il tile	mondonon camilot	
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

^{*1.} Error code 16#5743 occurs for unit version 1.08 or later of the CPU Unit.

Event name	Execution ID Setting Out of Range			Event code	54015749 hex *1	
Meaning	The parameter sp	ecified for the Exe	cID input variable to	a motion control i	nstruction is out of	range.
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	peration The relevant instruction will end according t cations.		ording to specifi-
System-de-			Data type	Data type		
fined variables			BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The parameter specific ExecID input variation is out of put variable.	able to the in-	Correct the program so that the input parameter specified for the ExecID input variable to the instruction is within the setting range.		Create the program so that the input parameter specified for the <i>ExecID</i> input variable to the instruction is within the setting range.	
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.

^{*1.} Error code 16#5749 occurs for unit version 1.10 or later of the CPU Unit.

Event name	Position Offset Or	ut of Range		Event code	5401574A hex *1		
Meaning	The parameter sp	ecified for the Offs	etPosition input vai	iable to a motion c	ontrol instruction is	out of range.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation The relevant instructions.		uction will end acco	ording to specifi-	
System-de-	Variable Data		Data type	Data type			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The instruction in	out parameter ex-	Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the range	of signed 40-bit	valid range of the input variable is		struction so that the valid range of		
	data when it was	converted to	not exceeded for	the relevant in-	the input variable	le is not exceeded.	
	pulses.		struction.				
Attached infor-	Attached Informat	tion 1: Error Location	on				
mation	Attached Informati	tion 3: Names of th	e Instruction and Ir	struction Instance	Where the Error Oc	ccurred. If there is	
	more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.	
Remarks							

^{*1.} Error code 16#574A occurs for unit version 1.10 or later of the CPU Unit.

Event name		tion Command Sel	ection Out of	Event code	5401574B hex *1		
	Range The parameter specified for the <i>TransitionCmd</i> input va						
Meaning	The parameter sp	ecified for the Iran	isitionCma input va	riable to a motion o	control instruction is	out of range.	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-	
			cations.		•		
System-de-	Variable Data		Data type	Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p	Instruction input parameter ex-		Correct the parameter so that the		Set the input parameter to the in-	
	ceeded the valid i	range of the input	valid range of the	input variable is struction so that the valid rang		he valid range of	
	variable.		not exceeded for	the relevant in-	the input variable is not exceeded.		
			struction.				
Attached infor-	Attached Informati	tion 1: Error Location	on				
mation	Attached Informati	tion 3: Names of th	e Instruction and Ir	struction Instance	Where the Error O	ccurred. If there is	
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot	
	be identified.				-		
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	it is displayed may	not be correct.	
Remarks		-					

^{*1.} Error code 16#574B occurs for unit version 1.10 or later of the CPU Unit.

Event name	Single-axis Position Control Axis Motion Control Instruction Execution Disabled			Event code	5401574C hex *1	
Meaning	An operation inst	ruction was execute	ed for a single-axis	position control ax	is.	
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation The relevant instr		ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ltLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction	Correction		
rection	An operation instruction was executed for a single-axis position control axis.		axis specified in the Control Functor O: All. Or specify the axis Control Function O: All in the Axis I	In the Axis Basic Settings for the axis specified in the instruction, set the Control Function parameter to 0: All. Or specify the axis for which the Control Function parameter is set to 0: All in the Axis Basic Settings.		eft.
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.

^{*1.} Error code 16#574C occurs for unit version 1.13 or later of the CPU Unit.

Event name	Cam Monitor Mod	le Selection Out of	Range	Event code	54015751 hex *1		
Meaning		The cam monitor mode selection specified for the <i>CamMonitorMode</i> input variable to a motion control instruction is out of range.					
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Operation The relevant instructions.		uction will end according to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The cam monitor out of the valid ra		Make a correction monitor mode sel the valid range.				
Attached infor-	Attached informat	ion 1: Error Locatio	on				
mation	Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified.						
Precautions/	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	
Remarks							

^{*1.} This error code (16#5751) occurs for an NX102-□□□□ CPU Unit with unit version 1.32 or later and NX701-□□00 CPU Unit, NX1P2-□□□□□□ CPU Unit, NJ501-□□□□ CPU Unit (excluding NJ501-□□, NJ301-□□□□ CPU Unit, and NJ101-□□00 CPU Unit with unit version 1.21 or later.

Event name	Data Type of Can	n Monitor Values M	ismatch	Event code	54015752 hex *1			
Meaning	1	The data type of the cam monitor values specified for the <i>CamMonitorValue</i> in-out variable to a motion control instruction does not match the cam monitor mode selection.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instruction will cations.		ording to specifi-		
System-de-	Variable	ble Data type			Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The data type of t	he variable speci-	Make a correction of the data type		Set the data type of the variable			
	fied for the cam n	nonitor values	of the variable specified for the		specified for the cam monitor val-			
	does not match the mode selection.	ne cam monitor	cam monitor valu	es.	ues correctly.			
Attached infor-		tion 1: Error Location	l on					
mation				struction Instance	Where the Error Oc	curred. If there is		
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	hing is given if the	instruction cannot		
	be identified.							
Precautions/	If a program is ch	anged after an erro	If a program is changed after an error occurs, the attached information that is displayed may not be correct.					
	If a program is changed after an error occurs, the attached information that is displayed may not be correct.							

^{*1.} This error code (16#5752) occurs for an NX102-□□□□ CPU Unit with unit version 1.32 or later and NX701-□□00 CPU Unit, NX1P2-□□□□□□ CPU Unit, NJ501-□□□□ CPU Unit (excluding NJ501-□□20), NJ301-□□□□ CPU Unit, and NJ101-□□00 CPU Unit with unit version 1.21 or later.

Event name	X Bus Unit Does Not Exist			Event code	54015800 hex			
Meaning	The specified Uni	t does not exist.						
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation The relevant instruction will end according to cations.		ording to specifi-			
System-de-	- Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The specified X B exist.	Bus Unit does not	Make corrections so that the Unit specifications and the remote Unit configuration agree.		Make sure that Unit specifications and the remote Unit configuration agree.			
Attached information	Attached informate the start of the se Attached informate more than one posterior identified. Attached informate	Attached information 1: Error Location Attached information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot						
Precautions/	None		ф	(<u>-</u>	,,	<u> </u>		
Remarks								

Event name	Response Timeo	ut		Event code	54015801 hex	
Meaning	No response was	received from the	specified Unit.			
Source	PLC Function Module		Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Communications with the specified Unit stopped due to either an X Bus Unit Startup Error, X Bus Unit Communications Error, or X Bus Function Processing Error.		Recover the specified Unit from its abnormal state and start it up normally.		Make sure that there is no abnormality in the specified Unit, and then start communications.	
	The set response monitoring time is too short.		Change the value set for response monitoring time.		None	
Attached information	Attached information 1: Error Location Attached information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) for the instruction which has an Expansion Error Code (ErrorIDEx). For the instruction without an Expansion Error Code (ErrorIDEx), 0x000000000 is given.					
Precautions/ Remarks	None		·		•	-

Event name	Cannot Execute a	at Specified Unit/Po	ort	Event code	54015C00 hex			
Meaning	A tag data link co	ntrol instruction wa	s executed when e	xecution was not p	ossible. Or, the Eth	erNet/IP port des-		
	ignated by the sp	ecified Unit and por	rt number does not	exist.				
Source	PLC Function Mc	dule	Source details	Instruction	Detection tim-	At instruction		
					ing	execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable Data type Name							
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
Attached information	 An instruction was executed while the EtherNet/IP port is being restarted or tag data link settings are being downloaded from Network Configurator. The EtherNet/IP port designated by the specified Unit and port number does not exist. Make sure that the Unit specified by the instruction is connected properly. Attached information 1: Error Location Attached information 3: Names of the Instruction after restarting the EtherNet/IP port or changing settings. Designate the specified Unit and port number that exist in the configuration setting of the X Bus Unit. Make sure that the Unit specified by the instruction is connected properly. Properly connect the Unit specified by the instruction. 							
Precautions/ Remarks	None							
Event name	Too Many Simult	anagua Instruction I	Evacutions	Event code	54015C01 hex			
		aneous Instruction I			ions exceeded the maximum num-			
Meaning	•	troi instructions wer xecuted simultaneo		e number of instruc	tions exceeded the	maximum num-		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Two or more tag	data link control	Correct the progra	am so that only	Create a program	so that only one		
	_	executed simulta-		control instruction	tag data link cont	•		
	neously.		is executed at a ti	ime.	executed at a tim	e.		
Attached information	neously. Attached information 1: Error Location Attached information 2: Error Location Details (Rung Number). For a program section, the rung number frequency for the start of the section is given. For ST, the line number is given. Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If the more than one possible instruction, information is given on all of them. Nothing is given if the instruction be identified. Attached information 4: Expansion Error Code (ErrorIDEx) for the instruction which has an Expansion Error					occurred. If there is instruction cannot open cannot o		
	Code (ErrorIDEx). For the instruction without an Expansion Error Code (ErrorIDEx), 0x000000000 is given.							

Precautions/

Remarks

None

Event name	Target Node IP A	ddress Does Not E	viet	Event code	54015C03 hex	
Meaning		gs with the target r				sified by the speci-
Source	PLC Function Mo		Source details Instruction		Detection tim-	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable	•	Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	node IP address the Ethernet/IP po		Specify the target node IP address that exists in the connection settings of the EtherNet/IP port specified by the corresponding instruction.		Specify the target node IP address that exists in the connection settings of the EtherNet/IP port specified by the corresponding instruction.	
Attached information	Attached information 1: Error Location Attached information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given if the instruction cannot be identified. Attached information 4: Expansion Error Code (ErrorIDEx) for the instruction which has an Expansion Error Code (ErrorIDEx). For the instruction without an Expansion Error Code (ErrorIDEx), 0x000000000 is given.					
Precautions/ Remarks	None		'	\		J

Event name	Connection Comr	munications Error		Event code	54015C04 hex	
Meaning	Communications	can not be establis	hed with the target	node specified by	target node IP add	ress.
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	 Target node is properly. The power sup node is OFF. The Ethernet coloose. Noise 	ply to the target	ed.	cted. power supply to is ON.	erly. Turn ON the protarget node. Replace the Et connect it secu. Implement nois	ırely.
Attached information	Attached informate the start of the sea Attached informate more than one posterior be identified. Attached informate	ction is given. For stion 3: Names of the essible instruction, it is a stick tion 4: Expansion E	on on Details (Rung Number). For a program section, the rung number fron ST, the line number is given. ne Instruction and Instruction Instance Where the Error Occurred. If there information is given on all of them. Nothing is given if the instruction can Error Code (ErrorIDEx) for the instruction which has an Expansion Error not without an Expansion Error Code (ErrorIDEx), 0x000000000 is given.			
Precautions/ Remarks	None					

Event name	Connection Settir	ng Error		Event code	54015C05 hex			
Meaning	An abnormal resp	oonse from the targ	et node was receiv	ed.				
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category System			
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Connection settin	gs are incorrect.	Modify connection settings and download the settings from Network Configurator or Sysmac Studio.		Create correct connection settings and download the settings from Network Configurator or Sysmac Studio.			
Attached information	Attached information 1: Error Location Attached information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction cann be identified. Attached information 4: Expansion Error Code (ErrorIDEx) for the instruction which has an Expansion Error							
Precautions/ Remarks	Code (ErrorIDEx). For the instruction without an Expansion Error Code (ErrorIDEx), 0x00000000 is given. None							

Event name	Target Position Po	ositive Software Lin	nit Exceeded	Event code	54016440 hex			
Meaning	The specified pos	ition exceeds the p	ositive software lim	it.				
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-		
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence		
	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Mino	r Fault Occur-		
0	A		O a mana a ti a m		rence			
Cause and cor-	Assumed cause		Correction		Prevention	.6. 16. (1		
rection	The parameter sp		Correct the param	•	Set the parameter specified for the			
	Position input variable to the instruction is beyond the positive			variable to the in-	Position input variable to the in-			
	struction is beyon	a the positive	struction so that it itive software limit		struction so that it is within the pos- itive software limit.			
	The starting posit	ion is hevond the	Correct the progra		If the starting position is beyond			
	positive software	-	travel direction for		the positive software limit, write the			
	struction that spe		towards the positi		program so that the travel direction			
	the opposite direction of the soft-		•		is in the direction of the positive			
	ware limit was ex	ecuted.			software limit.			
	The parameter th	at was specified	Correct the param	neter specified for	Set the parameter specified for the			
	for the AuxPoint in	nput variable to a	the AuxPoint inpu	t variable to the	AuxPoint input va	riable to the bor-		
	border point MC_		instruction so that		–	veCircular2D (Cir-		
	(Circular 2D Inter	· ·	positive software	limit.	cular 2D Interpola	•		
	1	positive software				the negative soft-		
Attached infor-	limit.	hiam 1. Empe 1 s 4:-			ware limit.			
		tion 1: Error Location		atruction Instance	Where the Error O	acurred If there is		
mation			e Instruction and In nformation is given					
	be identified.	inali dellett, t	mormation is given	on all of them. Not	aming is given if the	mondon cannot		
Precautions/		anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct		
Remarks	a program to on		100dio, tilo attaol	IIIIOIIIIGIOII IIIG	diopidyod may			
	l							

Event name	Target Position No	egative Software Li	imit Exceeded	Event code	54016441 hex			
Meaning	The specified pos	ition exceeds the r	negative software lir	nit.				
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-		
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence		
	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Mind	or Fault Occur-		
					rence			
Cause and cor-	Assumed cause	med cause Correction						
rection	The parameter sp Position input vari struction is beyon software limit.	able to the in-	the <i>Position</i> input	neter specified for variable to the in- tis within the neg- it.	Correct the input parameter speci- fied for the <i>Position</i> input variable to the instruction so that it is within the negative software limit.			
	The starting positinegative software struction that specthe opposite directions ware limit was exceptionally starting positions.	limit and an in- cifies motion in tion of the soft-	Correct the program so that the travel direction for the instruction is towards the negative software limit. If the starting position the negative software the program so that the rection is in the direction negative software limit.			ware limit, write nat the travel di- irection of the		
	The parameter the for the AuxPoint in border point MC_(Circular 2D Interplation is beyond the ware limit.	nput variable to a MoveCircular2D colation) instruc-	Correct the parameter specified for the <i>AuxPoint</i> input variable to the instruction so that it is within the negative software limit.		Set the parameter specified for the <i>AuxPoint</i> input variable to the border point MC_MoveCircular2D (Circular 2D Interpolation) instruction so that it is within the negative software limit.			
Attached information	Attached Informat		e Instruction and In		tion Instance Where the Error Occurred. If there is II of them. Nothing is given if the instruction cannot			
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.		

Event name	Command Position	on Overflow/Underf	low	Event code	54016442 hex			
Meaning			erflow/overflow direwas an underflow/o			direction is not		
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-		
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ItLvl.Active	BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
One of the following was executed when there was a command position overflow/underflow. • A positioning instruction • A continuous control instruction in the underflow/overflow direction • An instruction for which the direction is not specified (syncing or torque control)			clear the overflow	Arror reset and then rflow/underflow state homing or presetting sition. Make sure that overflow or flow does not occur.				
Attached information	Attached Information 1: Error Location Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there more than one possible instruction, information is given on all of them. Nothing is given if the instruction can be identified.							
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attacl	hed information tha	t is displayed may	not be correct.		

Event name	Positive Limit Inpu	 ut		Event code	54016443 hex			
Meaning			otion in the positive	direction when the	positive limit input	was ON.		
Source	PLC Function Mo		Source details	Instruction	Detection tim-	At instruction execution		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	The relevant instr	ruction will end acc	ording to specifi-		
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence		
	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Mino	or Fault Occur-		
Cause and cor-	Assumed cause		Correction		Prevention			
rection	An instruction for positive direction when the positive ON, or an instruct with no direction sexecuted when the put was ON. An acontrol instruction when the positive ON.	was executed limit input was ion for a motion specification was e positive limit in- xes group motion was executed limit input was	negative direction curred during an a tion control instruction axes group and the above operation. curs again, check of the positive lim setting for the post and the execution the start comman any mistakes. Check the logic so axis parameters a settings.	ry operation in the in. If the error ocaxes group mocition, disable the men perform the lift this error ocathe connection it signal, the logic sitive limit input, in conditions for ind, and correct lettings both in the	Check to make sure there are no			
Attached information	Attached Informat							
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.		

	N (1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				F40404441		
Event name	Negative Limit Inp			Event code	54016444 hex		
Meaning	An instruction for	a motion in the neg	gative direction was	executed when the	e negative limit inp	ut was ON.	
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The relevant instr	uction will end acc	ording to specifi-	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence	
	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Mino rence	r Fault Occur-	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Assumed cause An instruction for a motion in the negative direction was executed when the negative limit input was ON, or an instruction for a motion with no direction specification was executed when the negative limit input was ON. An axes group motion control instruction was executed when the negative limit input was ON.		positive direction. red during an axe control instruction group and then pe operation. If this e again, check the negative limit sign ting for the negati the execution con start command, a mistakes. Check the logic se axis parameters a settings.	ry operation in the If the error occur- s group motion , disable the axes erform the above error occurs connection of the hal, the logic set- ve limit input, and ditions for the and correct any ettings both in the	Check to make sure there are no problems with the negative limit signal connection, the logic setting for the negative limit input, and the		
Attached information	Attached Informa	ched Information 1: Error Location ched Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If the than one possible instruction, information is given on all of them. Nothing is given if the instruction					
Precautions/ Remarks	If a program is ch	anged after an erro	or occurs, the attach	ned information tha	t is displayed may	not be correct.	

Event name	Servo Main Circu	ite OEE		Event code	54017422 hex				
Meaning	An attempt was n	nade to turn ON the	Servo when the m	nain circuit power s	upply to the Servo	Drive was OFF.			
Source	PLC Function Mo	dule	Source details	Instruction	Detection tim-	At instruction			
					ing	execution			
Error attributes	Level	Observation	Recovery		Log category	System			
Effects	User program	Continues.	Operation	The relevant instr	nstruction will end according to specifi-				
				cations.					
System-de-	Variable		Data type		Name				
fined variables	_MC_AX[*].MFau	ltLvl.Active	Active BOOL			Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention				
rection	An attempt was n	nade to turn ON	Turn ON the Serv	o after turning	Turn ON the Servo after turning				
	the Servo when the	ne main circuit	ON the main circu	uit power of the	ON the main circuit power supply				
	power supply to the	ne Servo Drive	Servo Drive for th	e axis where the	to the Servo Drive	e.			
	was OFF.		error occurred.						
Attached infor-	Attached Informa	tion 1: Error Location	on						
mation	Attached Informa	tion 3: Names of th	e Instruction and Ir	struction Instance	Where the Error O	ccurred. If there is			
	more than one po	ssible instruction, i	nformation is given	on all of them. Not	thing is given if the	instruction cannot			
	be identified.		· ·						
Precautions/	If a program is ch	anged after an erro	or occurs, the attacl	ned information tha	t is displayed may	not be correct.			
Remarks		-							

3-2-3 Other Troubles and Corrections

Security Errors

No.	Problem	Correction
1	Forgot the Administrator password.	You cannot access the Administrator's password. Always record the Administrator password so that you do not forget it.
2	Cannot release the operation lock with the Sysmac Studio.	Log in with verification authority that is equal to or higher than the verification rights when you connected online.
3	Operation was locked when verifying operation authority on the Sysmac Studio.	If the password for verification of operation authority is entered incorrectly five times in row, operation is locked for 10 minutes. Wait until the operation lock is released.
4	An online connection was made with the operation authority that is required for operation, but operation authority verification was requested for a specific operation.	Verification of operation authority is required every time for the following functions to prevent hazards to equipment and people. • I/O monitoring (writing) by an Operator • Operating mode change by a Maintainer • Online editing by a Maintainer
5	Cannot release the operation lock with the Sysmac Studio after the operator left the Sysmac Studio unattended.	You can release the operation lock with an operation authority that is equal to or higher than the operator. The required operation authority will be that of an operator (the operation authority that was verified when going online with the Sysmac Studio).
6	Some of the user program data cannot be read for certain operations. • Monitoring Variables • Operation Commands SET/RESET, forced refreshing, online editing, data tracing, MC Test Run, and setting the user program execution ID in the CPU Unit • Synchronizing, Uploading, Verification, and Backup POU algorithms	The source data was not downloaded along with the user program. You will be able to read the data if you download the user program normally.
7	Writing to the CPU Unit is not possible for some operations. Names CPU Unit name Operation Commands Online editing, Clear All Memory, event log clearing, and setting the user program execution ID in the CPU Unit Synchronizing and Downloading User program, CPU/Expansion Rack Configuration and Setup, EtherCAT Settings, Controller Setup, Axis Settings, Cam Table Settings, Data Trace Settings, User-defined Event Setup, restoring	The CPU Unit is write protected. Release the write protection.

No.	Problem	Correction
8	I do not know how to change the user program	The user program execution ID cannot be changed or
	execution ID.	deleted after it is set.
9	I forgot the user program execution ID as-	This is no way to access the user program execution
	signed to user program.	ID that is set. Always record the user program execu-
		tion ID so that you do not forget it.
10	I forgot the user program execution ID that is	This is no way to access the user program execution
	registered in the CPU Unit.	ID that is set. Set the user program execution ID
		again. You can also clear the user program execution
		ID in the CPU Unit if you execute the Clear All Memory
		operation.

3-3 Errors in the NX Bus Function Module

The section provides tables of the errors (events) that can occur in the NX Bus Function Module.

3-3-1 Error Tables

NX Bus

With the NX102 CPU Unit and NX1P2 CPU Unit, two or more events with more specific names may correspond to one Slave Terminal event. Refer to *A-7 Correspondence of NX Bus Events between NX102 CPU Units, NX1P2 CPU Units and Slave Terminals* on page A-299 for details.

					L	_eve	el .		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
04100000 hex [NX102, NX1P2]	NX Bus Controller Error	An error occurred in the NX bus.	An I/O communications error occurred between the CPU Unit and the NX Unit.		0				page 3-427
04110000 hex [NX102, NX1P2]	NX Bus Hardware Error	A hardware error was detected in the NX Bus Function Module.	A hardware error related to the NX bus was detected.		0				page 3-428
10600000 hex [NX102, NX1P2]	NX Bus Memory Check Error	An error was detected in the internal memory check for the NX Bus Function Module.	An error was detected in the memory check for the internal protection circuit.		0				page 3-428
10610000 hex [NX102, NX1P2]	Failed to Read NX Unit Opera- tion Settings	Reading the NX Unit operation settings failed. Cycle the power supply to the CPU Unit to restore the previous normally-saved settings.	The NX Unit operation settings are not saved normally in the CPU Unit.		0				page 3-429
24D00000 hex [NX102, NX1P2]	Number of Mountable NX Units Ex- ceeded	The number of mounted NX Units exceeds the specified value for the CPU Unit.	More than the maximum number of NX Units are mounted on the CPU Unit.		0				page 3-430
24D20000 hex [NX102, NX1P2]	Total I/O Da- ta Size in NX Units Exces- sive	The total size of I/O data in the mounted NX Units exceeds the maximum specified value for the CPU Unit.	The total size of I/O data in the mounted NX Units exceeds the maximum specified value for the CPU Unit.		0				page 3-431
356D0000 hex (Ver. 1.40 or later)	Parameters Not Trans- ferred	NX Unit parameters are not transferred.	NX Unit parameters are not transferred.		0				page 3-431

					ı	_eve	el		
Event code	Event name	Meaning	Assumed cause		P rt	M i n	O b s	I n f o	Reference
35900000 hex [NX102, NX1P2]	NX Unit Version Not Matched	There is a mounted NX Unit with a unit version earlier than that in the Unit configuration information registered in the CPU Unit.	The unit version of an NX Unit mounted in the actual configuration is earlier than that in the Unit configuration information registered in the CPU Unit.		0				page 3-432
35910000 hex [NX102, NX1P2]	Unregistered NX Unit Mounted	There is a mounted NX Unit that does not exist in the Unit configuration information registered in the CPU Unit. If there are more than one NX Unit relevant to this event, only the NX Unit that is nearest to the CPU Unit is registered with the event.	 There is a mounted Unit that does not exist in the Unit configuration information registered in the CPU Unit. There is a mounted Unit in which the NX Unit Mounting Setting is set to <i>Disabled</i>. 		0				page 3-433
35930000 hex [NX102, NX1P2]	NX Unit Se- rial Number Mismatch	There is a mounted NX Unit with a serial number different from that in the Unit configuration information registered in the CPU Unit.	One or more NX Units with the serial number set in the Unit configuration information regis- tered in the CPU Unit are not mounted.		0				page 3-434
44440000 hex [NX102, NX1P2]	NX Bus Function Processing Error	A fatal error was detected in the NX Bus Function Module.	An error occurred in the software.		0				page 3-435
85540000 hex [NX102, NX1P2]	NX Bus I/O Communica- tions Stop- ped Due to Another Event	The I/O communications on the NX bus were stopped because an error that prevents I/O communications on the NX bus occurred.	The I/O refreshing was stopped because a minor fault error (another event) that triggers fail-soft operation occurred when the Fail-soft Operation Setting is Stop. The I/O communications was stopped because the Registered NX Unit Not Mounted event occurred and the actual configuration prevents I/O communications from starting.		0				page 3-435

				Level					
Event code	Event name	Meaning	Assumed cause		P rt	M i n	O b s	I n f o	Reference
35920000 hex [NX102, NX1P2]	Registered NX Unit Not Mounted	One or more NX Units set in the Unit configuration informa- tion registered in the CPU Unit are not mounted. If there are more than one NX Unit relevant to this event, only the NX Unit that is nearest to the CPU Unit is regis- tered with the event.	There is no mounted NX Unit that exists in the Unit configuration information registered in the CPU Unit. The power supply to the Additional NX Unit Power Supply Unit is not turned ON.			0			page 3-436
85500000 hex [NX102, NX1P2]	NX Bus Communica- tions Error	A communications error that prevents normal NX bus communications was detected. If there are more than one NX Unit relevant to this event, only the NX Unit that is nearest to the CPU Unit is registered with the event.	 The NX bus connector contact is faulty due to vibration or shock. Excessive noise is applied to the NX bus connector. An NX Unit was removed. An error occurred in an NX Unit. 			0			page 3-437
85510000 hex [NX102, NX1P2]	NX Unit Communica- tions Time- out	An error occurred in I/O data communications with the NX Units.	An NX Bus Communications Error has occurred. An error occurred in an NX Unit.			0			page 3-437
85520000 hex [NX102, NX1P2]	NX Unit Initi- alization Er- ror	Initializing an NX Unit failed.	 Initialization with the Unit configuration information registered in the CPU Unit failed. An NX Bus Communications Error has occurred. The Channel Enable/Disable Setting for all channels of the Analog Unit are set to Disable. Initialization of an NX Unit failed. 			0			page 3-438
85530000 hex [NX102, NX1P2]	NX Unit Startup Error	Starting an NX Unit failed.	A startup error occurred in an NX Unit.			0			page 3-439
103C0000 hex [NX102, NX1P2]	NX Unit Backup Failed	The backup operation for an NX Unit ended in an error.	There is also another error related to the NX Bus Function Module. An NX Bus Communications Error has occurred. Backup data cannot be received from an NX Unit.				0		page 3-439

					Level				
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
103D0000 hex [NX102, NX1P2]	NX Unit Restore Operation Failed	The restore operation for an NX Unit ended in an error.	 There is also another error related to the NX Bus Function Module. An NX Bus Communications Error has occurred. The backup data cannot be sent to an NX Unit. The Unit configuration in the backup file does not agree with the actual Unit configuration. 				0		page 3-440
10620000 hex [NX102, NX1P2]	NX Unit Event Log Save Error	Saving or reading the NX Unit event log failed. Continuing to operate with this error may result in no event log saved at CPU Unit power OFF although it has no effect on the control function.	Data in the NX Unit event log area are invalid.				0		page 3-441
44450000 hex [NX102, NX1P2]	NX Bus System Information	This event provides internal information from the NX Bus Function Module.	This event provides internal information from the NX Bus Function Module.					0	page 3-441
95800000 hex [NX102, NX1P2]	NX Bus Restart Executed	An NX bus restart was executed.	An NX bus restart command was received.					0	page 3-442
95810000 hex [NX102, NX1P2]	NX Unit Memory All Cleared	The NX Unit operation settings were initialized.	A Clear All Memory operation for an NX Unit was received.					0	page 3-443

3-3-2 Error Descriptions

NX Bus

	i				i				
Event name	NX Bus Controlle	r Error		Event code	04100000 hex				
Meaning	An error occurred in the NX bus.								
Source	NX Bus Function Module		Source details	Master	Detection timing	At CPU Unit power ON, at Controller reset, or during NX bus communica- tions			
Error attributes	Level	Partial fault	Recovery	Cycle the power supply to the CPU Unit or reset the Controller.	Log category	System			
Effects	User program	Continues.	Operation		ns will not operate and message cannot be performed.				
System-de-	Variable		Data type		Name				
fined variables	None								
Cause and cor-	Assumed cause		Correction		Prevention				
rection	An I/O communic curred between the NX Unit.		Cycle the power s Unit. If this error p the CPU Unit.	supply to the CPU persists, replace					
Attached infor- mation	Attached information 1: System information								
Precautions/ Remarks	None								

Event name	NX Bus Hardware Error Event co				04110000 hex				
Meaning	A hardware error was detected in the NX Bus Function Module.								
Source	NX Bus Function	Module	Source details	Master	Detection tim- ing	Continuously			
Error attributes	Level	Partial fault	Recovery	Cycle the power supply to the CPU Unit or reset the Controller.	Log category	System			
Effects	User program	Continues.	Operation	l .	ons will not operate and message cannot be performed.				
System-de-	Variable		Data type		Name				
fined variables	None								
Cause and cor-	Assumed cause		Correction		Prevention				
rection	A hardware error	related to the NX	Cycle the power s	supply to the CPU	None				
	bus was detected		Unit. If this error p	persists, replace					
			the CPU Unit.						
Attached infor-	Attached information 1: System information								
mation	Attached information 2: System information								
	Attached information 3: System information								
		Attached information 4: System information							
Precautions/	None								
Remarks									

Event name	NX Bus Memory	Check Error		Event code	10600000 hex				
Meaning	An error was detected in the internal memory check for the NX Bus Function Module.								
Source	NX Bus Function	Module	Source details	Master	Detection tim- ing	Continuously			
Error attributes	Level	Partial fault	Recovery	Cycle the power supply to the CPU Unit or reset the Controller.	Log category	System			
Effects	User program	Continues.	Operation		ons will not operate and message cannot be performed.				
System-de-	Variable		Data type		Name				
fined variables	None								
Cause and cor-	Assumed cause		Correction		Prevention				
rection	An error was dete	cted in the mem-	Cycle the power s	ver supply to the CPU None					
	ory check for the	internal protection	Unit. If this error p	persists, replace					
	circuit.		the CPU Unit.	CPU Unit.					
Attached infor-	Attached information 1: System information								
mation									
Precautions/	None								
Remarks									

Event name		X Unit Operation Se		Event code	10610000 hex		
Meaning		Jnit operation settir supply to the CPU l		orevious normally-s	aved settings.		
Source	NX Bus Function Module		Source details	Master	Detection timing	At CPU Unit power ON, at Controller reset, or at NX bus re- start	
Error attributes	Level	Partial fault	Recovery	Cycle the power supply to the CPU Unit, reset the Controller, or restart the NX bus.	Log category	System	
Effects	User program	Continues.	Operation	I/O communications will not operate, but message communications can be performed.		, but message	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	The NX Unit operation settings are not saved normally in the CPU Unit.		Check the NX Unit operation settings and correct the settings.		Do not turn OFF the power supply to the CPU Unit while transfer of the Unit operation settings for the CPU Unit or execution of the NX_SaveParam instruction is in progress.		
Attached infor- mation	Attached informat	tion 1: System infor	mation				
Precautions/ Remarks	None						

Event name	Number of Mount	able NX Units Exce	eeded	Event code	24D00000 hex		
Meaning	The number of mo	ounted NX Units ex	ceeds the specifie	d value for the CPU	J Unit.		
Source	NX Bus Function Module		Source details	Master	Detection timing	At CPU Unit power ON, at Controller reset, or at NX bus re- start	
Error attributes	Level	Partial fault	Recovery	Cycle the power supply to the CPU Unit or reset the Controller.	Log category	System	
Effects	User program	Continues.	Operation	For NX Units within the range of the number of mountable Units, I/O communications will not operate, but message communications can be performed. For NX Units outside the range of the number of mountable Units, I/O communications will not operate and message communications cannot be performed.			
System-de-	Variable		Data type	•	Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	More than the maximum number of NX Units are mounted on the CPU Unit.		Keep the number of NX Units mounted on the CPU Unit at the specified number or less.		Mount the specified number of NX Units or less.		
Attached information	None						
Precautions/ Remarks	None						

Event name	Total I/O Data Siz	e in NX Units Exce	essive	Event code	24D20000 hex	
Meaning	The total size of I	/O data in the mou	nted NX Units exce	eds the maximum	specified value for	the CPU Unit.
Source	NX Bus Function Module		Source details	Master	Detection timing	At CPU Unit power ON, at Controller reset, or at NX bus re- start
Error attributes	Level	Partial fault	Recovery	Cycle the power supply to the CPU Unit or reset the Controller.	Log category	System
Effects	User program	Continues.	Operation	l/O communications will not operate, but message communications can be performed.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The total size of I	/O data in the	Reduce the numb	Reduce the number of NX Units		per of NX Units
	mounted NX Unit	s exceeds the	mounted on the C	CPU Unit to keep	mounted on the CPU Unit to keep	
	maximum specifie	ed value for the	the total size of I/	O data at the	the total size of I/	O data at the
	CPU Unit.		maximum specifie	ed value or less.	maximum specifie	ed value or less.
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Parameters Not T	ransferred		Event code	356D0000 hex *1	
Meaning	NX Unit paramete	ers are not transfer	red.			
Source	NX Bus Function Module		Source details	Master	Detection tim- ing	At power ON, Controller reset, or operating mode change
Error attributes	Level	Partial fault	Recovery	Cycle the power supply to the CPU Unit or reset the Controller.	Log category	System
Effects	User program	Continues.	Operation		cations will not operate, but message ons can be performed.	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	NX Unit parameters are not transferred.		Cycle the power supply or reset the Controller after you transfer NX Unit parameters from the Sysmac Studio.		If you execute the download that is required to reset the Controller, you need to transfer NX Unit parameters. Download the data according to the message displayed on the Sysmac Studio.	
Attached infor- mation	None					
Precautions/ Remarks	None					

^{*1.} This event code occurs for unit version 1.40 or later of the CPU Unit.

Event name	NX Unit Version N	Not Matched		Event code	35900000 hex	35900000 hex	
Meaning	There is a mount in the CPU Unit.	ed NX Unit with a u	nit version earlier t	han that in the Unit	configuration infor	mation registered	
Source	NX Bus Function Module		Source details	Master	Detection timing	At CPU Unit power ON, at Controller reset, or at NX bus re- start	
Error attributes	Level	Partial fault	Recovery	Cycle the power supply to the CPU Unit, reset the Controller, or restart the NX bus.	Log category	System	
Effects	User program	Continues.	Operation	 For NX Units with this error, I/O communications will not operate and message communications cannot be performed. For NX Units without this error, I/O communications will not operate, but message communications can be performed. 			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The unit version of an NX Unit mounted in the actual configuration is earlier than that in the Unit configuration information registered in the CPU Unit.					on result showed the Compare ow of the Sysmac	
Attached information		tion 1: Unit number tion 2: Unit version				e the error occur-	
Precautions/ Remarks	None						

Event name	Unregistered NX Unit Mounted Event code 35910000 hex					
			o not oviet in the LI			d in the CDLLUnit
Meaning		than one NX Unit r	es not exist in the Uelevant to this even			
Source	NX Bus Function Module		Source details	Master	Detection timing	At CPU Unit power ON, at Controller reset, or at NX bus re- start
Error attributes	Level	Partial fault	Recovery	Cycle the power supply to the CPU Unit, reset the Controller, or restart the NX bus.	Log category	System
Effects	User program	Continues.	Operation	 For NX Units with this error, I/O communications will not operate and message communications cannot be performed. For NX Units without this error, I/O communication will not operate, but message communications cabe performed. 		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection			To match the Unit configuration information with the actual configuration, download to the CPU Unit the Unit configuration information to which you added the relevant NX Unit. To match the actual configuration with the Unit configuration information, remove the relevant NX Unit.		Match the project the CPU Unit with figuration.	
	There is a mounted Unit in which the NX Unit Mounting Setting is set to <i>Disabled</i> .		To match the Unit configuration information with the actual configuration, download to the CPU Unit the Unit configuration information in which the NX Unit Mounting Setting for the relevant NX Unit is set to <i>Enabled</i> . To match the actual configuration with the Unit configuration information, remove the relevant NX Unit.			
Attached infor- mation	Attached informat	tion 1: Mounting po	sition of the NX Un	it where the error o	occurred	
Precautions/ Remarks	None					

Event name	NX Unit Serial Nu	ımber Mismatch		Event code	35930000 hex	
Meaning	There is a mount tered in the CPU		erial number differe	ent from that in the	Unit configuration i	nformation regis-
Source	NX Bus Function Module		Source details	Master	Detection timing	At CPU Unit power ON, at Controller reset, or at NX bus re- start
Error attributes	Level	Partial fault	Recovery	Cycle the power supply to the CPU Unit, reset the Controller, or restart the NX bus.	Log category	System
Effects	User program	Continues.	Operation	 For NX Units with this error, I/O communications will not operate and message communications cannot be performed. For NX Units without this error, I/O communications will not operate, but message communications can be performed. 		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	One or more NX Units with the serial number set in the Unit configuration information registered in the CPU Unit are not mounted.		To match the actual configuration with the Unit configuration information, match the serial number of the relevant NX Unit. To match the Unit configuration information with the actual configuration, download the Unit configuration information with the serial number of the relevant NX Unit to the CPU Unit.		Read the serial numbers of the actually mounted Units into a project in the Sysmac Studio before you set the Serial Number Verification setting to verify the serial numbers.	
Attached information				ere the error occurr guration information		ere the error oc-

Event name	NX Bus Function Processing Error			Event code	44440000 hex			
Meaning	A fatal error was							
Source	NX Bus Function	Module	Source details	Master	Detection tim- ing	Continuously		
Error attributes	Level	Partial fault	Recovery	Cycle the power supply to the CPU Unit.	Log category	System		
Effects	User program	Continues.	Operation	I/O communications will not operate and message communications cannot be performed.				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause An error occurred in the software.		Correction		Prevention			
rection			Contact your OMRON representative.		None			
Attached infor- mation	Attached informa Attached informa	Attached information 1: System information Attached information 2: System information Attached information 3: System information Attached information 4: System information						
Precautions/ Remarks	None							
_								
Event name	NX Bus I/O Com Event	munications Stoppe	ed Due to Another	Event code	85540000 hex			
Meaning	The I/O commun the NX bus occur		bus were stopped b	pecause an error th	at prevents I/O cor	mmunications o		
Source	NX Bus Function	Module	Source details	Master	Detection tim- ing	Continuously		
Error attributes	Level	Partial fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	I/O communications communications	ns will not operate, but message			
System-de-	Variable		Data type	Name				

	Event					
Meaning	The I/O communithe NX bus occur		bus were stopped b	pecause an error th	at prevents I/O con	nmunications on
Source	NX Bus Function Module		Source details	Master	Detection tim- ing	Continuously
Error attributes	Level	Partial fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation		ons will not operate can be performed.	, but message
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	or- Assumed cause		Correction		Prevention	
rection	The I/O communications were stopped because a minor fault error (another event) that triggers fail-soft operation occurred when the Fail-soft Operation Setting is Stop. The I/O communications were stopped because the Registered NX Unit Not Mounted event occurred and the actual configuration prevents I/O communications from starting.		Eliminate errors f that causes this e		To continue the I/tions when an err fail-soft operation change the Fail-s ting to Fail-soft.	or that triggers is encountered,
Attached infor-		tion 1: Event code		ent		
mation		tion 2: System info	rmation			
Precautions/ Remarks	None					

Event name	Registered NX Ur	nit Not Mounted		Event code	35920000 hex	
Meaning		than one NX Unit r	-	rmation registered int, only the NX Unit		
Source	NX Bus Function Module		Source details	Master	Detection timing	At CPU Unit power ON, at Controller reset, or at NX bus re- start
Error attributes	Level	Minor fault	Recovery	Cycle the power supply to the CPU Unit, reset the Controller, or restart the NX bus.	Log category	System
Effects	User program	Continues.	Operation For NX Units with this error, I/O communications w not operate and message communications cannot performed.			
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	One or more NX Units set in the Unit configuration information registered in the CPU Unit are not mounted. The power supply to the Additional		tion, mount the re To match the Uniformation with the tion, download to Unit configuration	nfiguration informathe the CPU Unit with the system		downloaded to the system con-
			Turn ON the power supply to the Additional NX Unit Power Supply Unit.		Use the same Unit power supply to supply the Unit power to the CPU Rack.	
Attached infor- mation	Attached informat	tion 1: Unit number	of the NX Unit who	ere the error occurr	ed	
Precautions/ Remarks	None					

Event name	NX Bus Commun	ications Error		Event code	85500000 hex				
Meaning	If there are more	A communications error that prevents normal NX bus communications was detected. If there are more than one NX Unit relevant to this event, only the NX Unit that is nearest to the CPU Unit is registered with the event.							
Source	NX Bus Function Module		Source details	Master	Detection tim- ing	Continuously			
Error attributes	Level	Minor fault	Recovery	Cycle the power supply to the CPU Unit, reset the Controller, or restart the NX bus.	Log category	System			
Effects	User program	Continues.	Operation	ror occurred, I/O communications will not operate an message communications cannot be performed.					
System-de-	Variable		Data type	Data type					
fined variables	None								
Cause and cor-	Assumed cause		Correction		Prevention				
rection		The NX bus connector contact is faulty due to vibration or shock.		Mount the NX Units and End Cover securely and secure them with End Plates.		Perform installation according to the user's manual			
	Excessive noise i		· ·	Implement noise countermeasures according to the user's manual.					
	An NX Unit was r	emoved.	Mount the remov	ed NX Unit again.					
	An error occurred in an NX Unit. Cycle the power supply t vant NX Unit. If this error replace the NX Unit.		nis error persists,	None					
Attached infor- mation	Attached informa	tion 1: Unit numbe	r of the NX Unit who	ere the error occurr	ed				
Precautions/ Remarks	None								

Event name	NX Unit Communications Timeout			Event code	85510000 hex		
Meaning	An error occurred	l in I/O data commu	unications with the	NX Units.			
Source	NX Bus Function Module		Source details	Master	Detection tim- ing	Continuously	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	•		,	this error, I/O communications will nessage communications can be	
System-de-	Variable		Data type	Data type		Name	
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An NX Bus Communications Error has occurred.		Correct the NX B tions Error.	Correct the NX Bus Communications Error.		Take preventive measures against the NX Bus Communications Error.	
	An error occurred in an NX Unit.		Cycle the power supply to the relevant NX Unit. If this error persists, replace the NX Unit.		None		
Attached infor-	Attached informa	tion 1: Unit number	of the NX Unit whe	ere the error occurr	ed		
mation	Attached informa	tion 2: System info	rmation				
Precautions/	None						
Remarks							

Event name	NX Unit Initializati	on Error		Event code	85520000 hex			
				Event code	85520000 flex			
Meaning	Initializing an NX			I				
Source	NX Bus Function	Module	Source details	Master	Detection timing	At CPU Unit power ON, at Controller reset, at NX bus re- start, or at error reset		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	For NX Units with this error, I/O communic not operate, but message communications performed.				
System-de-	Variable		Data type Name					
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Initialization with t ration information CPU Unit failed.	•	Connect the Sysmac Studio and reconfigure the Unit configuration information in the CPU Unit.		Download the Unit configuration information to the CPU Unit and the NX Unit.			
	An NX Bus Comm	nunications Error	Correct the NX Bus Communications Error.		Take preventive measures against the NX Bus Communications Error.			
	The Channel Ena ting for all channe Unit are set to <i>Dis</i>	ls of the Analog		Set the Channel Enable/Disable Setting to Enable for at least one channel.		nit, set the Chan- le Setting to st one channel.		
	Initialization of an	Initialization of an NX Unit failed.		supply to the rele- is error persists, nit.				
Attached information		ion 1: Unit number ion 2: System infor	of the NX Unit whe	ere the error occurr	ed			
Precautions/	None							
Remarks								

Event name	NX Unit Startup E	Frror		Event code	85530000 hex		
Meaning	Starting an NX U	nit failed.					
Source	NX Bus Function	Module	Source details	Master	Detection timing	At CPU Unit power ON, at Controller reset, at NX bus re- start, or at error reset	
Error attributes	Level	Minor fault	Recovery	Cycle the power supply to the CPU Unit or reset the Controller.	Log category	System	
Effects	User program	Continues.	Operation		this error, I/O com nessage communio		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A startup error oc Unit.	curred in an NX	Cycle the power s vant NX Unit. If the replace the NX U		None		
Attached infor- mation		tion 1: Mounting po tion 2: System info	osition of the NX Un	it where the error o	ccurred		
Precautions/	None						
Remarks							

Event name	NX Unit Backup F	ailed		Event code	103C0000 hex		
Meaning	The backup opera	ation for an NX Uni	t ended in an error.				
Source	NX Bus Function	Module	Source details	Master	Detection tim- ing	When backup is executed	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	There is also ano to the NX Bus Fu		Check errors rela Function Module required correction	•	Back up the data when there are no NX bus errors.		
	An NX Bus Comm has occurred.	nunications Error	Implement counter against the NX Britions Error.				
	Backup data canr from an NX Unit.	not be received	Reset the error fo	or the relevant NX			
Attached infor-	Attached Informa	tion 1: Error Location	on				
mation	0: NX bus mas	ter					
	1 or higher: Un	it number of the N	X Unit				
		tion 2: Cause of the					
			NX Bus Function N	Module.			
		tions with an NX U					
	Attached informat	tion 3: System info	rmation				
Precautions/	None						
Remarks							

Event name	NX Unit Restore	Operation Failed		Event code	103D0000 hex			
Meaning	The restore opera	ation for an NX Unit	t ended in an error.					
Source	NX Bus Function	Module	Source details	Master	Detection tim- ing	During restore operation		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	There is also ano to the NX Bus Full An NX Bus Comm	nction Module.	Check errors rela Function Module required correction Implement counter	ns.	Restore the data no NX bus errors			
	has occurred. against the NX Bus Communications Error.							
	The backup data an NX Unit.		Reset the error for Unit.	r the relevant NX				
	The Unit configura	gree with the ac-	1	an the revision ata was backed a slave with the neck Method set al device, do not inction. Instead, ork configuration Studio, download guration, and then				
Attached information	Attached Information 1: Error Location • 0: NX bus master • 1 or higher: Unit number of the NX Unit Attached Information 2: Cause of the error • 1: There is an error related to the NX Bus Function Module. • 2: Communications with an NX Unit failed. • 3: The Unit configuration in the backup data does not agree with the actual Unit configuration. Attached information 3: System information							
Precautions/ Remarks	None	, , , , , , , , , , , , , , , , , , , ,						

Event name	NX Unit Event Lo	g Save Error		Event code	10620000 hex				
Meaning	Saving or reading the NX Unit event log failed. Continuing to operate with this error may result in no event log saved at CPU Unit power OFF although it has no effect on the control function.								
Source	NX Bus Function	Module	Source details	Master	Detection tim- ing	At CPU Unit power ON or at Controller reset			
Error attributes	Level	Observation	Recovery		Log category	System			
Effects	User program	Continues.	Operation	Part or all of the p	oast event log cann	ot be read.			
System-de-	Variable		Data type	ta type Name					
fined variables	None								
Cause and cor-	Assumed cause		Correction	Correction					
rection	Data in the NX Urare invalid.	nit event log area	If this error persis cycle the power s Unit, a hardware in the NX Unit even place the CPU Un event logs in the	upply to the CPU failure may occur ent log area. Re- nit if you use the	None				
Attached infor- mation	Attached informat	Attached information 1: System information							
Precautions/ Remarks	None								

Event name	NX Bus System I	nformation		Event code	44450000 hex			
Meaning	This event provid	es internal informat	tion from the NX Bu	s Function Module).			
Source	NX Bus Function	Module	Source details	Master	Detection tim-	Continuously		
Error attributes	Level	Information	Recovery		Log category	System		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	This event provid mation from the N							
Attached infor-	Attached informa	tion 1: System infor	mation		1			
mation	Attached informa	tion 2: System infor	mation					
		tion 3: System infor tion 4: System infor						
Precautions/ Remarks	None	uon 4. Gystem illioi	maion					

Event name	NX Bus Restart E	xecuted		Event code	95800000 hex		
Meaning	An NX bus restar	t was executed.					
Source	NX Bus Function Module		Source details	Master	Detection tim- ing	At NX bus restart or at NX Unit restart	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	_NXB_UnitIOActi	veTbl	ARRAY [0n] OF	BOOL *1	NX Unit I/O Data Active Status		
	_NXB_UnitMsgA	ctiveTbl	ARRAY [0n] OF	BOOL *1	NX Unit Message	Enabled Status	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An NX bus restar received.	t command was					
Attached infor-	Attached informat	tion 1: Type of resta	art				
mation	0: The NX bus	was restarted					
	1: An NX Unit v	was restarted					
	Attached informat	tion 2: Unit number	of the Unit that exe	ecuted a restart			
	0: NX bus mas	ter					
	• 1 or higher: NX	Unit					
Precautions/	None						
Remarks							

^{*1.} n is 8 for NX1P2 CPU Units and 32 for NX102 CPU Units.

Event name	NX Unit Memory	All Cleared		Event code	95810000 hex*1				
Description	The NX Unit oper	ation settings were	initialized.						
Source	NX Bus Function	Module	Source details	Master	Detection tim- ing	When NX Unit memory is all cleared			
Error attributes	Level	Information	Recovery		Log category	Access			
Effects	User program	Continues.	Operation	Not affected.					
System-de-	Variable		Data type		Name				
fined variables	_NXB_UnitIOActi	veTbl	ARRAY [032] OI	BOOL	NX Unit I/O Data	Active Status			
	_NXB_UnitMsgAd	ctiveTbl	ARRAY [032] OI	= BOOL	NX Unit Message Enabled Status	e Communications			
Cause and cor-	Assumed cause		Correction		Prevention				
rection	A Clear All Memo an NX Unit was re	eceived.	ory operation. If the attached inf 0, check any mind level error that oc Bus Function Mod Unit, and make the	the NX Unit for ed Clear All Mem- formation 2 is not or fault or higher- currs in the NX dule and the NX the required cor-					
Attached infor-	Attached informat	tion 1: Unit number	of the NX Unit for	which you executed	d Clear All Memory	,			
mation		tion 2: Execution re	esults of Clear All M	emory operation					
	 0: All cleared 1: Hardware error 2: Initialization failure 3: Initialization not possible 								
Precautions/	None								
Remarks									

^{*1.} This event code occurs for a CPU Unit with unit version 1.18 or later.

3-4 Errors in the X Bus Function Module

This section describes the errors (events) that occur in the X Bus Function Module.

3-4-1 Error Tables

X Bus

					l	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
15100000 hex [NX502]	X Bus Unit Configura- tion Setting Error	The X Bus Unit configuration setting saved in non-volatile memory has been lost.	The power supply to the Controller was interrupted or communications with the Sysmac Studio were disconnected while downloading the X Bus Unit configuration setting or clearing memory. Non-volatile memory failure		0				page 3-446
24C00000 hex [NX502]	Number of Mountable X Bus Units Exceeded	The number of connected X Bus Units exceeds the specified value for the CPU Unit.	More than the maximum number of X Bus Units are connected.		0				page 3-447
24C10000 hex [NX502]	Unsupported X Bus Unit Mounted	Unsupported X Bus Unit is mounted.	Unsupported X Bus Unit was detected.		0				page 3-447
44300000 hex [NX502]	X Bus Function Processing Error	A fatal error was detected in the X Bus Function Module.	An error occurred in the soft- ware.		0				page 3-448
35600000 hex [NX502]	X Bus Unit Version Not Matched	There is a mounted X Bus Unit with a unit version earlier than that in the Unit config- uration information registered in the CPU Unit.	The unit version of an X Bus Unit mounted in the actual hardware configuration is earli- er than that in the Unit configu- ration information registered in the CPU Unit.			0			page 3-449
35610000 hex [NX502]	Unregistered X Bus Unit Mounted	There is a mounted X Bus Unit that does not exist in the Unit configuration informa- tion registered in the CPU Unit. An event is registered for every applicable X Bus Unit.	 There is a mounted Unit that does not exist in the Unit configuration information registered in the CPU Unit. There is a mounted Unit in which the X Bus Unit Mounting Setting is set to Disabled. 			0			page 3-450

					L	_eve	·I		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
35620000 hex [NX502]	Registered X Bus Unit Not Mounted	One or more X Bus Units set in the Unit configuration informa- tion registered in the CPU Unit are not mounted. An event is registered for every applicable X Bus Unit.	One or more X Bus Units set in the Unit configuration informa- tion registered in the CPU Unit are not mounted.			0			page 3-451
35630000 hex [NX502]	X Bus Unit Serial Num- ber Mis- match	There is a mounted X Bus Unit with a serial number different from that in the Unit config- uration information registered in the CPU Unit.	One or more X Bus Units with the serial number set in the Unit configuration information registered in the CPU Unit are not mounted.			0			page 3-452
85A00000 hex [NX502]	X Bus Unit Startup Error	Starting an X Bus Unit failed.	A startup error occurred in an X Bus Unit.			0			page 3-453
85A10000 hex [NX502]	X Bus Unit Communica- tions Error	A communications error that prevents normal X Bus communications was detected. An event is registered for every applicable X Bus Unit.	 The X Bus connector contact is faulty due to vibration or shock. Excessive noise is applied to the X Bus connector. An X Bus Unit was removed. An error occurred in an X Bus Unit. 			0			page 3-454
15110000 hex [NX502]	X Bus Unit Backup Failed	Backup of X Bus Unit settings failed.	The Unit configuration information registered in the CPU Unit does not match the actual configuration.				0		page 3-455
15120000 hex [NX502]	X Bus Unit Restore Op- eration Failed	The restore operation for an X Bus Unit ended in an error.	The Unit configuration information in the backup file does not match the actual configuration.				0		page 3-455

3-4-2 Error Descriptions

X Bus

Event name	X Bus Unit Config	juration Setting Err	or	Event code	15100000 hex			
Meaning	The X Bus Unit co	onfiguration setting	saved in non-volat	ile memory has be	en lost.			
Source	X Bus Function Module		Source details	Master	Detection timing	At power ON, at Controller reset, or when down- loading X Bus Unit configura- tion information		
Error attributes	Level	Partial fault	Recovery	Download the X Bus Unit config- uration informa- tion.	Log category	System		
Effects	User program	Continues.	Operation					
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	ler was interrup cations with the were disconne loading the X E	ply to the Control- bred or communi- e Sysmac Studio cted while down- Bus Unit configu- r clearing memo- emory failure	ration setting and settings from Sys If the error persist make the above of nonvolatile memo	Download the X Bus Unit configuration setting and all the X Bus Unit settings from Sysmac Studio. If the error persists even after you make the above corrections, the nonvolatile memory is faulty. Replace the CPU Unit and download		Do not turn OFF power during download or memory clear.		
Attached infor- mation	None							
Precautions/ Remarks	None							

Event name	Number of Mount	able X Bus Units E	xceeded	Event code	24C00000 hex				
Meaning	The number of co	nnected X Bus Uni	ts exceeds the spe	cified value for the	CPU Unit.				
Source	X Bus Function M	lodule	Source details	Master	Detection tim- ing	At power ON or Controller reset			
Error attributes	Level	Partial fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System			
Effects	User program	Continues.	Operation						
System-de-	Variable		Data type		Name				
fined variables	None								
Cause and cor-	Assumed cause		Correction		Prevention				
rection	More than the ma X Bus Units are c	ximum number of onnected.	Keep the number Bus Units at the s or less. Download the set Bus Units after th	pecified number-	Keep the number of Units connected to the maximum or less.				
Attached information	None								
Precautions/ Remarks	None								

Event name	Unsupported X B	us Unit Mounted		Event code	24C10000 hex			
Meaning	Unsupported X B	us Unit is mounted.						
Source	X Bus Function M	lodule	Source details	Master	Detection tim- ing	At power ON or Controller reset		
Error attributes	Level	Partial fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System		
Effects	User program	Continues.	Operation					
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Unsupported X B tected.	us Unit was de-	Remove the unsu Unit. Download the set Bus Units after th					
Attached infor-	Attached information	tion 1: A value from	1 to 4, which repre	esents the unit num	ber of Unit where	abnormality is		
Precautions/	None							
Remarks	INOILE							

Event name	X Bus Function P	rocessing Error		Event code	44300000 hex				
Meaning	A fatal error was	detected in the X B	us Function Modul	е.					
Source	X Bus Function Module		Source details	Master	Detection tim- ing	Continuously			
Error attributes	Level	Partial fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System			
Effects	User program	Continues.	Operation						
System-de-	Variable		Data type		Name				
fined variables	None								
Cause and cor-	Assumed cause		Correction		Prevention				
rection	An error occurred	in the software.	Contact your OM tive.	RON representa-	None				
Attached infor-	Attached informati	tion 1: System infor	mation						
mation	Attached informat	tion 2: System infor	mation						
	Attached Informa	tion 3: System info	rmation						
	Attached Informa	tion 4: System info	rmation						
Precautions/	None								
Remarks									

Frant name	X Bus Unit Version Not Matched Event code 35600000 hex						
Event name	_			Event code	35600000 hex		
Meaning	There is a mounte tered in the CPU		a unit version earlie	er than that in the U	nit configuration in	formation regis-	
Source	X Bus Function Module		Source details	ource details Master		At power ON, at Controller reset, or when down- loading X Bus Unit configura- tion information	
Error attributes	Level	Minor fault	Recovery	Cycle the power supply, reset the Controller, download the X Bus Unit configuration information, or restart the X Bus Unit (only for versions with X Bus Unit restarting function).	Log category	System	
Effects	User program	Continues.	Operation				
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The unit version of mounted in the acconfiguration is earthe Unit configuraregistered in the Configuraregistered in the Configuration i	ctual hardware arlier than that in tion information	that in the Unit comation. Download the set	octual hardware whoload the Unit rmation that insersion of the X mounted to the each the actual ration to the Unit rmation, replace th a Unit of unit er than or equal to onfiguration infor-	Download the Un formation to the C confirming that th sult on the Compa window is not "No	e comparison re- are and Merge	
Attached information	detected		of Unit configuration		ber of Unit where a	abnormality is	
Precautions/ Remarks	None	2. 2 70.001					

Event name	Unregistered X B	us Unit Mounted		Event code	35610000 hex				
Meaning	Unit.	ed X Bus Unit that tered for every appl		e Unit configuration	information regist	ered in the CPU			
Source	X Bus Function M		Source details	Master	Detection timing	At power ON, at Controller reset, or when down- loading X Bus Unit configura- tion information			
Error attributes	Level	Minor fault	Recovery	Cycle the power supply, reset the Controller, download the X Bus Unit configuration information, or restart the X Bus Unit (only for versions with X Bus Unit restarting function).	Log category	System			
Effects	User program	Continues.	Operation						
System-de- fined variables	Variable		Data type		Name				
Cause and cor-	None		Correction		Prevention				
rection	There is a mounted Unit that does not exist in the Unit configuration information registered in the CPU Unit. There is a mounted X Bus Unit in which the X Bus Unit Mounting Setting is set to Disabled.		ware configurate the Unit configuration that include added to the Comatch the acturation information. Bus Unit with the Unit configuration to the CPU the X Bus Unit to Enabled. To hardware configurate remove the X Bus Unit configurate remove th	the actual hard- stion, download uration informa- les the X Bus Unit CPU Unit. To lal hardware con- le Unit configura- les the X bus Unit CPU Unit. To lal hardware con- le Unit configura- les unit configura- les unit configuration les event. Unit configuration les event. Unit actual hard- les unit after setting Mounting Setting match the actual liguration to the ligurat	Match the projecthe CPU Unit with figuration.	t downloaded to			
Attack	Attached informa	tion 1: A value from		is error is cleared. esents the mounting	g position of the X	Bus Unit			
Attached infor-			, - F		J.				
Attached infor- mation									

Event name	Registered X Bus	Unit Not Mounted		Event code	35620000 hex			
Meaning		us Units set in the lered for every appl	_	nformation registere	ed in the CPU Unit	are not mounted.		
Source	X Bus Function Module		Source details	Master	Detection timing	At power ON, at Controller reset, or when down- loading X Bus Unit configura- tion information		
Error attributes	Level	Minor fault	Recovery	Cycle the power supply, reset the Controller, download the X Bus Unit configuration information, or restart the X Bus Unit (only for versions with X Bus Unit restarting function).	Log category	System		
Effects	User program	Continues.	Operation					
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	One or more X Bus Units set in the Unit configuration information registered in the CPU Unit are not mounted.		figuration to the Uniformation, mount with this event. To configuration info tual hardware conthe X Bus Unit frou uration information to the CPU Unit. Download the set	nt the X Bus Unit				
Attached infor-	Attached informat	tion 1: A value from	1 to 4, which repre	esents the unit num	ber of Unit where	abnormality is		
mation	detected							
Precautions/ Remarks	None							

Event name	X Bus Unit Serial	Number Mismatch		Event code	35630000 hex			
Meaning	There is a mounter registered in the 0		a serial number diff	erent from that in th	ne Unit configuratio	on information		
Source	X Bus Function M	lodule	Source details	Master	Detection tim- ing	At power ON, at Controller reset, or when down- loading X Bus Unit configura- tion information		
Error attributes	Level	Minor fault	Recovery	Cycle the power supply, reset the Controller, download the X Bus Unit configuration information, or restart the X Bus Unit (only for versions with X Bus Unit restarting function).	Log category System			
Effects	User program	Continues.	Operation					
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	One or more X Bu serial number set figuration informa the CPU Unit are	in the Unit con- tion registered in	To match the actu figuration to the U information, match bers of the X Bus the Unit configura	Init configuration h the serial num- Units. To match	To enable serial number matching, read the actual serial number of the installed Units into the Sysmac Studio project first.			
			to the actual hard tion, download the tion information to ter setting the ser corresponding X I Download the set Bus Units after th	e Unit configura- o the CPU Unit af- ial number of the Bus Unit. tings for all the X				
Attached information	detected		tion, download the tion information to ter setting the ser corresponding X I Download the set Bus Units after the 1 to 4, which representations.	e Unit configura- o the CPU Unit af- ial number of the Bus Unit. tings for all the X		abnormality is		

	V.D. 11.11.01.1				054000001			
Event name	X Bus Unit Startu			Event code	85A00000 hex			
Meaning	Starting an X Bus	Unit failed.		1				
Source	X Bus Function Module		Source details	Master	Detection timing	At power ON, at Controller reset, or when down- loading X Bus Unit configura- tion information		
Error attributes	Level	Minor fault	Recovery	Cycle the power supply, reset the Controller, download the X Bus Unit configuration information, or restart the X Bus Unit (only for versions with X Bus Unit restarting function).	Log category	System		
Effects	User program	Continues.	Operation					
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	A startup error od Bus Unit.	curred in an X	Cycle the power s normality recurs, Unit.	supply. If this ab- replace the X Bus	None			
Attached infor- mation	detected	tion 1: A value from		esents the unit num	ber of Unit where a	abnormality is		
Precautions/ Remarks	None							

Event name	X Bus Unit Comm	nunications Error		Event code	85A10000 hex			
Meaning		s error that prevent ered for every appl		mmunications was	detected.			
Source	X Bus Function M		Source details	Master	Detection tim-	Continuously		
Error attributes	Level	Minor fault	Recovery	Cycle the power supply, reset the Controller, download the X Bus Unit configuration information, or restart the X Bus Unit (only for versions with X Bus Unit restarting function).	Log category	System		
Effects	User program	Continues.	Operation					
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The X Bus conne faulty due to vibra		Securely install the fix it with the end		Install the Unit according to the user's manual.			
	Excessive noise i Bus connector.	s applied to the X	Implement noise measures in accouser's manual.	• •	Install the Unit according to the user's manual.			
	An X Bus Unit wa	s removed.	Reinstall the remo	oved X Bus Unit.	Install the Unit according to the user's manual.			
	An error occurred	in an X Bus Unit.	Cycle the power s normality recurs, Unit.	supply. If this ab- replace the X Bus	None			
Attached infor-	Attached information	tion 1: A value from	1 to 4, which repre	esents the unit num	ber of Unit where	abnormality is		
		tion 2: System infor	mation					
Precautions/ Remarks	None	-						

Event name	X Bus Unit Backu	p Failed		Event code	15110000 hex			
Meaning	Backup of X Bus	Unit settings failed.						
Source	X Bus Function M	lodule	Source details	Master	Detection tim- ing	When backup is executed		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation					
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	registered in the (The Unit configuration information egistered in the CPU Unit does not match the actual configuration. Match the actual device tion to the set Unit configuration, or match the urration information to the device configuration, and back up the X Bus Unit set.			a state where the Unit configura-			
Attached infor-	Attached informat	tion 1: System infor	mation					
mation								
Precautions/	None							
Remarks								

Event name	X Bus Unit Resto	re Operation Failed	<u> </u>	Event code	15120000 hex			
Meaning	The restore opera	ation for an X Bus l	Jnit ended in an err	or.				
Source	X Bus Function N	lodule	Source details	Master	Detection tim- ing	During restora- tion		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program	Continues.	Operation					
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The Unit configur in the backup file the actual device	does not match	Match the actual the Unit configura in the backup file, ration using a bac same Unit configuration as the actual tion.	or perform resto- kup file with the uration informa-	Perform restoration in a state where the Unit configuration information in the backup file is the same as the actual device configuration.			
Attached infor- mation	Attached informa	tion 1: System info	rmation					
Precautions/ Remarks	None							

3-5 Errors in the X Bus Unit Common Function Module

This section describes the errors (events) that occur in the X Bus Unit Common Function Module.

3-5-1 Error Tables

X Bus Units

					Level				
Event code	Event name	Meaning	Assumed cause		P rt	M i n	O b s	I n f o	Reference
00640000 hex	Main Memo- ry Check Er- ror	An error was detected in the main memory check in the X Bus Unit.	A conductive object has gotten inside. Noise Data corruption in memory Microcomputer malfunctioning Memory write circuit malfunctioning An error occurred in the software. Data was corrupted by cosmic rays or radiation. The X Bus Unit has failed. Memory element failure Failure of memory peripheral circuits			0			page 3-460
00650000 hex	Non-volatile Memory Life Warning	The number of times to erase data in non-volatile memory has exceeded the warning value. Or, the number of bad blocks in memory exceeded the warning value.	Non-volatile memory life is ending.			0	•		page 3-461

					L	_eve	el e		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
11000000 hex	X Bus Unit Settings Transfer Er- ror	Unit settings were not transferred properly.	The Unit settings are invalid because the power to the Controller was cut off while the Unit settings were being downloaded. The Unit settings are incorrect because the Controller was powered OFF during Clear All Memory operation. The Unit settings are incorrect because the Controller was powered OFF during restore operation. Non-volatile memory failure			0			page 3-462
110C0000 hex	Incorrect X Bus Unit Settings	The memory used exceeds the upper limit, or the X Bus Unit setting data is corrupted.	 The upper limit of the data size was exceeded. The main memory capacity was exceeded. Non-volatile memory is deteriorating or has failed. 			0			page 3-463
110D0000 hex	Present Val- ues of Re- tained Varia- bles Not Saved	The process of saving the current value of the retained variable during power interruptions could not be performed because an error occurred in the software.	An error occurred in the soft- ware.			0			page 3-464
110E0000 hex	Non-volatile Memory Re- stored or Formatted	An error was detected in the non-volatile memory check and file system recovery or formatting was executed. Previous files may have been deleted.	The Controller power supply was turned OFF while the BUSY indicator was lit. The power supply to the Controller was interrupted momentarily while the BUSY indicator was lit.			0			page 3-465
110F0000 hex	Non-volatile Memory Da- ta Corrupted	A file that must be in non-volatile memory is missing or corrupt- ed.	The Controller power supply was turned OFF while the BUSY indicator was lit. The power supply to the Controller was interrupted momentarily while the BUSY indicator was lit. The X Bus Unit has failed.			0			page 3-466

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
11100000 hex	Main Memory Check Error	An error was detected in the main memory check in the X Bus Unit.	A conductive object has gotten inside. Noise Data corruption in memory Microcomputer malfunctioning Memory write circuit malfunctioning An error occurred in the software. Data was corrupted by cosmic rays or radiation. The X Bus Unit has failed. Memory element failure Failure of memory peripheral circuits			0			page 3-467
41000000 hex	X Bus Unit Common Function Processing Error	A fatal error was detected in the X Bus Unit Common Function Module.	An error occurred in the soft- ware.			0			page 3-467
41010000 hex	X Bus Unit Common Function Processing Error	A fatal error was detected in the X Bus Unit Common Function Module.	An error occurred in the soft- ware.			0			page 3-468
41020000 hex	X Bus Unit Common Function Processing Error	A fatal error was detected in the X Bus Unit Common Function Module.	An error occurred in the soft- ware.			0			page 3-468
41050000 hex	X Bus Unit Common Function Processing Error	A fatal error was detected in the PLC Function Module.	An error occurred in the soft- ware.			0			page 3-469
41060000 hex	X Bus Unit Common Function Processing Error	A fatal error was detected in the X Bus Unit Common Function Module.	An error occurred in the software.			0			page 3-469
65900000 hex	I/O Refreshing Timeout Error	Consecutive I/O re- fresh failures occur- red during the pri- mary periodic task or periodic task period.	The volume of tag data link communications that refresh I/Os during task period is too high.			0			page 3-470
11010000 hex	Event Log Save Error	Saving an event log failed.	Data in the event log area is not correct.				0		page 3-470

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f	Reference
11110000 hex	X Bus Common System Information	This is the internal information of the X Bus Unit Common Function Module.	This is the internal information of the X Bus Unit Common Function Module. This event is recorded as additional informa- tion for other events.				0		page 3-471
41030000 hex	X Bus Unit System In- formation	This is the internal information of the X Bus Unit Common Function Module.	This is the internal information of the X Bus Unit Common Function Module. This event is recorded as additional information for other events.				0		page 3-472
41040000 hex	X Bus Unit System In- formation	This is the internal information of the X Bus Unit Common Function Module.	This is the internal information of the X Bus Unit Common Function Module. This event is recorded as additional information for other events.					0	page 3-472
91000000 hex	X Bus Unit Settings Downloaded	Unit settings were downloaded.	The Unit settings were down-loaded.					0	page 3-473
91020000 hex	X Bus Unit Settings All Cleared	Clear All Memory op- eration was per- formed.	The memory was all cleared by a user with administrator privileges.					0	page 3-473
91030000 hex	All Errors Cleared	All errors that were occurring were cleared.	The user cleared all errors that were occurring					0	page 3-474
91040000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					0	page 3-474
91050000 hex	Power Turned ON	The power supply was turned ON.	The power supply was turned ON.					0	page 3-475
91060000 hex	Power Inter- rupted	The power supply was interrupted.	The power supply was inter- rupted.					0	page 3-475
910F0000 hex	Access Rights Forci- bly Released	The access rights were forcibly released.	The access rights were forcibly released.					0	page 3-476
91110000 hex	Start Instruc- tion of Om- ron Mainte- nance	Maintenance by Omron maintenance personnel was begun.	Maintenance by Omron main- tenance personnel was begun.					0	page 3-476
91120000 hex	End Instruc- tion of Om- ron Mainte- nance	Maintenance by Omron maintenance personnel was ended.	Maintenance by Omron main- tenance personnel was ended.					0	page 3-477
91130000 hex	Event Log- ging Stop- ped	Some event logs could not be saved.	Event saving process stopped due to power interruption of the EIP Unit.					0	page 3-477

3-5-2 Error Descriptions

X Bus Unit

Event name	Main Memory Che	eck Error		Event code	00640000 hex			
Meaning	An error was dete	cted in the main m	emory check in the	X Bus Unit.				
Source	X Bus Unit Comm Module	on Function	Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Continuously		
Error attributes	Level	Minor fault	Recovery	Cycle the power supply, reset the Controller, or restart the X Bus Unit (only for versions with X Bus Unit restarting function).	Log category	System		
Effects	User program		Operation	Stops.				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	A conductive obje side.	ct has gotten in-	If there is conductive material nearby, blow out the X Bus Unit with air.		Do not do any metal working in the vicinity of the control panel. Keep the control panel closed.			
	Noise Data corruption Microcomputer Memory write of tioning	malfunctioning	the error.		Implement noise	countermeasures.		
	An error occurred Data was corru rays or radiatio	pted by cosmic	the FG, power su other noise entry ment noise count required.	paths, and imple-	None			
	The X Bus Unit ha • Memory eleme • Failure of mem cuits	nt failure	Non-volatile mem Replace the X Bu		Perform regular inspection.			
Attached infor- mation		ion 1: System infor ion 2: System infor						
Precautions/ Remarks	None							

Event name	Non-volatile Mem	orv Life Warning		Event code	00650000 hex			
Meaning	The number of times to erase data in non-volatile memory has exceeded the warning value. Or, the number of bad blocks in memory exceeded the warning value.							
Source	X Bus Unit Comm Module	on Function	Source details	1 to 4: Mounting position of the X Bus Unit	Detection timing	At power ON, Controller reset, Unit restart (only for versions with Unit restarting function), or pe- riodically		
Error attributes	Level	Minor fault	Recovery		Log category	System		
Effects	User program		Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Non-volatile mem	ory life is ending.	Non-volatile mem Replace the X Bu	-	None			
Attached infor- mation	None							
Precautions/ Remarks	None							

Event name	X Bus Unit Setting	gs Transfer Error		Event code	11000000 hex			
Meaning		e not transferred pro	operly.					
Source	X Bus Unit Comm Module	non Function	Source details	1 to 4: Mounting position of the X Bus Unit	Detection timing	At power ON, Controller reset, or Unit restart (only for ver- sions with Unit restarting func- tion)		
Error attributes	Level	Minor fault	Recovery	Cycle the power supply, reset the Controller, or restart the X Bus Unit (only for versions with X Bus Unit restarting function).	Log category	System		
Effects	User program		Operation	Stops.	I			
System-de-	Variable		Data type		Name			
fined variables	None							
Cause and cor- rection	Assumed cause		Correction		PreventionDo not turn OF			
rection	 The Unit settings are invalid because the power to the Controller was cut off while the Unit settings were being downloaded. The Unit settings are incorrect because the Controller was powered OFF during Clear All Memory operation. The Unit settings are incorrect because the Controller was powered OFF during restore operation. 		After clearing all I Sysmac Studio, of project. If attached inform tered, turn the Co OFF and ON aga the above measu If memory all cleat cuted from Sysmathe Unit settings I the SD Memory O	ation is regis- introller power in, and then take re. ir cannot be exe- ac Studio, transfer by restoring from	 the Controller while the Unit settings are being downloaded. Do not turn OFF the power to the Controller during the Clear All Memory operation. Do not turn OFF the power to the Controller during restore op- 			
	Non-volatile mem	ory failure	If this error occurs after you make the tions, replace the	e above correc-	None			
Attached information	Attached information 1: Cause details None: Power OFF during download or restore operation Downloading/preDownloading: Error occurrence timing for causes other than the above (during transfer/preparing for transfer)							
Precautions/ Remarks	None							

Event name	Incorrect X Bus U	nit Settings		Event code	110C0000 hex		
Meaning	The memory used	d exceeds the uppe	er limit, or the X Bu	s Unit setting data i	s corrupted.		
Source	X Bus Unit Common Function Module		Source details	None/1 to 4: Mounting position of the X Bus Unit	Detection timing	When down- loading, at pow- er ON, at Con- troller reset, or at Unit restart (only for ver- sions with Unit restarting func- tion)	
Error attributes	Level	Minor fault	Recovery	Cycle the power supply or Controller reset	Log category	System	
Effects	User program		Operation	Stops.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor- rection	Assumed cause		Correction		Prevention		
	The main memore exceeded. Non-volatile meming or has failed.		so that the number does not exceed and then download. If an event on resonumber of items of at the same time form the Clear All tion, cycle the porthen confirm that cleared.	e this event, cor- gram and settings er of items used the upper limit and the data again. Estrictions on the used did not occur as this event, per- I Memory opera- wer supply, and this event was reduce the size of by sharing pro- download the			
Attached infor-	None		replace the X Bus				
Precautions/ Remarks	None						

Event name	Present Values of	Retained Variable	s Not Saved	Event code	110D0000 hex				
Meaning	The process of saving the current value of the retained variable during power interruptions could not be performed because an error occurred in the software.								
Source	X Bus Unit Comm Module	non Function	Source details	1 to 4: Mounting position of the X Bus Unit	Detection timing	At power ON, Controller reset, or Unit restart (only for ver- sions with Unit restarting func- tion)			
Error attributes	Level	Minor fault	Recovery	Cycle the power supply.	Log category	System			
Effects	User program		Operation	Stops.					
System-de-	Variable		Data type		Name				
fined variables	None								
Cause and cor-	Assumed cause		Correction		Prevention				
rection	An error occurred	in the software.	If this error is not ter the power to the cycled or the Con place the X Bus U	ne Controller is stroller is reset, re-	None				
Attached information	None								
Precautions/ Remarks	None								

Event name	Non-volatile Mem	ory Restored or Fo	ormatted	Event code	110E0000 hex		
Meaning	1	ected in the non-vol y have been delete	atile memory check	and file system re	covery or formattin	g was executed.	
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection timing	At power ON, Controller reset, or Unit restart (only for ver- sions with Unit restarting func- tion)	
Error attributes	Level	Minor fault	Recovery	Cycle the power supply, reset the Controller, or restart the X Bus Unit (only for versions with X Bus Unit restarting function).	Log category	System	
Effects	User program		Operation	Stops.	I		
System-de- fined variables	Variable		Data type		Name		
Cause and cor-	None Assumed cause		Correction		 Provention		
rection		wor oupply was	Correction Verify the project with Sysmac Studio, and if it matches, check wheth-		Prevention Do not turn OFF the power while		
	The Controller po turned OFF while				the BUSY indicator is lit.		
	tor was lit.			er this error is cleared by cycling			
	turned OFF while the BUSY indicator was lit. The power supply to the Controller was interrupted momentarily while the BUSY indicator was lit.		the power supply, resetting the Controller, or restarting the Unit. If this error is cleared, check whether the equipment operates properly. If the project mismatches, the error is not cleared, or the device does not operate properly, perform Clear All Memory operation to the X Bus Unit where the error is occurring from Sysmac Studio, and then download the settings to the X Bus Unit again. If this error is not cleared even after the Controller power is cycled, the Controller is reset, or the Unit is restarted, the memory is corrupted. Replace the X Bus Unit. If the Controller power is cycled, the Controller is reset, or the Unit is restarted without re-downloading the project, the Controller may behave unintentionally and it is very		Take appropriate measures to ensure that the specified power with the rated voltage and frequency is supplied in places where the power supply is unstable.		
Attached infor-		tion 1: Recovery pe			1		
mation			succeeded, 00000				
Precautions/ Remarks	If the Controller p	ower is cycled or th	atch, check the open ne Controller is rese t is very dangerous	et without performing		· -	

Event name	Non-volatile Mem	ory Data Corrupted	d	Event code	110F0000 hex	
Meaning	A file that must be	e in non-volatile me	mory is missing or	corrupted.		
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection timing	At power ON, Controller reset, or Unit restart (only for ver- sions with Unit restarting func- tion)
Error attributes	Level	Minor fault	Recovery	Cycle the power supply, reset the Controller, or restart the X Bus Unit (only for versions with X Bus Unit restarting function).	Log category	System
Effects	User program		Operation	Stops.		
System-de- fined variables	Variable		Data type		Name	
Cause and cor-	None Assumed cause		Correction		Prevention Prevention	
rection	The Controller po	wer supply was the BUSY indica-	After clearing all memory using Sysmac Studio, download the project.		Do not turn OFF the power while the BUSY indicator is lit.	
	The power supply to the Controller was interrupted momentarily while the BUSY indicator was lit.				Take appropriate measures to ensure that the specified power with the rated voltage and frequency is supplied in places where the power supply is unstable.	
	The X Bus Unit has failed.		If this error persists even after you implement the above corrections, replace the X Bus Unit.		None	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Main Memory Ch	eck Error		Event code	11100000 hex		
Meaning	An error was dete	ected in the main m	emory check in the	X Bus Unit.			
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Continuously	
Error attributes	Level	Minor fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program		Operation	Stops.		•	
System-de-	Variable		Data type	•	Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
	A conductive object has gotten inside.		If there is conductive material nearby, blow out the X Bus Unit with air.		Do not do any metal working in the vicinity of the control panel. Keep the control panel closed.		
	Noise Data corruption in memory Microcomputer malfunctioning Memory write circuit malfunctioning An error occurred in the software. Data was corrupted by cosmic rays or radiation. The X Bus Unit has failed.		the Controller and the error. If the error occurs the FG, power su other noise entry ment noise count required. If this error is not	above causes, cycle the power to the Controller and see if that clears the error. If the error occurs frequently, check the FG, power supply lines, and other noise entry paths, and imple- ment noise countermeasures as		None Perform regular inspection.	
Attached infor-	Failure of mem cuits	 Memory element failure Failure of memory peripheral circuits Attached information 1: System		ter the power to the Controller is cycled or the Controller is reset, replace the X Bus Unit.			
mation							
Precautions/ Remarks	None						

Event name	X Bus Unit Comn	non Function Proce	essing Error	Event code	41000000 hex		
Meaning	A fatal error was	detected in the X B	Bus Unit Common F	unction Module.			
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Continuously	
Error attributes	Level	Minor fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program		Operation	Stops.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An error occurred in the software.		Contact your OM tive.	Contact your OMRON representative.		None	
Attached infor-	Attached informa	tion 1: System info	rmation		•		
mation	Attached informa	tion 2: System info	rmation				
	Attached Informa	tion 3: System info	rmation				
	Attached Informa	tion 4: System info	rmation				
Precautions/	None						
Remarks							

Event name	X Bus Unit Comm	non Function Proce	ssing Error	Event code	41010000 hex	
Meaning	A fatal error was	detected in the X B	us Unit Common F	unction Module.		
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery	Cycle the power supply.	Log category	System
Effects	User program		Operation	Stops.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An error occurred	in the software.	Contact your OMI	RON representa-	None	
			tive.	tive.		
Attached infor-	Attached informat	tion 1: System infor	mation			
mation	Attached informat	tion 2: System infor	mation			
	Attached Informati	tion 3: System infor	rmation			
	Attached Informati	tion 4: System infor	rmation			
Precautions/	None					
Remarks						

Event name	X Bus Unit Comm	on Function Proce	ssing Error	Event code	41020000 hex	
Meaning			us Unit Common F	unction Module.		
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery	Cycle the power supply, reset the Controller, or restart the X Bus Unit (only for versions with X Bus Unit restarting function).	Log category	System
Effects	User program		Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An error occurred	in the software.	Contact your OM	RON representa-	None	
			tive.			
Attached infor-	Attached informat	ion 1: System infor	mation			
mation	Attached informat	ion 2: System infor	mation			
	Attached Informat	ion 3: System infor	mation			
	Attached Informat	ion 4: System infor	mation			
Precautions/	None					
Remarks						

Event name	X Bus Unit Comm	non Function Proce	ssing Error	Event code	41050000 hex		
Meaning	A fatal error was	detected in the PLC	Function Module.				
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Continuously	
Error attributes	Level	Minor fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program		Operation	Stops. Connection to Sysmac Studio is lost.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An error occurred	l in the software.	Contact your OMRON representative.		None		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	X Bus Unit Comm	non Function Proce	ssing Error	Event code	41060000 hex		
Meaning	A fatal error was	detected in the X B	us Unit Common F	unction Module.			
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Continuously	
Error attributes	Level	Minor fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program		Operation	Stops. Connection to Sysmac Studio is lost.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	An error occurred in the software. Contact your C tive.			RON representa-	None		
Attached infor-	Attached informat	tion 1: System infor	rmation				
mation							
Precautions/	None						
Remarks							

Event name	I/O Refreshing Tir	meout Error		Event code	65900000 hex		
Meaning	Consecutive I/O r	efresh failures occi	urred during the pri	mary periodic task	or periodic task pe	riod.	
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Continuously	
Error attributes	Level	Minor fault	Recovery	Cycle the power supply or Controller reset	Log category	System	
Effects	User program	Continues.	Operation Not affected.				
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction			
rection	The volume of tag munications that i ing task period is	refresh I/Os dur-	Divide I/O refresh processing in the task, for example, by moving a part of the processing to another task by setting the exclusive control of variables in tasks.				
Attached infor-	Attached informat	ion 1: Name of the	task where the err	or occurred. One o	f the following.		
mation	Primary Task: Primary periodic task Periodic Task0: Periodic task						
Precautions/	None						
Remarks							

Event name	Event Lea Cove F	Event Log Save Error Event code 11010000 hex						
				Event code	11010000 nex			
Meaning	Saving an event I							
Source	X Bus Unit Comm Module	non Function	Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	At power ON		
Error attributes	Level	Observation	Recovery		Log category	System		
Effects	User program		Operation Not affected. Howellogs cannot be rea		•	of the past event		
System-de-	riables		Data type		Name			
fined variables								
Cause and cor- rection	Data in the event log area is not correct.		Correction		Prevention			
				ent log area. Re- Unit to use the				
Attached infor-	Attached informat	tion 1: Error Details	3					
mation		e logs for all categ	jories					
	1: Failed to say							
	2: Failed to say	•						
	100: Failed to s	save user logs						
Precautions/	None							
Remarks								

From the same	V D C C	\		Front and	11110000 hex		
Event name		System Information	V.5. II. II. G	Event code			
Meaning	This is the interna	il information of the	X Bus Unit Comm	on Function Module	e. 		
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Continuously	
Error attributes	Level	Observation	Recovery	Cycle the power supply, reset the Controller, or restart the X Bus Unit (only for versions with X Bus Unit restarting function).	Log category	System	
Effects	User program		Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	This is the internal information of the X Bus Unit Common Function Module. This event is recorded as additional information for other events.						
Attached infor-	None						
Precautions/ Remarks	None						

Event name	X Bus Unit Syster	n Information		Event code	41030000 hex		
Meaning	This is the interna	al information of the	X Bus Unit Comm	on Function Module	e.		
Source	X Bus Unit Common Function Module		Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Continuously	
Error attributes	Level	Observation	Recovery	Cycle the power supply, reset the Controller, or restart the X Bus Unit (only for versions with X Bus Unit restarting function).	Log category	System	
Effects	User program		Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	This is the internation the X Bus Unit Co Module. This ever additional information events.	ommon Function nt is recorded as					
Attached infor- mation		tion 1: System infor tion 2: System infor					
		tion 3: System infor					
	Attached Information	tion 4: System infor	rmation				
Precautions/	None						
Remarks							

Event name	X Bus Unit Syster	n Information		Event code	41040000 hex				
Meaning	This is the interna	I information of the	X Bus Unit Comm	on Function Modul	е.				
Source	X Bus Unit Comm Module	on Function	Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Continuously			
Error attributes	Level	Information	Recovery		Log category System				
Effects	User program		Operation	Not affected.					
System-de-	Variable		Data type		Name				
fined variables	None								
Cause and cor-	Assumed cause		Prevention						
rection	This is the internation of the X Bus Unit Co Module. This ever additional informations.	ommon Function nt is recorded as							
Attached information	Attached information 1: System information Attached information 2: System information Attached Information 3: System information Attached Information 4: System information								
Precautions/	None								
Remarks									

	i				i				
Event name	X Bus Unit Setting	gs Downloaded		Event code	91000000 hex				
Meaning	Unit settings were	downloaded.							
Source	X Bus Unit Comm Module	non Function	Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	When Unit set- tings are down- loaded			
Error attributes	Level	Information	Recovery		Log category	Access			
Effects	User program		Operation	The Unit starts to ed Unit settings.	operate according to the download-				
System-de-	Variable		Data type	Data type Name					
fined variables	None								
Cause and cor-	Assumed cause		Correction	Prevention					
rection	The Unit settings	were download-							
	ed.								
Attached infor-	Attached informat	tion 1: Connection	method						
mation	1: Reserve								
		ection via Ethernet							
	3: Ethernet cor								
				2 or 3, the connec	tion source IP addr	ess is given.			
		0 1	roxy, proxy IP addr	ess is given.					
		tion 3: Download ty	pe						
	1: Download he 2: Download ne								
	2: Download no Attached information	0 1	ragiatored in the CF	Oll I hit /\/han tha	upor quithontication	function is disc			
	bled, NULL is give		egistered in the Cr	PU Unit (When the i	user aumemicalion	TUTICUOTI IS UISA-			
Precautions/	None	Jiij.							
Remarks	None								
Remarks									

Event name	X Bus Unit Setting	gs All Cleared		Event code	91020000 hex				
Meaning	Clear All Memory	operation was per	formed.						
Source	X Bus Unit Comm Module	non Function	Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Commands from user			
Error attributes	Level	Information	Recovery		Log category	Access			
Effects	User program		Operation	The Unit returns t	to factory defaults.				
System-de-	Variable		Data type Name						
fined variables	None								
Cause and cor-	Assumed cause		Correction		Prevention				
rection	The memory was user with adminis								
Attached infor-	Attached informa	tion 1: Connection	method						
mation	1: Reserve								
	2: Direct conne	ection via Ethernet							
	0. =	nnection via a hub							
				2 or 3, the connec	tion source IP addı	ess is given.			
		is made through p		=	thentication	function is disc			
	bled, NULL is give		egistered in the CF	PU Unit (When the	user authentication	TUTICTION IS DISA-			
Precautions/	None								
Remarks									

All errors that wer X Bus Unit Comm Module Level User program Variable None Assumed cause The user cleared were occurring None None	Information	Recovery Operation Data type Correction	1 to 4: Mounting position of the X Bus Unit Errors whose cau	Detection timing Log category ses have been res Name Prevention	Commands from user Access colved are clea			
Module Level User program Variable None Assumed cause The user cleared were occurring None	Information	Recovery Operation Data type Correction	position of the X Bus Unit	Log category ses have been res Name Prevention	from user Access			
Variable None Assumed cause The user cleared were occurring None		Operation Data type Correction		Name Prevention				
Variable None Assumed cause The user cleared were occurring None		Data type Correction	Errors whose cau	Name Prevention	colved are clea			
None Assumed cause The user cleared were occurring None	all errors that	Correction		 Prevention				
Assumed cause The user cleared were occurring None	all errors that			Prevention				
The user cleared were occurring None	all errors that							
were occurring None	all errors that							
None								
			None					
Event Log Cleare			Event code	91040000 hex				
The event log was								
X Bus Unit Comm Module	non Function	Source details	1 to 4: Mounting position of the X ing from u					
Level	Information	Recovery		Log category	Access			
User program		Operation	Not affected.					
Variable		Data type		Name				
None								
Assumed cause		Correction		Prevention				
The event log was	s cleared by the							
 1: Reserve 2: Direct conne 3: Ethernet cornettached informat When connection Attached informat 0: Logs for all or 	ection via Ethernet nnection via a hub tion 2: When attach is made through p tion 3: Cleared eve categories were cle	ned information 1 is oroxy, proxy IP addr onts eared.		tion source IP addr	ress is given.			
	Level User program Variable None Assumed cause The event log wa user. Attached informat 1: Reserve 2: Direct conne 3: Ethernet cor Attached informat When connection Attached informat 0: Logs for all of	Level Information User program Variable None Assumed cause The event log was cleared by the user. Attached information 1: Connection 1: Reserve 2: Direct connection via Ethernet 3: Ethernet connection via a hub Attached information 2: When attach When connection is made through pattached information 3: Cleared eve 0: Logs for all categories were cleared.	Module Level Information Recovery User program Operation Variable Data type None Assumed cause Correction The event log was cleared by the user. Attached information 1: Connection method 1: Reserve 2: Direct connection via Ethernet 3: Ethernet connection via a hub Attached information 2: When attached information 1 is	Module Position of the X Bus Unit Bu	Module Position of the X Bus Unit			

Attached information 4: User name registered in the CPU Unit (When the user authentication function is disa-

2: The access event log was cleared.100: The user-defined event log was cleared.

bled, NULL is given).

None

Precautions/

Remarks

Event name	Power Turned ON	I		Event code	91050000 hex				
Meaning	The power supply	was turned ON.							
Source	X Bus Unit Comm Module	on Function	Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	At power ON			
Error attributes	Level	Information	Recovery		Log category	System			
Effects	User program		Operation	Operation starts.					
System-de-	Variable		Data type		Name				
fined variables	None								
Cause and cor-	Assumed cause		Correction		Prevention				
rection	The power supply	was turned ON.							
Attached infor-	None								
mation									
Precautions/	None								
Remarks									

Event name	Power Interrupted	I		Event code	91060000 hex				
Meaning	The power supply	was interrupted.			•				
Source	X Bus Unit Comm Module	non Function	Source details	1 to 4: Mounting position of the X Bus Unit Detection timing		At power inter- ruption			
Error attributes	Level	Information	Recovery		Log category	System			
Effects	User program		Operation	All operations sto).				
System-de-	Variable		Data type	Name					
fined variables	None	None							
Cause and cor-	Assumed cause		Correction	Correction					
rection	The power supply	was interrupted.							
Attached infor-	None								
mation									
Precautions/	None								
Remarks									

Event name	Access Rights Fo	rcibly Released		Event code	910F0000 hex					
Meaning	The access rights	were forcibly relea	ased.							
Source	X Bus Unit Comm Module	non Function	Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	Commands from user				
Error attributes	Level	Information	Recovery	None	Log category Access					
Effects	User program		Operation	Not affected.						
System-de-	Variable		Data type		Name					
fined variables	None									
Cause and cor-	Assumed cause Correction Prevention									
rection	The access rights leased.	were forcibly re-								
Attached information	1: Direct conne2: Direct conne3: Remote conAttached informatWhen connection	Attached information 1 1: Direct connection via USB 2: Direct connection via Ethernet 3: Remote connection via USB or Ethernet connection via a hub Attached information 2: When attached information 1 is 2 or 3, the connection source IP address is given. When connection is made through proxy, proxy IP address is given. Attached information 4: User name registered in the CPU Unit (When the user authentication function is disa-								
Precautions/	None	,								
Remarks										

Event name	Start Instruction o	f Omron Maintenar	nce	Event code	91110000 hex					
Meaning	Maintenance by C	Omron maintenance	e personnel was be	gun.						
Source	X Bus Unit Comm Module	on Function	Source details	1 to 4: Mounting position of the X Bus Unit	Detection timing	When instructed by Omron main- tenance person- nel				
Error attributes	Level	Information	Recovery	None	Log category	Access				
Effects	User program		Operation	Not affected.						
System-de-	Variable		Data type		Name					
fined variables	None									
Cause and cor-	Assumed cause		Correction		Prevention					
rection	Maintenance by C	Omron mainte-								
	nance personnel	was begun.								
Attached infor-	Attached informat	ion 1: Name of the	maintenance perso	onnel						
mation			egistered in the CF	PU Unit (When the เ	user authentication	function is disa-				
	bled, NULL is give	en).								
Precautions/	None									
Remarks										

Event name	End Instruction of	Omron Maintenan	ce	Event code	91120000 hex				
Meaning	Maintenance by C	Omron maintenance	e personnel was en	ded.					
Source	X Bus Unit Comm Module	on Function	Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	When instructed by Omron main- tenance person- nel			
Error attributes	Level	Information	Recovery	None	Log category	Access			
Effects	User program		Operation	Not affected.					
System-de-	Variable		Data type		Name				
fined variables	None								
Cause and cor-	Assumed cause		Correction		Prevention				
rection	Maintenance by C								
Attached infor-	Attached informat	ion 1: Name of the	maintenance perso	onnel					
mation			egistered in the CP	U Unit (When the เ	user authentication	function is disa-			
	bled, NULL is give	en).							
Precautions/	None								
Remarks									

Event name	Event Logging Sto	ppped		Event code	91130000 hex				
Meaning	Some event logs of	could not be saved	l.						
Source	X Bus Unit Comm Module	on Function	Source details	1 to 4: Mounting position of the X Bus Unit	Detection tim- ing	At power ON			
Error attributes	Level	Information	Recovery		Log category	System			
Effects	User program		Operation	Not affected.					
System-de-	Variable		Data type		Name				
fined variables	None								
Cause and cor-	Assumed cause		Correction		Prevention				
rection	Event saving proc to power interrupti Unit.	* *							
Attached infor- mation	Attached information 1: Category of the log that could not be saved 1: System log 2: Access log Attached information 2: Presence of access logs for important operations*1 that could not be saved 1: Yes 2: None								
Precautions/ Remarks	3: Unknown None								

^{*1.} Important operations are the following online operations:

- Online operation to the Controller
- Operations that can be performed only by the Administrator, Designer, and Maintainer to modify user program/Controller settings/Controller status

3-6 Errors in the Motion Control Function Module

The section provides tables of the errors (events) that can occur in the Motion Control Function Module.

They are divided into the following functional classifications.

- · General motion control
- · Motion control instructions

Motion control instruction errors occur when a motion control instruction is executed. Notification of these errors is provided as events, but also the upper four digits of the event code is output to the *ErrorID* output variable of the motion control instruction and to the *.Lvl. Code system-defined variable for motion control. When you troubleshoot from the event code, make suitable corrections that are described in the corresponding event code.

3-6-1 Error Tables

General Motion Control

					L	_eve	ı		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
44210000 hex	Motion Control Function Processing Error	A fatal error was detected in the Motion Control Function Module.	An error occurred in the soft- ware.	0					page 3-517
14600000 hex	Absolute Encoder Home Offset Read Error	The absolute encoder current position that is retained during power interruptions was lost.	 When the retained variables are backed up with a battery, this event indicates that the life of the battery in the CPU Unit has expired. An error occurred in the software. Backup memory failure 		0				page 3-518
14610000 hex	Motion Control Parameter Setting Error	The MC parameters that were saved in non-volatile memory are missing. Or, an unsupported Ether-CAT slave is assigned to the axis.	The power supply to the Controller was interrupted or communications with the Sysmac Studio were disconnected while downloading the motion control parameter settings or clearing memory. An unsupported EtherCAT slave is assigned to the axis.		0				page 3-519
14620000 hex	Cam Data Read Error	The cam data that was saved in non-volatile memory is missing.	Power was interrupted during save processing for cam data Non-volatile memory failure		0				page 3-520

					L	_eve	el e		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
34600000 hex	Required Process Da- ta Object Not Set	The object that is required for the axis type is not allocated to PDO.	 The required PDOs are not mapped when the axis type is set to a servo axis or encoder axis. Non-volatile memory failure 		0				page 3-521
34630000 hex	Axis Slave Disabled	The slave to which the axis is assigned is disabled.	The slave to which the axis is assigned is disabled.		0				page 3-522
34640000 hex	Network Configura- tion Informa- tion Missing for Axis Slave	The network configuration information is not registered for the slave to which the axis is assigned.	The EtherCAT network config- uration information is not regis- tered for the slave to which the axis is assigned.		0				page 3-522
44200000 hex	Motion Control Initialization Error	A fatal error occurred in the system and prevented initialization of the Motion Control Function Module.	Hardware has failed.		0				page 3-523
74200000 hex	Motion Control Period Exceeded	Processing for the primary periodic task was not finished within two control periods.	The processing load in the pri- mary periodic task is too heavy.		0				page 3-523
14630000 hex	Cam Table Save Error	Saving a cam table to a file failed.	Saving a cam table to a file failed.			0			page 3-524
54770000 hex	Cam Table Data Error during Cam Motion	The phases are not in ascending order in the cam table.	 Data containing cam table phases that are not in ascending order was detected during cam motion. The phase and displacement of the start point in the cam table were not 0 during cam operation. The phase of the end point in the cam table when it is converted to pulses was not 1 pulse or greater during cam operation. 			0			page 3-524
54850000 hex	Immediate Stop Instruc- tion Execut- ed	An Immediate Stop (MC_ImmediateStop) instruction was exe- cuted.	An Immediate Stop instruction was executed.			0			page 3-525
54860000 hex	Axes Group Immediate Stop Instruc- tion Execut- ed	An Axes Group Immediate Stop (MC_GroupImmediateStop) instruction was executed.	A Group Immediate Stop in- struction was executed.			0			page 3-525

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
64450000 hex	Positive Software Limit Ex- ceeded	The position exceeded the positive software limit while the axis is in motion.	The position exceeded the positive software limit.			0			page 3-526
64460000 hex	Negative Software Limit Ex- ceeded	The position exceeded the negative software limit while the axis is in motion.	The position exceeded the negative software limit.			0			page 3-526
64470000 hex	In-position Check Time Exceeded	The in-position check was not completed within the monitoring time.	Time is required to complete positioning.			0			page 3-527
64480000 hex	Following Error Limit Exceeded	The error between the command current position and actual current value exceeded the Following Error Over Value.	The positioning operation has poor following performance and the actual motion is slower than the command.			0			page 3-527
64490000 hex	Immediate Stop Input	The immediate stop input turned ON.	 An immediate stop input signal was detected. The immediate stop input signal is not connected correctly or the logic setting for the immediate stop input is wrong. 			0			page 3-528
644A0000 hex	Positive Limit Input Detected	The positive limit input turned ON.	 A positive limit input signal was detected. The positive limit input signal is not connected correctly or the logic setting for the positive limit input is wrong. 			0			page 3-529
644B0000 hex	Negative Limit Input Detected	The negative limit input turned ON.	 A negative limit input signal was detected. The negative limit input signal is not connected correctly or the logic setting for the negative limit input is wrong. 			0			page 3-530
64560000 hex	Illegal Following Error	The difference between the command position and the actual current position exceeds the range of 30-bit data when converted to pulses.	The command current position was restricted so that the axis velocity would not exceed the axis maximum velocity for the specified travel distance. Performance of positioning operation is poor and the actual motion is slower than the command.			0			page 3-531
64570000 hex	Servo OFF Error	The Servo was turned OFF for an axis due to an axes group error.	The Servo was turned OFF for an axis due to an axes group error.			0			page 3-531

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
64580000 hex	Absolute Encoder Current Position Calculation Failed	It was not possible to correctly restore the current position from the absolute encoder information that was saved when power was interrupted.	 The unit conversion settings, the ring counter setting in the Controller, or the ring counter setting in the Servo Drive settings was changed. The position to restore when converted to pulses exceeded the range of signed 40-bit data. 			0			page 3-532
64590000 hex	Home Undefined during Coordinated Motion	Home of the logical axis became undefined during axes group motion or while decelerating to a stop.	 The command position or actual position overflowed or underflowed for a logical axis in an axes group motion or a logical axis that was decelerating to a stop and the home definition was lost. A slave communications error occurred for a logical axis and home became undefined during axes group motion or while decelerating to a stop. A slave for a logical axis left the network or was disabled and home became undefined during axes group motion or while decelerating to a stop. 			0			page 3-533
74210000 hex	Servo Main Circuit Pow- er OFF	The main circuit power of the Servo Drive turned OFF while the Servo was ON.	The main circuit power of the Servo Drive was interrupted while the Servo was ON.			0			page 3-533
74230000 hex	Interrupt Feeding Interrupt Signal Missing	An interrupt input was not received during execution of an MC_MoveFeed (Interrupt Feeding) instruction.	 The latch enabled range specification is invalid. There is a problem with the wiring of the interrupt signal. The sensor that outputs the interrupt signal has failed. 			0			page 3-534
74240000 hex	Homing Opposite Direction Limit Input Detected	The limit signal in the direction opposite to the homing direction was detected during a homing operation.	 The Operation Selection at Negative Limit Input or Operation Selection at Positive Limit Input parameter is set to No reverse turn. The location of the homing input signal sensors, homing settings, and homing start position cause a limit input to be reached. The input signal sensor wiring is incorrect or the sensor is faulty. 			0			page 3-534

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
74250000 hex	Homing Di- rection Limit Input Detect- ed	The limit signal in the homing direction was detected during a homing operation.	 The Operation Selection at Negative Limit Input or Operation Selection at Positive Limit Input parameter is set to No reverse turn. The location of the homing input signal sensors, homing settings, and homing start position cause a limit input to be reached. The input signal sensor wiring is incorrect or the sensor is faulty. 			0			page 3-535
74260000 hex	Homing Limit Inputs Detected in Both Directions	The limit signals in both directions were detected during a homing operation.	 The wiring of the limit signal is incorrect. The limit sensor is installed in the wrong location. The contact logic of the limit signal is not correct. The limit sensor failed. 			0			page 3-535
74270000 hex	Home Prox- imity/Homing Opposite Di- rection Limit Input Detect- ed	The home proximity input and the limit signal in the direction opposite to the homing direction were detected during a homing operation.	 The wiring of the home proximity signal or limit signal is incorrect. The home proximity sensor or limit sensor is installed in the wrong location. The contact logic of the home proximity signal or limit signal is not correct. The home proximity sensor or limit sensor failed. 			0			page 3-536
74280000 hex	Home Proximity/Homing Direction Limit Input Detected	The home proximity input and the limit signal in the homing direction were detected at the same time during a homing operation.	 The wiring of the home proximity signal or limit signal is incorrect. The home proximity sensor or limit sensor is installed in the wrong location. The contact logic of the home proximity signal or limit signal is not correct. The home proximity sensor or limit sensor failed. 			0			page 3-537

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
74290000 hex	Home Input/ Homing Op- posite Direc- tion Limit In- put Detected	The home input and the limit signal in the direction opposite to the homing direction were detected at the same time during a homing operation.	 The wiring of the home input signal or limit signal is incorrect. The home input sensor or limit sensor is installed in the wrong location. The contact logic of the home input signal or limit signal is not correct. The home input signal output device or limit sensor failed. 			0			page 3-538
742A0000 hex	Home Input/ Homing Di- rection Limit Input Detect- ed	The home input and the limit signal in the homing direction were detected at the same time during a homing operation.	 The wiring of the home input signal or limit signal is incorrect. The home input sensor or limit sensor is installed in the wrong location. The contact logic of the home input signal or limit signal is not correct. The home input signal output device or limit sensor failed. 			0			page 3-539
742B0000 hex	Invalid Home Input Mask Dis- tance	The setting of the home input mask distance is not suitable for the MC_Home or MC_HomeWithParameter instruction.	The set value of the home input mask distance when the operating mode of the MC_Home instruction is set to Proximity Reverse Turn/Home Input Mask Distance is insufficient to decelerate from the homing velocity to the homing approach velocity.			0			page 3-539
742C0000 hex	No Home Input	There was no home signal input during the homing operation. Or, a limit signal was detected before there was a home input.	 There was no home signal input during the homing operation. A limit signal was detected before there was a home input. 			0			page 3-540
742D0000 hex	No Home Proximity In- put	There was no home proximity signal input during the homing operation.	There was no home proximity signal input during the homing operation when a home prox- imity input signal was speci- fied.			0			page 3-540
742F 0000 hex	Slave Error Detected	An error was detected for the EtherCAT slave or NX Unit that is allocated to an axis.	An error was detected for the EtherCAT slave or NX Unit that is allocated to an axis.			0			page 3-541
74300000 hex	Axes Group Composition Axis Error	An error occurred for an axis in an axes group.	An error occurred for an axis in an axes group that was in mo- tion.			0			page 3-541

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
74330000 hex	MC Com- mon Error Occurrence	An MC common error occurred.	Partial fault level MC common error occurred.			0			page 3-542
74340000 hex	Latch Position Over-flow	An overflow occurred for the latched position for the MC_TouchProbe (Enable External Latch) instruction.	An overflow occurred for the latched position for the MC_TouchProbe (Enable Ex- ternal Latch) instruction.			0			page 3-542
74350000 hex	Latch Position Underflow	An underflow occurred for the latched position for the MC_TouchProbe (Enable External Latch) instruction.	An underflow occurred for the latched position for the MC_TouchProbe (Enable Ex- ternal Latch) instruction.			0			page 3-543
74360000 hex	Master Sync Direction Er- ror	The master axis continued to move in the direction opposite to the sync direction.	The master axis continued to move in the direction opposite to the sync direction of the master and slave axes, result- ing in an overflow.			0			page 3-543
74370000 hex	Slave Disconnection during Servo ON	One of the following occurred while the Servo was ON for the EtherCAT slave or NX Unit that is allocated to an axis. • Disconnection or replacement • Disablement • Restart of the NX bus on the NXseries CPU Unit	One of the following occurred while the Servo was ON for the EtherCAT slave or NX Unit that is allocated to an axis. Disconnection or replacement Disablement Restart of the NX bus on the NX-series CPU Unit			0			page 3-544
74380000 hex	Feed Dis- tance Over- flow	The target position after the interrupt input was received for the MC_MoveFeed (Interrupt Feeding) instruction overflowed or underflowed.	The target position after the interrupt input was received for the MC_MoveFeed (Interrupt Feeding) instruction exceeded the range of signed 40-bit data when it is converted to pulses.			0			page 3-544

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
74390000 hex	Error in Changing Servo Drive Control Mode	Changing the Control Mode was not com- pleted within the specified time.	When the MC_SyncMoveVelocity instruction was stopped, the actual current velocity was not reduced to 10% or less of the maximum velocity within 10 seconds for three consecutive periods after a command velocity of 0 was output. For an OMRON 1S-series Servo Drive or G5-series Servo Drive, the actual current velocity was not reduced to 10% or less of the maximum velocity within 10 seconds for three consecutive periods when the MC_TorqueControl instruction was stopped. Changing the Control Mode of the Servo Drive between CSP, CSV, and CST was not completed within one second after the command was executed.			0			page 3-545
743A0000 hex	Master Axis Position Read Error	The synchronized control instruction was not executed because an error occurred in the position of the master axis of the synchronized control instruction.	 EtherCAT process data communications are not established for the master axis of the synchronized control instruction or the I/O data of the NX Unit cannot be used for control. The slave of the master axis for the synchronized control instruction was disconnected or disabled. An Absolute Encoder Current Position Calculation Failed error (64580000 hex) was detected for the master axis of the synchronized control instruction. The master axis for the synchronized control instruction is an unused axis. 			0			page 3-546

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
743B0000 hex	Auxiliary Axis Position Read Error	The synchronized control instruction was not executed because an error occurred in the position of the auxiliary axis of the synchronized control instruction.	EtherCAT process data communications are not established for the auxiliary axis of the synchronized control instruction or the I/O data of the NX Unit cannot be used for control. The slave of the auxiliary axis for the synchronized control instruction was disconnected or disabled. An Absolute Encoder Current Position Calculation Failed error (64580000 hex) was detected for the auxiliary axis of the synchronized control instruction. The auxiliary axis for the synchronized control instruction is an unused axis.			0			page 3-547
84400000 hex	EtherCAT Slave Com- munications Error	A communications error occurred for the EtherCAT slave or NX Unit that is allocated to an axis.	A communications error occur- red for the EtherCAT slave or NX Unit that is allocated to an axis.			0			page 3-548
571D0000 hex (Ver. 1.02 to Ver. 1.09)	Too Many Reset Mo- tion Control Error In- structions	There are more than 100 instances of the ResetMCError (Reset Motion Control Error) instruction.	There are more than 100 instances of the ResetMCError (Reset Motion Control Error) instruction declared in the user program. Instances inside function blocks are included.				0		page 3-548
644C0000 hex	Following Error Warn- ing	The following error exceeded the Following Error Warning Value.	Performance of positioning op- eration is poor and the actual motion is slower than the com- mand.				0		page 3-549
644D0000 hex	Velocity Warning	The command velocity exceeded the velocity warning value.	The command velocity ex- ceeded the velocity warning value.			•	0		page 3-549
644E0000 hex	Acceleration Warning	The command acceleration exceeded the acceleration warning value.	The command acceleration rate exceeded the acceleration warning value.			•	0		page 3-550
644F0000 hex	Deceleration Warning	The command deceleration exceeded the deceleration warning value.	The command deceleration rate exceeded the deceleration warning value.			•	0		page 3-550
64500000 hex	Positive Torque Warning	The torque command value exceeded the positive torque warning value.	The torque command value exceeded the positive torque warning value.			•	0		page 3-551

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
64510000 hex	Negative Torque Warning	The torque command value exceeded the negative torque warning value.	The torque command value exceeded the negative torque warning value.			•	0		page 3-551
64520000 hex	Command Position Overflow	The number of pulses for the command position overflowed.	In Linear Mode, the command position when converted to pulses exceeded the upper limit of signed 40-bit data.			•	0		page 3-552
64530000 hex	Command Position Un- derflow	The number of pulses for the command position exceeded the valid range. (It underflowed.)	In Linear Mode, the command position when converted to pulses exceeded the lower limit of signed 40-bit data.			•	0		page 3-552
64540000 hex	Actual Position Overflow	The number of pulses for the actual position overflowed.	The actual position when converted to pulses exceeded the upper limit of signed 40-bit data.			•	0		page 3-553
64550000 hex	Actual Position Underflow	The number of pulses for the actual position underflowed.	The actual position when converted to pulses exceeded the lower limit of signed 40-bit data.			•	0		page 3-553
74320000 hex	Slave Ob- servation Detected	A warning was detected for an Ether-CAT slave or NX Unit.	A warning was detected for the EtherCAT slave or NX Unit that is allocated to an axis.			•	0		page 3-554
743C0000 hex	Cannot Execute Save Cam Table Instruction	You cannot save a cam table to a file when non-volatile memory is being accessed by another operation.	An attempt was made to execute the MC_SaveCamTable instruction when another operation was accessing the nonvolatile memory (e.g., transfer or data trace operation from the Sysmac Studio).				0		page 3-554
94200000 hex	Notice of Insufficient Travel Distance to Achieve Blending Transit Velocity	There is not sufficient travel distance to accelerate or decelerate to the transit velocity during blending operation.	When the Acceleration/ Deceleration Over parameter was set to Use rapid acceleration/deceleration (Blending is changed to Buffered), the results of profile creation caused the acceleration/deceleration rate to be exceeded when blending was specified, so buffered was used. Blending was specified, but the target position was already reached, so it was changed to Buffered because the profile could not be created.			•	0		page 3-555
94210000 hex	Error Clear from MC Test Run Tab Page	An error was cleared from the MC Test Run Pane of the Sysmac Studio.	An error was cleared from the MC Test Run Pane of the Sys- mac Studio.					0	page 3-555

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
94220000 hex	Slave Error Code Report	The error code was reported by the slave when a Slave Error Detected error occurred.	The error code was reported by the slave when a Slave Er- ror Detected error (742F0000 hex) occurred.					0	page 3-556

Motion Control Instructions

This section provides a table of errors (events) that occur for motion control instructions. The upper four digits of the event code give the error code (ErrorID) for the motion control instruction. For descriptions of an error code, refer to the description of the corresponding event code. For example, if the error code for the motion control instruction is 16#3461, refer to the description for event code 34610000 hex.

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
34610000 hex	Process Data Object Setting Missing	The PDO mapping is not correct.	 The PDOs that are required for the motion control instruction are not mapped. The relevant instruction was executed for a device that does not have an object that supports the instruction. A motion control instruction that specifies phase Z (_mcEncoderMark) as the trigger conditions was executed for an axis that is mapped to an OM-RON GXEC02□□ EtherCAT Encoder slave. 			0			page 3-557
54200000 hex	Electronic Gear Ratio Numerator Setting Out of Range	The parameter specified for the RatioNumerator input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-558
54210000 hex	Electronic Gear Ratio Denominator Setting Out of Range	The parameter specified for the RatioDenominator input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-558
54220000 hex	Target Ve- locity Setting Out of Range	The parameter specified for the <i>Velocity</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-559
54230000 hex	Acceleration Setting Out of Range	The parameter specified for the Acceleration input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-559

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54240000 hex	Deceleration Setting Out of Range	The parameter specified for the Deceleration input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-560
54250000 hex	Jerk Setting Out of Range	The parameter specified for the <i>Jerk</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-560
54270000 hex	Torque Ramp Set- ting Out of Range	The parameter specified for the TorqueRamp input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-561
54280000 hex	Master Coef- ficient Scal- ing Out of Range	The parameter specified for the MasterScaling input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-561
54290000 hex	Slave Coefficient Scaling Out of Range	The parameter specified for the SlaveScaling input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-562
542A0000 hex	Feeding Velocity Setting Out of Range	The parameter specified for the FeedVelocity input variable to a motion control instruction is out of range.	The Feed Velocity (input variable FeedVelocity) is still at the default (0).			0			page 3-562
542B0000 hex	Buffer Mode Selection Out of Range	The parameter specified for the BufferMode input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-563
542C0000 hex	Coordinate System Se- lection Out of Range	The parameter specified for the CoordSystem input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-563

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
542D0000 hex	Circular In- terpolation Mode Selec- tion Out of Range	The parameter specified for the <i>CircMode</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-564
542E0000 hex	Direction Selection Out of Range	The parameter specified for the <i>Direction</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-564
542F0000 hex	Path Selection Out of Range	The parameter specified for the PathChoice input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-565
54300000 hex	Position Type Selection Out of Range	The parameter specified for the ReferenceType input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-565
54310000 hex	Travel Mode Selection Out of Range	The parameter specified for the MoveMode input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-566
54320000 hex	Transition Mode Selection Out of Range	The parameter specified for the TransitionMode input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable. Image:mcAborting ormcBuffered was specified for BufferMode andmcTMCornerSuperimposed was specified for TransitionMode.			0			page 3-567
54330000 hex	Continue Method Se- lection Out of Range	The value of the reserved input variable Continuous to a motion control instruction changed.	The value of the reserved input variable <i>Continuous</i> changed.			0			page 3-567
54340000 hex	Combine Mode Selec- tion Out of Range	The parameter specified for the CombineMode input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-568

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54350000 hex	Synchroni- zation Start Condition Selection Out of Range	The parameter specified for the LinkOption input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-568
54360000 hex	Master and Slave De- fined as Same Axis	The same axis is specified for the <i>Master</i> and <i>Slave</i> input variables to a motion control instruction.	The parameter is the same for the <i>Master</i> and <i>Slave</i> input variables to the instruction.			0			page 3-569
54370000 hex	Master and Auxiliary De- fined as Same Axis	The same axis is specified for the <i>Master</i> and <i>Auxiliary</i> input variables to a motion control instruction.	The parameter is the same for the <i>Master</i> and <i>Auxiliary</i> input variables to the instruction.			0			page 3-569
54380000 hex	Master/ Slave Axis Numbers Not in As- cending Or- der	The axis numbers specified for the Master and Slave input variables to a motion control instruction are not in ascending order.	The parameters for the Master and Slave input variables to the instruction were not in ascending order when _mcLatestCommand was specified for the ReferenceType input variable to the instruction.			0			page 3-570
54390000 hex	Incorrect Cam Table Specification	The parameter specified for the <i>CamTable</i> input variable to a motion control instruction is out of range.	Something other than a cam data variable was specified for the <i>CamTable</i> input variable to the instruction.			0			page 3-570

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
543A0000 hex	Synchronization Stopped	A synchronized control motion control instruction was executed, but conditions required for execution were not met.	 The MC_CamOut (End Cam Operation) instruction was executed even though the MC_CamIn (Start Cam Operation) instruction is not being executed. The MC_GearOut (End Gear Operation) instruction was executed even though the MC_GearIn (Start Gear Operation) or the MC_GearInPos (Positioning Gear Operation) instruction is not being executed. The MC_Phasing (Shift Master Axis Phase) instruction was executed even though the MC_CamIn (Start Cam Operation), MC_GearIn (Start Gear Operation), MC_GearInPos (Start Gear Operation), or MC_MoveLink (Synchronous Positioning) instruction is not being executed. 			0			page 3-571
543B0000 hex	Motion Control Instruction Re-execution Disabled	An attempt was made to re-execute a motion control instruction that cannot be reexecuted.	A motion control instruction that cannot be re-executed was re-executed.			0			page 3-572
543C0000 hex	Motion Control Instruction Multi-execution Disabled	Multiple functions that cannot be executed simultaneously were executed for the same target (MC common, axis, or axes group).	Multiple functions that cannot be executed simultaneously were executed for the same target (MC common, axis, or axes group).			0			page 3-573
543D0000 hex	Instruction Not Allowed for Encoder Axis Type	An operation instruction was executed for an encoder axis.	An operation instruction was executed for an encoder axis.			0			page 3-573

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
543E0000 hex	Instruction Cannot Be Executed during Multi- axes Coordi- nated Con- trol	 An operation instruction was executed for an axis or an axes group that was in a coordinated multi-axes motion. A robot instruction that you cannot use for an axes group in a Group-Enable state was executed. 	An operation instruction was executed for an axis or an axes group that was in a coordinated multi-axes motion. The MC_SetKinTransform instruction was executed for an axes group in a GroupEnable state.			0			page 3-574
543F0000 hex	Multi-axes Coordinated Control In- struction Executed for Disabled Ax- es Group	A multi-axes coordinated control instruction was executed for an axes group that was in a GroupDisable state.	A multi-axes coordinated control instruction was executed for an axes group that was in a GroupDisable state. One of the following instructions was executed for an axes group that was in a GroupDisable state. MC_MoveTimeAbsolute MC_SyncLinearConveyor MC_SyncOut MC_RobotJog			0			page 3-575
54400000 hex	Axes Group Cannot Be Enabled	Execution of the MC_GroupEnable (Enable Axes Group) instruction failed.	When the MC_GroupEnable (Enable Axes Group) instruction was executed, there was a composition axis that was not stopped. When the MC_GroupEnable (Enable Axes Group) instruction was executed, there was a composition axis for which the MC_TouchProbe (Enable External Latch) instruction was being executed.			0			page 3-576
54410000 hex	Impossible Axis Opera- tion Speci- fied when the Servo is OFF	An operation instruc- tion was executed for an axis for which the Servo is OFF.	 An operation instruction was executed for an axis for which the Servo is OFF. Home was preset with the MC_Home or MC_HomeWith-Parameter instruction for an axis for which EtherCAT process data communications are not established. 			0			page 3-577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54420000 hex	Composition Axis Stop- ped Error	A motion instruction was executed for an axes group while the MC_Stop instruction was being executed for a composition axis.	A motion instruction was executed for an axes group while the MC_Stop instruction was being executed for a composition axis.			0			page 3-578
54430000 hex	Motion Control Instruction Multi-execution Buffer Limit Exceeded	The number of motion control instructions that is buffered for Buffered or Blending Buffer Modes exceeded the buffer limit.	 An axis instruction was executed when there was already a current instruction and a buffered instruction for the same axis. An axes group instruction was executed when there was already eight current instructions and buffered instructions for the same axis. 			0			page 3-578
54440000 hex	Insufficient Travel Dis- tance	The specified motion cannot be executed for the deceleration rate or acceleration rate that was specified for multi-execution or re-execution of a positioning instruction.	Stopping at the target position was not possible for the specified acceleration/deceleration rate for multi-execution or reexecution of a positioning instruction when the Acceleration/Deceleration Over parameter was set to generate a minor fault and stop.			0			page 3-579
54450000 hex	Insufficient Travel Distance to Achieve Blending Transit Velocity	There is not sufficient travel distance to accelerate or decelerate to the transit velocity.	There was not sufficient travel distance to accelerate the current command to the transit velocity when the Acceleration/Deceleration Over parameter was set to generate a minor fault and stop.			0			page 3-580
54460000 hex	Move Link Constant Velocity Insufficient Travel Distance	The constant-velocity travel distance of the master axis is less than zero.	The constant velocity travel distance of the master axis is below 0 for the MC_MoveLink (Synchronous Positioning) in- struction.			0			page 3-580
54470000 hex	Positioning Gear Opera- tion Insuffi- cient Target Velocity	For the MC_GearIn-Pos (Positioning Gear Operation) instruction, the target velocity of the slave axis is too small to achieve the required velocity.	For the MC_GearInPos (Positioning Gear Operation) instruction, the value of the Velocity (Target Velocity) input variable is smaller than the master axis velocity multiplied by the gear ratio when the instruction was executed.			0			page 3-581

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54480000 hex	Same Start Point and End Point for Circular Interpolation	The start point and end point were the same when the radius method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction. Or, the start point, end point, and border point were the same when the border point method was specified.	The start point and end point were the same when the radius method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction. The start point, end point, and border point were the same when the border point method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction.			0			page 3-581
54490000 hex	Circular Interpolation Center Specification Position Out of Range	The position specified for the center point exceeded the allowed range when the center method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction.	The difference between the distance from the start point to the center point and the distance between the end point to the center point exceeded the permitted value specified for the correction allowance ratio in the axes group settings when the center designation method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction.			0			page 3-582
544A0000 hex	Instruction Execution Error Caused by Count Mode Setting	An instruction that cannot be used when the Count Mode is set to Rotary Mode was executed for an axis that was set to Rotary Mode.	An instruction that cannot be used when the Count Mode is set to Rotary Mode was executed for an axis that was set to Rotary Mode.			0			page 3-582
544C0000 hex	Parameter Selection Out of Range	The parameter specified for the ParameterNumber input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-583
544D0000 hex	Stop Method Selection Out of Range	The parameter specified for the <i>StopMode</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-583
544E0000 hex	Latch ID Selection Out of Range for Trigger Input Condition	The parameter specified for the TriggerInput::LatchID input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-584

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference	
544F0000 hex	Setting Out of Range for Writing MC Setting	The parameter specified for the SettingValue input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. The parameter specification and the data type of the setting value do not agree. 			0			page 3-584	
54500000 hex	Trigger Input Condition Mode Selec- tion Out of Range	The parameter specified for the TriggerInput:: Mode input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-585	
54510000 hex	Drive Trigger Signal Se- lection Out of Range for Trigger Input Condition	The parameter specified for the TriggerInput::InputDri ve input variable to a motion control in- struction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-585	
54530000 hex	Motion Control Instruction Re-execution Disabled (Axis Specification)	An attempt was made to change the parameter for the <i>Axis</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when reexecuting an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.			0			page 3-586	
54540000 hex	Motion Control Instruction Re-execution Disabled (Buffer Mode Selection)	An attempt was made to change the parameter for the <i>BufferMode</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when reexecuting an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.			0			page 3-587	
54550000 hex	Motion Control Instruction Re-execution Disabled (Direction Selection)	An attempt was made to change the parameter for the <i>Direction</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)	An input variable that cannot be changed for re-execution was changed.			0			page 3-588	

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference	
54560000 hex	Motion Control Instruction Re-execution Disabled (Execution Mode)	An attempt was made to change the parameter for the <i>Periodic</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.			0			page 3-588	
54570000 hex	Motion Control Instruction Re-execution Disabled (Axes Group Specification)	An attempt was made to change the parameter for the AxesGroup input variable when re-executing a motion control instruction. (This input variable cannot be changed when reexecuting an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.			0			page 3-589	
54580000 hex	Motion Control Instruction Re-execution Disabled (Jerk Setting)	An attempt was made to change the parameter for the <i>Jerk</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when reexecuting an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.			0			page 3-590	
54590000 hex	Motion Control Instruction Re-execution Disabled (Master Axis)	An attempt was made to change the parameter for the <i>Master</i> input variable when reexecuting a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.			0			page 3-591	
545A0000 hex	Motion Control Instruction Re-execution Disabled (MasterOffset)	An attempt was made to change the parameter for the MasterOffset input variable when re-executing a motion control instruction. (This input variable cannot be changed when reexecuting an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.			0			page 3-591	

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
545B0000 hex	Motion Control Instruction Re-execution Disabled (MasterScaling)	An attempt was made to change the parameter for the <i>MasterScaling</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when reexecuting an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.			0			page 3-592
545C0000 hex	Motion Control Instruction Re-execution Disabled (MasterStartDistance)	An attempt was made to change the parameter for the MasterStartDistance input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.			0			page 3-592
545D0000 hex	Motion Control Instruction Re-execution Disabled (Continuous)	An attempt was made to change the parameter for the Continuous input variable when re-executing a motion control instruction. (This input variable cannot be changed when reexecuting an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.			0			page 3-593
545E0000 hex	Motion Control Instruction Re-execution Disabled (Move-Mode)	An attempt was made to change the parameter for the <i>MoveMode</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when reexecuting an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.			0			page 3-593
545F0000 hex	Illegal Auxiliary Axis Specification	The axis specified for the <i>Auxiliary</i> input variable to a motion control instruction does not exist.	An axis does not exist for the variable specified for the Auxiliary input variable to the instruction.			0			page 3-594

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54600000 hex	Illegal Axis Specification	The axis specified for the <i>Axis</i> input variable to a motion control instruction does not exist.	An axis does not exist for the variable specified for the Axis input variable to the instruction.			0			page 3-594
54610000 hex	Illegal Axes Group Spec- ification	The axes group specified for the AxesGroup input variable to a motion control instruction does not exist or is not a used group.	 An axes group does not exist for the variable specified for the AxesGroup input variable to the instruction. The axes group specified for the AxesGroup input variable to the instruction is not specified as a used group. 			0			page 3-595
54620000 hex	Illegal Master Axis Specification	The axis that is specified for the <i>Master</i> input variable to a motion control instruction is not correct.	 An axis does not exist for the variable specified for the Master input variable to the instruction. The axis that was specified for the Master input variable to the MC_Phasing (Shift Master Axis Phase) instruction is not the master axis for syncing. The master axis and a slave axis are not assigned to the same task. 			0			page 3-596
54630000 hex	Motion Control Instruction Re-execution Disabled (Slave-Offset)	An attempt was made to change the SlaveOffset input variable when re-executing a motion control instruction. (This input variable cannot be changed when reexecuting an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.			0			page 3-597
54640000 hex	Motion Control Instruction Re-execution Disabled (Slave-Scaling)	An attempt was made to change the SlaveScaling input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.			0			page 3-597

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54650000 hex	Motion Control Instruction Re-execution Disabled (Start-Position)	An attempt was made to change the StartPosition input variable when re-executing a motion control instruction. (This input variable cannot be changed when reexecuting an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.			0			page 3-598
54660000 hex	Instruction Execution Error with Undefined Home	High-speed homing or an interpolation instruction was executed when home was undefined.	High-speed homing was executed when home was undefined. An interpolation instruction was executed for an axes group that includes an axis with no defined home. One of the following robot instructions was executed for an axes group that includes a logical axis with no defined home. MC_SetKinTransform MC_MoveTimeAbsolute MC_SyncLinearConveyor MC_SyncOut MC_GroupMon MC_RobotJog			0			page 3-599
54670000 hex	Motion Control Instruction Re-execution Disabled (Position Type)	An attempt was made to change the Reference Type input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.			0			page 3-600
54680000 hex	Unused Axis Specification for Master Axis	The master axis specified for a motion control instruction is an unused axis.	The master axis specified for a motion control instruction is an unused axis.			0			page 3-600
54690000 hex	First Position Setting Out of Range	The parameter specified for the FirstPosition input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-601

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
546A0000 hex	Last Position Setting Out of Range	The parameter specified for the LastPosition input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-601
546B0000 hex	Illegal First/ Last Position Size Rela- tionship (Lin- ear Mode)	The parameter specified for the LastPosition input variable to a motion control instruction is smaller than the parameter specified for the FirstPosition input variable.	The value of the LastPosition input parameter is less than the value of the FirstPosition input variable for the instruction when the Count Mode is set to Linear Mode.			0			page 3-602
546C0000 hex	Master Sync Start Posi- tion Setting Out of Range	The parameter specified for the MasterSyncPosition input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-602
546D0000 hex	Slave Sync Start Posi- tion Setting Out of Range	The parameter specified for the SlaveSyncPosition input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-603
546E0000 hex	Duplicate Latch ID for Trigger Input Condition	The same latch ID was specified for more than one motion control instruction.	The same latch ID is used simultaneously for more than one of the following instructions: MC_TouchProbe (Enable External Latch) instruction, MC_MoveLink (Synchronous Positioning) instruction, and MC_MoveFeed (Interrupt Feeding) instruction. The MC_AbortTrigger (Disable External Latch) instruction was executed to cancel a latch that was used by an instruction other than the MC_TouchProbe (Enable External Latch) instruction.			0			page 3-603
546F0000 hex	Jerk Over- ride Factor Out of Range	The parameter specified for the <i>JerkFactor</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-604

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54700000 hex	Acceleration/ Deceleration Override Factor Out of Range	The parameter specified for the <i>AccFactor</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-604
54710000 hex	First Position Method Specification Out of Range	The parameter specified for the <i>StartMode</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-605
54720000 hex	Motion Control Instruction Re-execution Disabled (First Position Method)	An attempt was made to change the StartMode input variable when re-executing a motion control instruction. (This input variable cannot be changed when reexecuting an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.			0			page 3-605
54740000 hex	Unused Axis Specification for Auxiliary Axis	The axis specified for the <i>Auxiliary</i> input variable to a motion control instruction is an unused axis.	The axis specified for the Auxiliary input variable to the instruction is an unused axis.			0			page 3-606
54750000 hex	Position Gear Value Error	Synchronized motion is not possible for the velocity, acceleration rate, and deceleration rate that were input to a motion control instruction.	The specified synchronized motion cannot be performed at the velocity, acceleration rate, or deceleration rate that is input to the instruction.			0			page 3-606
54760000 hex	Position Gear Master Axis Zero Velocity	The velocity of the master axis was zero when a motion control instruction was started.	The velocity of the master axis was 0 when the instruction was started.			0			page 3-607
54780000 hex	Target Position Setting Out of Range	The parameter specified for the <i>Position</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. The target position of a Rotary Mode axis is not within the ring setting range. 			0			page 3-607

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54790000 hex	Travel Distance Out of Range	The parameter that was specified for the <i>Distance</i> input variable to a motion control instruction is out of range or the target position with the value of <i>Distance</i> added is out of range.	The absolute value of the instruction input parameter exceeded the range of 40-bit data when it is converted to pulses. Tor a Linear Mode axis, the target position with the travel distance added exceeded signed 40-bit data when the absolute value is converted to pulses.			0			page 3-608
547A0000 hex	Cam Table Start Point Setting Out of Range	The parameter specified for the StartPosition input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-608
547B0000 hex	Cam Master Axis Follow- ing First Po- sition Setting Out of Range	The parameter specified for the MasterStartDistance input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-609
547C0000 hex	Circular In- terpolation Radius Set- ting Error	It was not possible to create a circular path for the specified radius when the radius method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction.	For the MC_MoveCircular2D (Circular 2D Interpolation) instruction, it was not possible to create a circular path for the specified radius when the radius method was specified for circular interpolation.			0			page 3-609
547D0000 hex	Circular Interpolation Radius Overflow	For the MC_MoveCircular2D (Circular 2D Interpolation) instruction, the radius of the circle exceeded the maximum value for the border point or center specification method.	For the MC_MoveCircular2D (Circular 2D Interpolation) instruction, the radius of the circle exceeded 40-bit data when converted to pulses for the border point or center specification method.			0			page 3-610
547E0000 hex	Circular Interpolation Setting Out of Range	The parameter specified for the <i>CircAxes</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. The axes that were specified in <i>CircAxes</i> are not included in the composition axes in the Axes Group Settings. The same axis was specified for both axes of <i>CircAxes</i>. 			0			page 3-610

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference	
547F0000 hex	Auxiliary/ Slave Axis Numbers Not in As- cending Or- der	The values of the parameters for the Auxiliary and Slave input variables to a motion control instruction are not in ascending order.	The parameters for the Auxiliary and Slave input varia- bles to the instruction are not in ascending order.			0			page 3-611	
54800000 hex	Cam Table Property As- cending Da- ta Error at Update	A phase that was not in ascending order was found during calculating the number of valid data. Or, after calculations, the number of valid data is 0.	 A phase that was not in ascending order was found when calculating the number of valid data. After calculations, the number of valid data is 0. 			0			page 3-611	
54810000 hex	MC_Write Target Out of Range	The parameter specified for the <i>Target</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-612	
54820000 hex	Master Travel Distance Specification Out of Range	The parameter specified for the MasterDistance input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-612	
54830000 hex	Master Distance in Acceleration Specification Out of Range	The parameter specified for the MasterDistanceACC input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-613	
54840000 hex	Master Distance in Deceleration Specification Out of Range	The parameter specified for the MasterDistanceDEC input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-613	
54870000 hex	Execution Mode Selec- tion Out of Range	The parameter specified for the ExecutionMode input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-614	
54880000 hex	Permitted Following Error Out of Range	The parameter specified for the PermittedDeviation input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-614	

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54890000 hex	Border Point/Center Position/ Radius Specification Out of Range	The parameter specified for the <i>AuxPoint</i> input variable to a motion control instruction is out of range.	The value of AuxPoint exceeded signed 40-bit data when converted to pulses for the border point or center specification method. For a radius specifications, the absolute value of AuxPoint[0] exceeded 40-bit data when it is converted to pulses.			0			page 3-615
548A0000 hex	End Point Specification Out of Range	The parameter specified for the <i>EndPoint</i> input variable to a motion control instruction is out of range.	The instruction input parameter exceeded the range of signed 40-bit data when it was converted to pulses.			0			page 3-615
548B0000 hex	Slave Travel Distance Specification Out of Range	The parameter specified for the SlaveDistance input variable to a motion control instruction is out of range.	The instruction input parameter exceeded the range of 40-bit data when it is converted to pulses.			0			page 3-616
548C0000 hex	Phase Shift Amount Out of Range	The parameter specified for the <i>PhaseShift</i> input variable to a motion control instruction is out of range.	The absolute value of the in- struction input parameter ex- ceeded the range of 40-bit da- ta when it is converted to puls- es.			0			page 3-616
548D0000 hex	Feeding Distance Out of Range	The parameter specified for the FeedDistance input variable to a motion control instruction is out of range.	The absolute value of the instruction input parameter exceeded the range of 40-bit data when it is converted to pulses.			0			page 3-617
548E0000 hex	Auxiliary and Slave De- fined as Same Axis	The same axis was specified for the Auxiliary and Slave input variables to a motion control instruction.	The parameter was the same for the <i>Auxiliary</i> and <i>Slave</i> in- put variables to the instruction.			0			page 3-617
548F0000 hex	Relative Position Selection Out of Range	The parameter specified for the <i>Relative</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-618
54900000 hex	Cam Transition Specification Out of Range	The parameter specified for the CamTransition input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-618

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54910000 hex	Synchron- ized Control End Mode Selection Out of Range	The parameter specified for the <i>OutMode</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-619
54920000 hex	Enable Ex- ternal Latch Instruction Execution Disabled	_mcImmediateStop (Immediate Stop) was specified for the StopMode input vari- able when the MC_TouchProbe (En- able External Latch) instruction was exe- cuted in Drive Mode for an encoder axis.	_mcImmediateStop (Immediate Stop) was specified for the StopMode input variable when the MC_TouchProbe (Enable External Latch) instruction was executed in Drive Mode for an encoder axis.			0			page 3-619
54930000 hex	Master Axis Offset Out of Range	The parameter specified for the MasterOffset input variable to a motion control instruction is out of range.	The instruction input parameter exceeded the range of signed 40-bit data when it was converted to pulses.			0			page 3-620
54940000 hex	Slave Axis Offset Out of Range	The parameter specified for the SlaveOffset input variable to a motion control instruction is out of range.	The instruction input parameter exceeded the range of signed 40-bit data when it was converted to pulses.			0			page 3-620
54950000 hex	Command Current Position Count Selection Out of Range	The parameter specified for the CmdPosMode input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-621
54960000 hex	Master Axis Gear Ratio Numerator Out of Range	The parameter specified for the RatioNumeratorMast er input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-621
54970000 hex	Master Axis Gear Ratio Denominator Out of Range	The parameter specified for the RatioDenominatorMa ster input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-622

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54980000 hex	Auxiliary Axis Gear Ratio Numerator Out of Range	The parameter specified for the RatioNumeratorAuxili ary input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-622
54990000 hex	Auxiliary Axis Gear Ratio Denominator Out of Range	The parameter specified for the RatioDenominatorAu xiliary input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-623
549A0000 hex	Master Axis Position Type Selec- tion Out of Range	The parameter specified for the ReferenceTypeMaste r input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-623
549B0000 hex	Auxiliary Axis Position Type Selection Out of Range	The parameter specified for the ReferenceTypeAuxilia ry input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-624
549C0000 hex	Target Position Ring Counter Out of Range	Operation is not possible because the target position is out of range for the ring counter of the executed instruction.	High-speed homing was exe- cuted when 0 was not included in the ring counter.			0			page 3-624
549D0000 hex (Ver. 1.01 or later)	Axes Group Composition Axis Setting Out of Range	The parameter specified for the Axes input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. The composition axes in the axes group are not assigned to the same task. 			0			page 3-625
549E0000 hex (Version 1.04 or later)	Axis Use Setting Out of Range	The parameter specified for the <i>AxisUse</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-625
57000000 hex (Ver. 1.03 or later)	Homing Parameter Setting Out of Range	The parameter specified for the HomingParameter input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-626

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
57020000 hex (Version 1.04 or later)	Axis Use Change Er- ror	The MC_ChangeAxisUse (Change AxisUse) instruction was executed when the axis was not stopped or when the command velocity of the axis was saturated.	The MC_ChangeAxisUse (Change Axis Use) instruction was executed when the axis was not stopped or when the command velocity of the axis was saturated.			0			page 3-627
57030000 hex (Ver. 1.06 or later)	Cannot Change Axis Use	The MC_ChangeAxisUse (Change AxisUse) instruction was executed in a way that would cause the maximum number of used real axes or the maximum number of used motion control servo axes to be exceeded.	The MC_ChangeAxisUse (Change Axis Use) instruction was executed in a way that would cause the maximum number of used real axes to be exceeded. The MC_ChangeAxisUse (Change Axis Use) instruction was executed in a way that would cause the maximum number of used motion control servo axes to be exceeded.			0			page 3-628
57200000 hex (Version 1.04 or later)	Motion Control Parameter Setting Error When Changing Axis Use	The motion control parameter settings for the axis that was changed to a used axis are incorrect.	The MC_ChangeAxisUse (Change Axis Use) instruction was used to change an unused axis to a used axis, but the motion control parameter settings of the axis are not correct. The power supply was interrupted while a download of the motion control parameter settings was in progress. The non-volatile memory is faulty or the life of the non-volatile memory has been exceeded.			0			page 3-629

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
57210000 hex (Version 1.04 or later)	Required Process Da- ta Object Not Set When Changing Axis Use	The objects that are required for the axis type of the axis that was changed to a used axis are not set.	 The objects that are required for the axis type of the axis that was changed to a used axis are not set in the PDO map settings. The power supply was interrupted while a download of the motion control parameter settings was in progress. The non-volatile memory is faulty or the life of the non-volatile memory has been exceeded. The MC_ChangeAxisUse (Change Axis Use) instruction was executed for an axis that Axis Use is set to Unused axis (unchangeable to used axis). 			0			page 3-630
572F0000 hex (Ver. 1.06 or later)	Motion Control Instruction Multi-execution Disabled (Master Axis)	A <i>Master</i> in-out variable that cannot be changed during multiexecution of instructions was changed.	A Master in-out variable that cannot be changed during mul- tiexecution of instructions was changed.			0			page 3-631
57300000 hex (Ver. 1.06 or later)	Motion Control Instruction Multi-execution Disabled (Position Type Selection)	A ReferenceType in- out variable that can- not be changed dur- ing multi-execution of instructions was changed.	A ReferenceType in-out variable that cannot be changed during multi-execution of instructions was changed.			0			page 3-631
573A0000 hex (Ver. 1.08 or later)	Cannot Write Axis Param- eters	The instruction was executed for an axis that is not an unused axis.	The instruction was executed for a used axis or an undefined axis.			0			page 3-632
573B0000 hex (Ver. 1.08 or later)	Axis Parameter Setting Out of Range	The parameter specified for the AxisParameter input variable to a motion control instruction is outside of the valid range.	The parameter specified for the AxisParameter input varia- ble to the instruction is out of range for the input variable.			0			page 3-633
573C0000 hex (Ver. 1.08 or later)	Cam Property Setting Out of Range	The parameter specified for the CamProperty input variable to a motion control instruction is outside of the valid range.	The parameter specified for the CamProperty input variable to the instruction is out of range for the input variable.			0			page 3-635

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
573D0000 hex (Ver. 1.08 or later)	Cam Node Setting Out of Range	The parameter specified for the CamNodes input variable to a motion control instruction is outside of the valid range.	The parameter specified for the <i>CamNodes</i> input variable to the instruction is out of range for the input variable.			0			page 3-635
573E0000 hex (Ver. 1.08 or later)	Incorrect Cam Node Type Specifi- cation	The parameter specified for the CamNodes input variable to a motion control instruction is not an _sMC_CAM_NODE array variable.	The parameter specified for the CamNodes input variable to the instruction is not an _sMC_CAM_NODE array variable.			0			page 3-636
573F0000 hex (Ver. 1.08 or later)	Insufficient Nodes in Cam Table	The array variable of the parameter specified for the CamNodes input variable to a motion control instruction has a Phase value of 0 for element number 0.	The array variable of the parameter specified for CamNodes input variable to the instruction has a Phase (master axis phase) value of 0 for element number 0.			0			page 3-636
57400000 hex (Ver. 1.08 or later)	Cam Node Master Axis Phase Not in Ascending Order	The values of <i>Phase</i> in the array variable of the parameter specified for the <i>CamNodes</i> input variable to a motion control instruction are not in ascending order according to the element numbers.	The values of <i>Phase</i> (master axis phase) in the array variable of the parameter specified for the <i>CamNodes</i> input variable to the instruction are not in ascending order according to the element numbers. Or, truncating the digits that are not effective more than seven digits caused the phases not to be in ascending order.			0			page 3-637
57410000 hex (Ver. 1.08 or later)	Too Many Data Points in Cam Ta- ble	The number of generated cam data points exceeded the number of elements in the array in the cam data variable that is specified for the <i>CamTable</i> input variable to a motion control instruction.	The number of cam data points in the generated cam table exceeded the number of elements in the array in the cam data variable that is specified for the CamTable input variable to the instruction.			0			page 3-638
57420000 hex (Ver. 1.08 or later)	Cam Table Displace- ment Over- flow	Distance in the generated cam table exceeded the range of REAL data.	Distance in the generated cam table exceeded the range of REAL data.			0			page 3-639

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
57430000 hex (Ver. 1.08 or later)	Aborted Cam Table Used	A cam data variable that was aborted during generation was specified for the <i>CamTable</i> input variable to an instruction.	A cam data variable that was aborted during generation due to an error in the MC_GenerateCamTable (Generate Cam Table) instruction was specified for the CamTable input variable to the instruction.			0			page 3-640
57490000 hex (Ver. 1.10 or later)	Execution ID Setting Out of Range	The parameter specified for the <i>ExecID</i> input variable to a motion control instruction is out of range.	The parameter specified for the ExecID input variable to the instruction is out of range for the input variable.			0			page 3-640
574A0000 hex (Ver. 1.10 or later)	Position Off- set Out of Range	The parameter specified for the OffsetPosition input variable to a motion control instruction is out of range.	The position offset exceeded the range of signed 40-bit data when it was converted to pulses.			0			page 3-641
574B0000 hex (Ver. 1.10 or later)	PDS State Transition Command Selection Out of Range	The parameter specified for the TransitionCmd input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			page 3-641
574C0000 hex (Ver. 1.13 or later)	Single-axis Position Control Axis Motion Control Instruction Execution Disabled	An operation instruction was executed for a single-axis position control axis.	An operation instruction was executed for a single-axis position control axis.			0			page 3-642
57510000 hex (Ver. 1.32 or later) [NX102] (Ver. 1.21 or later) [NX701-□□00, NX1P2, NJ501 (excluding NJ501-□□20), NJ301, NJ101-□□00]	Cam Monitor Mode Selec- tion Out of Range	The cam monitor mode selection specified for the CamMonitorMode input variable to a motion control instruction is out of range.	The cam monitor mode selection is out of the valid range.			0			page 3-642
57520000 hex (Ver. 1.32 or later) [NX102] (Ver. 1.21 or later) [NX701-□□00, NX1P2, NJ501 (excluding NJ501-□□20), NJ301, NJ101-□□00]	Data Type of Cam Monitor Values Mis- match	The data type of the cam monitor values specified for the CamMonitorValue inout variable to a motion control instruction does not match the cam monitor mode selection.	The data type of the variable specified for the cam monitor values does not match the cam monitor mode selection.			0			page 3-643

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
64400000 hex	Target Position Positive Software Limit Exceeded	The specified position exceeds the positive software limit.	 The parameter specified for the <i>Position</i> input variable to the instruction is beyond the positive software limit. The starting position is beyond the positive software limit and an instruction that specifies motion in the opposite direction of the software limit was executed. The parameter that was specified for the <i>AuxPoint</i> input variable to a border point MC_MoveCircular2D (Circular 2D Interpolation) instruction is beyond the positive software limit. 			0			page 3-644
64410000 hex	Target Position Negative Software Limit Exceeded	The specified position exceeds the negative software limit.	The parameter specified for the <i>Position</i> input variable to the instruction is beyond the negative software limit. The first position is beyond the negative software limit and an instruction that specifies motion in the opposite direction of the software limit was executed. The parameter that was specified for the <i>AuxPoint</i> input variable to a border point MC_MoveCircular2D (Circular 2D Interpolation) instruction is beyond the negative software limit.			0			page 3-645
64420000 hex	Command Position Overflow/ Underflow	Positioning, an instruction in the underflow/overflow direction, or an instruction for which the direction is not specified was executed when there was an underflow/overflow in the command position.	One of the following was executed when there was a command position overflow/underflow. A positioning instruction A continuous control instruction in the underflow/overflow direction An instruction for which the direction is not specified (syncing or torque control)			0			page 3-646

						ı	_eve	el		
Event code	Event name	Meaning		Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
64430000 hex	Positive Limit Input	An instruction was executed for a motion in the positive direction when the positive limit input was ON.	•	An instruction for a motion in the positive direction was executed when the positive limit input was ON, or an instruction for a motion with no direction specification was executed when the positive limit input was ON. An axes group motion control instruction was executed when the positive limit input was ON.			0			page 3-647
64440000 hex	Negative Limit Input	An instruction for a motion in the negative direction was executed when the negative limit input was ON.	•	An instruction for a motion in the negative direction was executed when the negative limit input was ON, or an instruction for a motion with no direction specification was executed when the negative limit input was ON. An axes group motion control instruction was executed when the negative limit input was ON.			0			page 3-648
74220000 hex	Servo Main Circuits OFF	An attempt was made to turn ON the Servo when the main circuit power supply to the Servo Drive was OFF.	•	An attempt was made to turn ON the Servo when the main circuit power supply to the Servo Drive was OFF.			0			page 3-648
57220000 hex (Ver. 1.06 or later)	Actual Position Over- flow/Under- flow	An instruction was executed that is not supported during an actual position over-flow/underflow.	•	An instruction was executed that is not supported during an actual position overflow or underflow.				0		page 3-649
57230000 hex (Ver. 1.06 or later)	Switch Structure Track Num- ber Setting Out of Range	The value of TrackNumber that is specified in the Switches in-out varia- ble to a motion con- trol instruction is out of range.	•	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.				0		page 3-649
57240000 hex (Ver. 1.06 or later)	Switch Structure First ON Po- sition Setting Out of Range	The value of FirstOnPosition that is specified in the Switches in-out variable to a motion control instruction is out of range.	•	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.				0		page 3-650

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
57250000 hex (Ver. 1.06 or later)	Switch Structure Last ON Po- sition Setting Out of Range	The value of LastOnPosition that is specified in the Switches in-out varia- ble to a motion con- trol instruction is out of range.	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.				0		page 3-650
57260000 hex (Ver. 1.06 or later)	Switch Structure Axis Direc- tion Out of Range	The value of AxisDirection that is specified in the Switches in-out varia- ble to a motion con- trol instruction is out of range.	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.				0		page 3-651
57270000 hex (Ver. 1.06 or later)	Switch Structure Cam Switch Mode Out of Range	The value of CamSwitchMode that is specified in the Switches in-out variable to a motion control instruction is out of range.	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.				0		page 3-651
57280000 hex (Ver. 1.06 or later)	Switch Structure Duration Setting Out of Range	The value of <i>Duration</i> that is specified in the <i>Switches</i> in-out variable to a motion control instruction is out of range.	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.				0		page 3-652
57290000 hex (Ver. 1.06 or later)	Track Option Structure ON Com- pensation Setting Out of Range	The value of OnCompensation that is specified in the TrackOptions in-out variable to a motion control instruction is out of range.	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.				0		page 3-652
572A0000 hex (Ver. 1.06 or later)	Track Option Structure OFF Com- pensation Setting Out of Range	The value of OffCompensation that is specified in the TrackOptions in-out variable to a motion control instruction is out of range.	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.				0		page 3-653
572B0000 hex (Ver. 1.06 or later)	Number of Array Ele- ments in Switch Structure Variable Out of Range	The number of elements in an array in the structure variable that is specified in the <i>Switches</i> in-out variable to a motion control instruction is out of range.	The number of elements in an array of the structure variable that was specified for the inout variable of the instruction is out of range.				0		page 3-653

						L	_eve	ı		
Event code	Event name	Meaning	Assumed cause		M a j	P rt	M i n	O b s	I n f o	Reference
572C0000 hex (Ver. 1.06 or later)	Number of Array Ele- ments in Output Sig- nal Structure Variable Out of Range	The number of elements in an array in the structure variable that is specified in the <i>Outputs</i> in-out variable to a motion control instruction is out of range.	arra tha out	e number of elements in an ay of the structure variable t was specified for the instruction is of range.				0		page 3-654
572D0000 hex (Ver. 1.06 or later)	Number of Array Ele- ments in Track Option Structure Variable Out of Range	The number of elements in an array in the structure variable that is specified in the <i>TrackOptions</i> in-out variable to a motion control instruction is out of range.	arra tha out	e number of elements in an ay of the structure variable t was specified for the instruction is of range.				0		page 3-654
572E0000 hex (Ver. 1.06 or later)	Numbers of Elements in Output Sig- nals and Track Option Arrays Not Matched	The arrays in the structure variables that are specified for the <i>Outputs</i> and <i>TrackOptions</i> in-out variables to a motion control instruction do not have the same number of elements.	stru tior spe ble hav	e arrays in the output signal acture variable and track op- n structure variable that are ecified for the in-out varias s to the instruction do not we the same number of ele- ents.				0		page 3-655
57310000 hex (Ver. 1.06 or later)	Same Track Number Set- ting in Switch Structure Out of Range	The same track number was specified more than the allowable number of times for the <i>TrackNumber</i> in the <i>Switches</i> in-out variable to a motion control instruction.	spe abl <i>Tra</i> in-c	e same track number was ecified more than the allower number of times for the ackNumber in the Switches out variable to a motion continstruction.				0		page 3-655

3-6-2 Error Descriptions

General Motion Control



Version Information

For an NX-series CPU Unit, a variable name that starts with _MC_AX[*] may start with _MC1_AX[*] or _MC2_AX[*] instead. Similarly, a variable name that starts with _MC_GRP[*] may start with _MC1_GRP[*] or _MC2_GRP[*] instead.

Event name	Motion Control Fu	unction Processing	Error	Event code	44210000 hex			
Meaning	A fatal error was	A fatal error was detected in the Motion Control Function Module.						
Source	PLC Function Mo	dule	Source details	MC Common	non Detection tim- Contin			
Error attributes	Level	Major fault	Recovery	Cycle the power supply.	Log category System			
Effects	User program	Stops.	Operation	It will not be poss Controller will sto	ill not be possible to perform axis control. The atroller will stop.			
System-de-	Vari	able	Data	type	Name			
fined variables	None							
0	Assume	ed cause	Corre	ection	Prevention			
Cause and cor- rection	An error occurred	in the software.	Contact your OM tive.	RON representa-	None			
	Attached informat	tion 1: System infor	mation					
Attached infor-	Attached informat	tion 2: System infor	mation					
mation	Attached informat	tion 3: System infor	ormation					
	Attached informat	tion 4: System infor	ystem information					
Precautions/	None							
Remarks								

Event name	Absolute Encode	r Home Offset Rea	d Error	Event code	14600000 hex			
Meaning	The absolute end	The absolute encoder current position that is retained during power interruptions was lost.						
Source	Motion Control Fu	unction Module	Source details	MC Common	Detection tim- ing	At power ON, at Controller reset, or when down- loading		
Error attributes	Level	Partial fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	It will not be poss	ible to perform axis	control.		
System-de-	Vari	iable	Data	type	Na	me		
fined variables	_MC_COM.PFau	ltLvl.Active	BOOL		MC Common Par rence	tial Fault Occur-		
	Assume	ed cause	Corre	ection	Prevention			
Cause and cor- rection	When the retained backed up with a indicates that the in the CPU Unit has a same of the contract of the contra	battery, this event life of the battery as expired.	Replace the Batte Unit, reset the err homing to define If this error persis CPU Unit, reset the error homing to define	ts, replace the	Unit. For the Battery lif series CPU Unit I	battery, periodi- battery in the CPU e, refer to the <i>NX</i> - Hardware User's W535) or the <i>NJ</i> - Hardware User's		
Attached infor- mation	None		1					
Precautions/ Remarks	None							

Event name	Motion Control Pa	arameter Setting Er	rror	Event code	14610000 hex			
Meaning	The MC parameter is assigned to the		d in non-volatile me	mory are missing.	Or, an unsupported	I EtherCAT slave		
Source	Motion Control Fu	unction Module	Source details	MC Common	Detection tim- ing	At power ON, at Controller reset, or when down- loading		
Error attributes	Level	Partial fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System		
Effects	User program	Continues.	Operation	It will not be poss	ible to perform axis	s control.		
System-de-	Vari	iable	Data	type	Na	ame		
fined variables	_MC_COM.PFau	ItLvI.Active	BOOL		MC Common Par rence	rtial Fault Occur-		
	Assume	ed cause	Corre	ection	Prev	ention		
		downloading the rameter settings	Download the MC the Sysmac Stud	C parameters from io.		the power supply essing for the pa-		
Cause and cor- rection	An unsupported E assigned to the a		Cancel axis assig supported EtherC mac Studio and c tings.	CAT slave on Sys-	None			
	Non-volatile mem	ory failure	above correction non-volatile mem ter you replace th download all setti	occurs even after the ection is performed, ememory has failed. Aflace the CPU Unit, all settings including the gs from the Sysmac Stu-				
Attached infor- mation	None							
Precautions/ Remarks	None							

Event name	Cam Data Read Error Event code 14620000 hex							
Meaning	The cam data tha	t was saved in non	-volatile memory is	missing.				
Source	Motion Control Fu	inction Module	Source details	MC Common	Detection tim- ing	At power ON, at Controller reset, or when down- loading		
Error attributes	Level	Partial fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System		
Effects	User program	Continues.	Operation	It will not be poss	ible to perform axis	control.		
System-de-	Vari	able	Data	type	Name			
fined variables	_MC_COM.PFaul	tLvl.Active	BOOL		MC Common Par rence	tial Fault Occur-		
	Assume	ed cause	Correction		Preve	ention		
	Power was interruprocessing for cal		Download the car Sysmac Studio.	m data from the	Do not turn OFF during save proceed	the power supply essing for the cam		
Cause and correction	Non-volatile mem	ory failure			None			
Attached infor- mation	None							
Precautions/ Remarks	None							

Event name	Required Process	s Data Object Not S	Set	Event code	34600000 hex	
Meaning	The object that is					
Source	Motion Control Fu	unction Module	Source details	MC Common	Detection timing	At power ON, at Controller reset, or when down- loading
Error attributes	Level	Partial fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Continues.	Operation	It will not be poss	ible to perform axis	s control.
System-de-	Vari	able	Data	type	Na	ame
fined variables	_MC_COM.PFau	ltLvl.Active	BOOL		MC Common Par rence	rtial Fault Occur-
	Assume	ed cause	Corre	ection	Prev	ention
Cause and correction	The required PDOs are not mapped when the axis type is set to a servo axis or encoder axis.		relevant Servo the appendices control user's r • When using the EtherCAT Cou NX Unit I/O Da to the I/O data Coupler Unit.	t axis type. escription of the Drive Settings in s of the motion manual. e NX-series pler Unit, set the ata Active Status of the EtherCAT	for the axis typ Refer to the de relevant Serve the appendice control user's When using th EtherCAT Cou NX Unit I/O Da to the I/O data Coupler Unit.	
	Non-volatile mem	ory failure	If the error occurs even after the above correction is performed, non-volatile memory has failed. After you replace the CPU Unit, download all settings including the Axis Parameter Settings from the Sysmac Studio.		None	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Axis Slave Disabl	ed		Event code	34630000 hex	
Meaning		h the axis is assign	ed is disabled.		1	
Source	Motion Control Fu		Source details	MC Common	Detection tim-	At power ON, at Controller reset, or when down- loading
Error attributes	Level	Partial fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Continues.	Operation	It will not be poss	ible to perform axis	control.
System-de- fined variables	Vari _MC_COM.PFau	able ltLvl.Active	BOOL	type	MC Common Par rence	tial Fault Occur-
Cause and correction	The slave to which signed is disabled		Enable the slave is assigned in the tings. If there is no slave type to a virtual a	EtherCAT set-	Enable the slave are assigned in the tings. If there are no slatype to a virtual an axis in the pro	ne EtherCAT set- aves, set the axis axis when using
Attached infor- mation	None					_
Precautions/ Remarks	None					
Event name	Network Configur	ation Information N	lissing for Axis	Event code	34640000 hex	
Meaning	The network conf	iguration informatio	n is not registered	for the slave to whi	ch the axis is assig	ned.
Source	Motion Control Fu	unction Module	Source details	MC Common	Detection tim- ing	At power ON, at Controller reset, when downloading, when starting Servo ON status, or when changing an unused axis to a used axis
Error attributes	Level	Partial fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Continues.	Operation	It will not be poss	ible to perform axis	control.
System-de- fined variables	Vari _MC_COM.PFau	able ltLvl.Active	BOOL Data	type	MC Common Parrence	tial Fault Occur-
Cause and cor- rection	The EtherCAT ne	not registered for	Register the Ethe configuration information slave to which the Or, set the axis ty	rmation for the axis is assigned.	-	
Attached infor- mation	None		axis.			
Precautions/ Remarks	None					

Event name	Motion Control In	itialization Error		Event code	44200000 hex				
Meaning	A fatal error occu	rred in the system	and prevented initia	alization of the Moti	on Control Function	n Module.			
Source	Motion Control Fu		Source details	MC Common	Detection tim-	At power ON, at Controller reset, or when down- loading			
Error attributes	Level	Partial fault	Recovery	Cycle the power supply.	Log category	System			
Effects	User program	Continues.	Operation		ble to perform axis control. It will no ecute motion control instructions.				
Occatana da	Vari	able	Data	type	Na	me			
System-de- fined variables	_MC_COM.PFau	ItLvI.Active	BOOL		MC Common Par	tial Fault Occur-			
Cause and cor-	Assume	ed cause	Corre	ection	Preve	ention			
rection	Hardware has fail	ed.	Replace the CPU	Unit.	Unit. None				
Attached infor-	Attached informat	tion 1: System info	rmation	nation					
Precautions/ Remarks	None								

Event name	Motion Control Pe	eriod Exceeded		Event code	74200000 hex			
Meaning	Processing for the	e primary periodic t	ask was not finishe	d within two contro	l periods.			
Source	Motion Control Fu	ınction Module	Source details MC Common		Detection tim- ing	Continuously		
Error attributes	Level	Partial fault	Recovery	ry Error reset Log category System				
Effects	User program	Continues.	Operation	peration Operation is not possible for all axes. Axes in stop immediately.				
Cuatam da	Vari	able	Data	type	Na	ame		
System-de- fined variables	_MC_COM.PFau	ItLvI.Active	BOOL		MC Common Partial Fault Occur- rence			
	Assume	ed cause	Corre	ection	Prev	ention		
Cause and correction	The processing load in the primary periodic task is too heavy.		Reduce the amount in the primary per the control period long enough not to tion problems. Check the task period Monitor of dio.	iodic task or set to a value that is o cause opera-	periodic task so to	es required in the Or, set the period riodic task to be omplete all re-		
Attached infor- mation	None							
Precautions/ Remarks	None							

Event name	Cam Table Save	Error		Event code	14630000 hex		
Meaning	Saving a cam tab	le to a file failed.					
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	During instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset or cycling power supply	Log category	System	
Effects	User program	Continues.	Operation		error may occur when you read a cam table be- the cam data in non-volatile memory may be oted.		
System-de-	Variable		Data type		Na	ıme	
fined variables	_MC_COM.MFau	_MC_COM.MFaultLvl.Active		BOOL		MC Common Minor Fault Occur- rence	
	Assume	ed cause	Corre	ection	Prevention		
Cause and cor-	Saving a cam tab	le to a file failed.	Save the file agai	n. If the problem	None		
rection			still occurs, non-v	olatile memory			
			has failed. Replac	ce the CPU Unit.			
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Cam Table Data B	Error during Cam M	lotion	Event code	54770000 hex		
Meaning	The phases are n	ot in ascending ord	ler in the cam table	÷.			
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		possible for relevant axis. Relevant to a stop if it is in motion.		
System-de-	Variable		Data	type	Na	me	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Occurrence	
	Assumed cause		Correction		Prevention		
	Data containing c	am table phases	Correct the cam t	Correct the cam table data so that		Place the phase data into ascend-	
		cending order was	the phases are in	the phases are in ascending order.		am table data.	
	detected during cam motion.						
Cause and cor-	The phase and displacement of the		Correct the cam table data so that		Set the cam table data so that the		
rection	start point in the cam table were		the phase and displacement of the		phase and displacement of the		
	not 0 during cam operation.		start point are 0.		start point are 0.		
	The phase of the	•	Correct the cam table data so that the phase of the end point is 1		Set the cam table data so that the phase of the end point is 1 pulse or		
	cam table when c	·		•	greater when it is		
	ing cam operation	J	pulse or greater when it is converted to pulses.		pulses.	converted to	
Attached infor-	None				F		
mation							
Precautions/	None						
Remarks							

Event name	Immediate Stop I	nstruction Executed	t	Event code	54850000 hex	
Meaning	An Immediate Sto	pp (MC_Immediates	Stop) instruction wa	as executed.		
Source	Motion Control Fu	unction Module	Source details	Source details		At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	An immediate stop is performed according to the Stop Mode that is set in the <i>StopMode</i> input variable to the MC_ImmediateStop instruction. If the axis is part of an axes group in motion, all other axes will act according to the Axes Group Stop Mode Selection .		
System-de-	Vari	able	Data type		Name	
fined variables	_MC_AX[*].MFau	ltLvI.Active	BOOL		Axis Minor Fault	Occurrence
Cause and cor-	Assume	ed cause	Correction		Prevention	
rection	An Immediate Sto executed.	An Immediate Stop instruction was executed.				
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Axes Group Imme	ediate Stop Instruct	tion Executed	Event code	54860000 hex	
Meaning	An Axes Group Ir	nmediate Stop (MC	C_GroupImmediate	Stop) instruction wa	as executed.	
Source	Motion Control Function Module		Source details	Axes group	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	An immediate stop is performed for all axes in the axes group according to the Immediate Stop Input Stop Method axis parameter.		
Cuatam da	Variable		Data type		Name	
System-de- fined variables	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur- rence	
0	Assume	ed cause	Correction		Prevention	
Cause and cor- rection	A Group Immediate Stop instruction was executed.					
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Positive Software	Limit Exceeded		Event code	64450000 hex		
Meaning	The position exce	eded the positive s	oftware limit while	the axis is in motio	n.		
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Follows the settin	ing of the Software Limit Function		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
	Assumed cause		Correction		Prevention		
	The position exce	eded the positive	Find the reason that the software		(The goal is to enable detecting the		
Cause and cor-	software limit.		limit was exceede	limit was exceeded and make suit-		software limits when they are ex-	
rection			able corrections.		ceeded due to unanticipated caus-		
					es. Preventative r required.)	measures are not	
Attached infor-	None						
mation							
Precautions/	Whenever you ch	ange the positive s	oftware limit setting	g, make sure that th	ne new setting is sa	afe.	
Remarks							

Event name	Negative Software	e Limit Exceeded		Event code	64460000 hex		
Meaning	The position exce	eded the negative	software limit while	the axis is in motion	on.		
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Follows the setting of the Software Limit Function Selection.		Limit Function	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
	Assumed cause		Correction		Prevention		
Cause and correction	The position exce tive software limit	•		Find the reason that the software limit was exceeded and make suitable corrections.		(The goal is to enable detecting the software limits when they are exceeded due to unanticipated causes. Preventative measures are not required.)	
Attached infor- mation	None						
Precautions/ Remarks	Whenever you ch	Whenever you change the negative software limit setting, make sure that the new setting is safe.					

Event name	In-position Check	Time Exceeded		Event code	64470000 hex	
Meaning	The in-position cl	neck was not comp	leted within the mo	nitoring time.	•	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation		possible for relevan to a stop if it is in m	
System-de-	Var	iable	Data	type	Na	ıme
fined variables	_MC_AX[*].MFat	ıltLvl.Active	BOOL		Axis Minor Fault	Occurrence
	Assumed cause		Correction		Preve	ention
Cause and correction	Time is required to complete positioning.		Determine the capositioning and reof the error. Or, and Drive or adjust the Check Time or Inforease the loop the Servo Drive. If sure that you keel low enough so the does not oscillate.	emove the cause djust the Servo e In-position -position Range. gain if you adjust However, make p the loop gain at the control	Remove the causing performance vibration in the potential tion as much as p	or oscillation/ ositioning opera-
Attached infor- mation	None		1		1	
Precautions/ Remarks	None					

Event name	Following Error Limit Exceeded			Event code	64480000 hex			
Meaning	The error betwee Value.	he error between the command current position and actual current value exceeded the Following Error Over /alue.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation		eration is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion.			
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ItLvl.Active	BOOL		Axis Minor Fault	Occurrence		
	Assumed cause		Cori	rection	Prev	ention		
Cause and correction	following perform	peration has poor ance and the ac- wer than the com-	ing performance in the positioning ing performance in		in the positioning			
Attached infor- mation	None							
Precautions/	None							

Event name	Immediate Stop Ir	nput		Event code	64490000 hex	
Meaning	The immediate st	op input turned ON	l.			
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery Error reset		Log category	System
Effects	User program	Continues.	Operation	According to the Method.	e Immediate Stop Input Stop	
System-de-	Vari	able	Data	type	Na	ame
fined variables	_MC_AX[*].MFaultLvl.Active BO		BOOL		Axis Minor Fault	Occurrence
	Assumed cause		Correction		Prevention	
Cause and correction	An immediate stop input signal was detected. The immediate stop input signal is		Turn OFF the immediate stop input signal. If the error occurs even when the immediate stop input signal is OFF, correct the immediate stop signal connection and logic setting for the immediate stop input. Check the logic settings both in the axis parameters and in the slave settings.		(The goal is to detect the immediate stop input. Preventative measures are not required.) Make sure that the immediate stop signal connection and logic setting for the immediate stop input are correct. Check the logic settings both in the axis parameters and in the slave settings.	
Attached infor- mation	None					
Precautions/ Remarks	You must turn OF	F the immediate st	op input signal befo	ore you reset the e	rror.	

				1		
Event name	Positive Limit Inpu	ut Detected		Event code	644A0000 hex	
Meaning	The positive limit	input turned ON.				
Source	Motion Control Fu	ınction Module	Source details	Axis	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	According to the I	Limit Input Stop M	lethod.
System-de-	Vari	able	Data	type	Na	ıme
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
	Assume	d cause	Corre	ection	Preve	ention
Cause and correction	A positive limit inp		Reset the error and move the axis back in the negative direction before it exceeds the limit in the positive direction. If the error occurred during an axes group motion instruction, disable the axes group and then perform the above operation. Find the reason the limit was exceeded and make suitable corrections.		The goal is to detect the positive limit input. Preventative measures are not required. However, be sure not to exceed the positive limit input when making programs.	
	The positive limit input signal is not connected correctly or the logic setting for the positive limit input is wrong.		If a positive limit input signal does not occur, correct the connection of the positive limit signal and the logic setting for the positive limit input. Check the logic settings both in the axis parameters and in the slave settings.		Make sure that the positive limit signal connection and logic setting for the positive limit input are correct. Check the logic settings both in the axis parameters and in the slave settings.	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Negative Limit Inp	out Detected		Event code	644B0000 hex	
Meaning	The negative limit	input turned ON.				
Source	Motion Control Fu	unction Module	Source details	Axis	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery Error reset		Log category	System
Effects	User program	Continues.	Operation	According to the I	Limit Input Stop N	lethod.
System-de-	Vari	able	Data	type	Na	me
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
	Assume	ed cause	Corre	ection	Preve	ention
Cause and correction	A negative limit in detected.	put signal was	Reset the error are back in the positive fore it exceeds the ative direction. If the during an axes great to instruction, disgroup and then perform operation. Find the reason the ceeded and make tions.	ve direction be- elimit in the neg- che error occurred oup motion con- cable the axes erform the above me limit was ex-	The goal is to detect the negative limit input. Preventative measures are not required. However, be sure not to exceed the negative limit input when making programs.	
	The negative limit input signal is not connected correctly or the logic setting for the negative limit input is wrong.		If a negative limit input signal does not occur, correct the connection of the negative limit signal and the logic setting for the negative limit input. Check the logic settings both in the axis parameters and in the slave settings.		for the negative limit input are correct. Check the logic settings both in the	
Attached infor- mation	None				1	
Precautions/ Remarks	None					

Event name	Illegal Following E	Error		Event code	64560000 hex		
Meaning		The difference between the command position and the actual current position exceeds the range of 30-bit data when converted to pulses.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	Continuously	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	The Servo for the	axis turns OFF.		
System-de-			Data	type	Na	ame	
fined variables			BOOL		Axis Minor Fault Occurrence		
	Assumed cause		Correction		Prev	ention	
	The command current position was		Correct the program or correct the		Write the progran	n or set the elec-	
	restricted so that the axis velocity		electronic gear ratio so that the ax-		tronic gear ratio s	so that the axis	
Cause and cor-	would not exceed the axis maxi-		is does not exceed the maximum		does not exceed the maximum ve-		
rection	mum velocity for the specified trav-		velocity.		locity.		
rection	el distance.						
	Performance of p	ositioning opera-	Remove the cause of poor follow-		Remove the cause of poor follow-		
	tion is poor and th	ne actual motion	ing performance in the positioning		ing performance in the positioning		
	is slower than the command.		operation.		operation as best you can.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Servo OFF Error			Event code	64570000 hex		
Meaning	The Servo was tu	The Servo was turned OFF for an axis due to an axes group error.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	Continuously	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	The Servo for the	axis turns OFF.		
System-de-	Variable		Data	type	ype Name		
fined variables	_MC_AX[*].MFau	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The Servo was turned OFF for an		Find the cause of the error and		None		
	axis due to an axes group error.		take suitable measures.				
Attached infor-	None						
mation							
	This error occurs	for axes for which	the Servos are turn	ed OFF for an axes	s group error to inte	erlock the axes so	
Precautions/	that the Servos ca	annot be turned ON	with the MC_Pow	er (Power Servo) ir	nstruction.		
Remarks	This error occurs	only when an imme	ediate stop of the c	ommand value and	turning OFF Serve	at same time	
	(free-run stop) is specified for the Axes Group Stop Method Selection.						

Event name	Absolute Encoder Current Position Calculation Failed			Event code	64580000 hex		
Meaning		It was not possible to correctly restore the current position from the absolute encoder information that was saved when power was interrupted.					
Source	Motion Control Function Module		Source details	Axis	Detection timing	At power ON, at Controller reset, when download- ing, when start- ing Servo ON status, or when changing an un- used axis to a used axis	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation is not p	ossible for relevan	t axis.	
System-de-	Vari	able	Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assume	ed cause	Correction		Prevention		
rection	The unit conversion settings, the ring counter setting in the Controller, or the ring counter setting in the Servo Drive settings was changed. The position to restore when converted to pulses exceeded the range of signed 40-bit data.		Reset the error aring. Perform hom tion where the abset up so that the store does not exsigned 40-bit data	ing near the posi- solute encoder is position to re- ceed the range of	changed any parameters position, such as the mod mum position setting value		
Attached infor-	None						
mation Precautions/	None						
Remarks	INOTIC						

Event name	Home Undefined during Coordinated Motion Event code 64590000 hex					
Meaning	Home of the logic	al axis became un	defined during axes	group motion or w	hile decelerating to	a stop.
Source	Motion Control Fu	Motion Control Function Module		Axes group	Detection tim- ing	During instruction execution
Error attributes	Level Minor fault		Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	The axes group d	ecelerates to a sto	p.
Custom de	Vari	able	Data	type	Na	ime
System-de- fined variables	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Mino rence	r Fault Occur-
	Assume	d cause	Corre	ection	Preve	ention
	The command position or actual position overflowed or underflowed for a logical axis in an axes group motion or a logical axis that was decelerating to a stop and the home definition was lost.		Correct the program so that the axis operates within ranges that do not cause overflows or underflows in the command position or actual position.		Write the program so that the axis operates within ranges that do not cause overflows or underflows in the command position or actual position.	
Cause and cor- rection	A slave communications error oc- curred for a logical axis and home became undefined during axes group motion or while decelerating to a stop.		Correct the slave communications error and define home.		None	
	A slave for a logical axis left the network or was disabled and home became undefined during axes group motion or while decelerating to a stop.		Connect the disconnected or disabled slave to the network again and define home.		Do not disconnect or disable the slave of a logical axis during axes group motion or while decelerating to a stop.	
Attached infor- mation	None		1		1	
Precautions/ Remarks	None					

Event name	Servo Main Circuit Power OFF			Event code	74210000 hex	
Meaning	The main circuit p	ower of the Servo	Drive turned OFF v	while the Servo was	s ON.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	Whenever Ser- vo is ON
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	The Servo for the	axis turns OFF.	
System-de-	Variable		Data	type	Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence	
	Assumed cause		Correction		Prevention	
Cause and cor- rection	The main circuit p vo Drive was inte Servo was ON.		•		Turn OFF the Servo, then turn OFF the main circuit power of the Servo Drive.	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Interrupt Feeding	Interrupt Signal Mi	ssing	Event code	74230000 hex		
Meaning	An interrupt input	was not received of	during execution of	an MC_MoveFeed	d (Interrupt Feeding) instruction.		
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruction execution	
Error attributes	Level	Minor fault	Recovery Error reset		Log category	System	
Effects	User program	Continues.	Operation	The axis decelera	ates to a stop.		
System-de-	Vari	able	Data	type	Na	ıme	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence	
	Assume	ed cause	Corre	ection	Preve	ention	
	The latch enabled range specification is invalid.		If an invalid latch enabled range is specified to the instruction, correct it.		Specify a correct latch enabled range based on the relationship between the motion and sensor position.		
Cause and cor-	There is a problem with the wiring of the interrupt signal.		Correct any problems with the wiring for the interrupt signal for the instruction.		Make sure that the wiring of the interrupt signal is correct.		
	The sensor that outputs the interrupt signal has failed.		If neither of the two causes listed above are applicable, the sensor that outputs the interrupt signal has failed. Replace the sensor that outputs the interrupt signal for the instruction where this error occurred.				
Attached infor-	None						
mation							
Precautions/ Remarks	None						

Event name	Homing Opposite	Direction Limit Inp	Event code	74240000 hex		
Meaning	The limit signal in the direction opposite to the homing direction was detected during a homing operation.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	The axis stops wi execution status.	th the stop method	for the homing
System-de-	Vari	able	Data	type	Na	ıme
fined variables	_MC_AX[*].MFau	ItLvl.Active	BOOL		Axis Minor Fault	Occurrence
	Assumed cause		Correction		Prevention	
Cause and cor-	The Operation Selection at Negative Limit Input or Operation Selection at Positive Limit Input parameter is set to No reverse turn.		To prevent errors at the limit inputs, set the Operation Selection at Negative Limit Input and Operation Selection at Positive Limit Input parameters to Reverse turn.		Check to see if any of the conditions that are given as causes exist in advance.	
rection	The location of the homing input signal sensors, homing settings, and homing start position cause a limit input to be reached. The input signal sensor wiring is in-		Correct the location of the input signal sensors, homing settings, and homing start position so that a limit input is not reached. Correct the wiring of the input sig-			
	correct or the sensor is faulty.		nal sensor or replace the sensor.			
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Homing Direction Limit Input Detected Event code 74250000 hex					
	_ <u> </u>	<u> </u>				
Meaning	The limit signal in	the homing direction	on was detected du	iring a homing ope	ration.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution
Error attributes	Level	Minor fault	Recovery Error reset		Log category	System
Effects	User program	Continues.	Operation	Operation The axis stops wit execution status.		for the homing
System-de-	Vari	able	Data	type	Na	ame
fined variables	_MC_AX[*].MFau	ltLvl.Active	BOOL		Axis Minor Fault	Occurrence
	Assumed cause		Correction		Prevention	
	The Operation Selection at Nega-		To prevent errors at the limit inputs,		Check to see if any of the condi-	
	tive Limit Input or Operation Selec-		set the Operation Selection at Neg-		tions that are given as causes exist	
	tion at Positive Limit Input parame-		ative Limit Input and Operation Se-		in advance.	
	ter is set to No re	verse turn.	lection at Positive	Limit Input pa-		
Cause and cor-			rameters to Reve	rse turn.		
rection	The location of th	e homing input	Correct the locati	on of the input		
	signal sensors, h	oming settings,	signal sensors, he	oming settings,		
	and homing start position cause a		and homing start position so that a			
	limit input to be reached.		limit input is not reached.			
	The input signal s	sensor wiring is in-	Correct the wiring of the input sig-			
	correct or the sen	sor is faulty.	nal sensor or replace the sensor.			
Attached infor-	None		•		•	
mation						
Precautions/	None					
Remarks						

Event name	Homing Limit Inputs Detected in Both Directions			Event code	74260000 hex	
Meaning	The limit signals in both directions were detected during a homing operation.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation The axis stops wit execution status.		ith the stop method	I for the homing
System-de-	Variable Da		Data	type	Na	ame
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
	Assumed cause		Correction		Prevention	
	The wiring of the limit signal is incorrect.		Correct the wiring of the limit signal.		Check to see if any of the conditions that are given as causes exist	
Cause and cor- rection	The limit sensor is installed in the wrong location.		Correct the installation locations of the limit sensors so that they do not turn ON at the same time.		in advance.	
	The contact logic of the limit signal is not correct.		Correct the contact logic (N.C./N.O.) of the limit signal.			
	The limit sensor f	ailed.	Replace the limit sensor.		1	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Home Proximity/Homing Opposite Direction Limit Input Detected			Event code	74270000 hex		
Meaning	· ·	The home proximity input and the limit signal in the direction opposite to the homing direction were detected at the same time during a homing operation.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation The axis stops wife execution status.		th the stop method	for the homing	
System-de-	Vari	able	Data	type	Na	ame	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
	Assumed cause		Correction		Prevention		
	The wiring of the home proximity		Correct the wiring of the home		Check to see if any of the condi-		
	signal or limit signal is incorrect.		proximity signal or limit signal.		tions that are given as causes exist		
	The home proxim	ity sensor or limit	Correct the install	lation location of	in advance.		
	sensor is installed	I in the wrong lo-	the home proximi	•			
Cause and cor-	cation.		sensor so that the	•			
rection			at the same time.				
	The contact logic		Correct the contact logic (N.C./				
	1,	r limit signal is not	N.O.) of the home proximity sensor				
		correct.		or limit sensor.			
The home proximity sensor failed.		ity sensor or limit	or limit sensor.	e proximity sensor			
Attached infor-	None		or mine donicor.				
mation	110110						
Precautions/	None						
Remarks							

Event name	Home Proximity/F	Homing Direction Li	mit Input Detect-	Event code	74280000 hex	
Meaning	The home proxim homing operation	• •	nit signal in the hon	ning direction were	detected at the sai	me time during a
Source	Motion Control Fu	unction Module	Source details	Axis	Detection tim- ing	During instruc- tion execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	The axis stops wire execution status.	th the stop method	for the homing
System-de-	Vari	able	Data	type	Na	ıme
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
	Assumed cause		Corre	Correction		ention
	The wiring of the home proximity		Correct the wiring	of the home	Check to see if a	ny of the condi-
	signal or limit signal is incorrect.		proximity signal o	proximity signal or limit signal.		en as causes exist
	The home proxim	-	Correct the installation location of the home proximity sensor or limit		in advance.	
	sensor is installed	d in the wrong lo-				
Cause and cor-	cation.		sensor so that the	,		
rection	The contact logic	of the home				
	The contact logic	r limit signal is not	Correct the contact logic (N.C./ N.O.) of the home proximity sensor			
	correct.	i iiiiii signai is not	or limit sensor.			
	The home proxim	itv sensor or limit	Replace the home	e proximity sensor		
	sensor failed.	•	or limit sensor.			
Attached infor- mation	None					
Precautions/	None					
Remarks						

Event name	Home Input/Homi Detected	ng Opposite Direct	ion Limit Input	Event code	74290000 hex		
Meaning		he home input and the limit signal in the direction opposite to the homing direction were detected at the same me during a homing operation.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	User program Continues. Operation The axis stops we execution status.		th the stop method	for the homing		
System-de-	Variable		Data	type	Na	ame	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
	Assumed cause		Correction		Prevention		
	The wiring of the home input signal		Correct the wiring	of the home in-	Check to see if a	ny of the condi-	
	or limit signal is incorrect.		put signal or limit	signal.	tions that are give	en as causes exist	
	The home input s	ensor or limit sen-	Correct the installation location of the home input sensor or limit sen-		in advance.		
	sor is installed in	the wrong loca-					
Cause and cor-	tion.		1	sor so that they do not turn ON at			
rection			the same time.				
		of the home input	Correct the contact logic (N.C./				
	signal or limit sigr	nal is not correct.	N.O.) of the home input signal or				
			limit sensor.		-		
	The home input s	0 1	Replace the home input signal out-				
	vice or limit senso	or failed.	put device or limit	t sensor.			
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Home Input/Hom	ing Direction Limit I	nput Detected	Event code	742A0000 hex	
Meaning	The home input a operation.	nd the limit signal i	n the homing direct	ion were detected	at the same time d	uring a homing
Source	Motion Control Fu	unction Module	Source details	Axis	Detection tim- ing	During instruc- tion execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program Continues.		Operation	The axis stops wi execution status.	th the stop method	for the homing
System-de-	Vari	able	Data	type	Na	ıme
fined variables	_MC_AX[*].MFau	ltLvl.Active	BOOL		Axis Minor Fault Occurrence	
	Assumed cause		Correction		Prevention	
	The wiring of the home input signal or limit signal is incorrect.		Correct the wiring of the home input signal or limit signal.		Check to see if any of the conditions that are given as causes exist	
Cause and cor-	The home input sensor or limit sensor is installed in the wrong location.		Correct the installation location of the home input sensor or limit sen- sor so that they do not turn ON at the same time		in advance.	
rection	The contact logic of the home input signal or limit signal is not correct.		Correct the contact logic (N.C./ N.O.) of the home input signal or limit sensor.			
	The home input signal output device or limit sensor failed.		Replace the home input signal output device or limit sensor.			
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Invalid Home Inpu	ut Mask Distance		Event code	742B0000 hex			
Meaning	The setting of the struction.	he setting of the home input mask distance is not suitable for the MC_Home or MC_HomeWithParameter intruction.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program Operation		The axis stops wi execution status.	The axis stops with the stop method for the homing execution status.				
System-de-	Variable		Data	Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence			
	Assumed cause		Corre	ection	Preve	ention		
Cause and cor- rection	is set to Proximity Reverse Turn/		tance, homing ve approach velocity tings so that they travel distance to on the operating s the MC_Home or	Check the home input mask distance, homing velocity, and homing approach velocity. Change the settings so that they provide sufficient travel distance to decelerate based on the operating specifications of the MC_Home or MC_HomeWith-Parameter instruction.		Check the operating specifications for the MC_Home or MC_Home-WithParameter instruction, then set the home input mask distance, homing velocity, and homing approach velocity so that they provide sufficient travel distance to decelerate.		
Attached infor- mation	None							
Precautions/ Remarks	None							

Event name	No Home Input			Event code	742C0000 hex	
Meaning	There was no ho	me signal input dur	ing the homing ope	ration. Or, a limit s	ignal was detected	before there was
Source	Motion Control F	unction Module	Source details	Axis	Detection tim- ing	During instruc- tion execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	The axis stops w execution status.	ith the stop method	for the homing
System-de-	Var	iable	Data	type	Na	ıme
fined variables	_MC_AX[*].MFau	ıltLvl.Active	BOOL		Axis Minor Fault	Occurrence
	Assumo	ed cause	Corre	ection	Prev	ention
Cause and correction	during the homing operation. • A limit signal was detected before there was a home input.		Check the home input settings and wiring and correct them so that the home signal is input during homing based on the operation specifications of the MC_Home or MC_HomeWithParameter instruction. Also, set the system so that the home signal is detected before the		Set the system so that the home signal is input during the homing operation. Make sure that the home signal is detected before a limit signal. Also check to make sure there are no wiring problems with the home input.	
Attached infor-	None		limit signals.		-L	
Precautions/ Remarks	None					
Event name	No Home Proxim	ity Input		Event code	742D0000 hex	
Meaning	There was no ho	me proximity signal	input during the ho	oming operation.		
Source	Motion Control F	unction Module	Source details	Axis	Detection tim- ing	During instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	The axis stops w execution status.	ith the stop method	for the homing
System-de-	Var	iable	Data	type	Na	ıme
fined variables	_MC_AX[*].MFau	ıltLvl.Active	BOOL		Axis Minor Fault	Occurrence
	Assumo	ed cause	Corre	ection	Prev	ention
Cause and correction	There was no home proximity signal input during the homing operation when a home proximity input signal was specified.		Check the home proximity input settings and wiring and correct them so that the home proximity signal is input during homing based on the operation specifications of the MC_Home or MC_HomeWithParameter instruc-		Set the system so that the home proximity signal is input during the homing operation. Also check to make sure there are no wiring problems with the home proximity input.	
Attached infor	None		tion.			
Attached infor-	None					

mation
Precautions/

Remarks

None

Event name	Slave Error Detec	ted		Event code	742F 0000 hex	
Meaning	An error was dete	cted for the EtherC	CAT slave or NX Ur	nit that is allocated t	o an axis.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	The Servo for the	axis turns OFF.	
System-de-	Variable		Data	type	Na	me
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
	Assumed cause		Correction		Prevention	
Cause and correction	Earlor 67 tr slave or 147 or incuracio		Check the error a check the slave e ed in Slave Error (94220000 hex) a required correction	error code report- Code Report and perform the	None	
Attached infor-	None					
mation						
Precautions/	None					
Remarks						

Event name	Axes Group Com	position Axis Error		Event code	74300000 hex	
Meaning	An error occurred	for an axis in an a	xes group.			
Source	Motion Control Function Module		Source details	Axes group	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	If an immediate stop is performed for one of the coposition axes, operation will follow the setting of the Axes Group Stop Method Selection. Otherwise, an interpolated path stop is performed.		ne setting of the on.
System do	Variable		Data type		Na	ime
System-de- fined variables	_MC_GRP[*].MFa	_MC_GRP[*].MFaultLvI.Active			Axes Group Mino	r Fault Occur-
	Assume	ed cause	Correction		Prevention	
Cause and cor- rection	axes group that was in motion. the axes gr		Check the error of the axes group are cause of the error		None	
Attached infor-	None					
mation						
				s that axis will not		

Event name	MC Common Erro	or Occurrence		Event code	74330000 hex	
Meaning	An MC common e	error occurred.				
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Operation is not p	ossible for relevan	t axis.
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
	Assume	ed cause	Correction		Prevention	
Cause and cor- rection	Partial fault level MC common error occurred.		Check the MC common error that occurred and remove the cause of the error.		None	
Attached information	None					
Precautions/ Remarks	When a partial fa	ult level MC commo	on error occurs, the	axis and axis grou	p do not operate.	

Event name	Latch Position Ov	rerflow		Event code	74340000 hex		
Meaning	An overflow occu	rred for the latched	position for the MC	C_TouchProbe (Ena	able External Latch) instruction.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	The axis decelerates to a stop. The Enable External Latch instruction cannot retri the latch position.		on cannot retrieve	
System-de-	Vari	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ltLvl.Active	BOOL		Axis Minor Fault Occurrence		
	Assume	Assumed cause		Correction		ention	
Cause and cor- rection	An overflow occurred for the latched position for the MC_TouchProbe (Enable External Latch) instruction.		Correct the program so that the axis position does not overflow.		Write the program position does not		
Attached infor-	None						
mation							
Precautions/ Remarks	None						

Event name	Latch Position Underflow			Event code	74350000 hex		
Meaning	An underflow occ	An underflow occurred for the latched position for the MC_TouchProbe (Enable External Latch) instruction.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	The axis decelera The Enable Exter the latch position.	es to a stop. al Latch instruction cannot retrieve		
System-de-	Vari	Variable		Data type		nme	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
	Assumed cause		Correction		Prevention		
Cause and cor- rection	latched position for the		Correct the progra is position does n	am so that the ax- ot underflow.	Write the progran position does not		
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Master Sync Dire	ction Error		Event code	74360000 hex		
Meaning	The master axis o	The master axis continued to move in the direction opposite to the sync direction.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	The axis decelera	ites to a stop.		
System-de-	Variable		Data	type	Na	ıme	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
	Assumed cause		Correction		Prevention		
Cause and cor- rection	in the direction opposite to the		movement direction tance of the mast	Correct the program so that the movement direction and travel distance of the master axis are in the sync direction after the start of synchronization.		Write the program so that the movement direction and travel distance of the master axis is the sync direction after the start of synchronization.	
Attached infor-	None						
mation							
Precautions/ Remarks	None						

Event name	Slave Disconnect	ion during Servo O	N	Event code	74370000 hex	
Meaning	axis.DisconnectionDisablement			for the EtherCAT sl	ave or NX Unit tha	t is allocated to ar
Source	Motion Control Fu	Inction Module	Source details	Axis	Detection tim- ing	Whenever Servo is ON
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	The Servo for the	axis turns OFF.	
System-de-	Vari	able	Data	type	Na	ıme
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
	Assumed cause		Corre	ection	Prev	ention
Cause and cor- rection	One of the following occurred while the Servo was ON for the Ether-CAT slave or NX Unit that is allocated to an axis. Disconnection or replacement Disablement Restart of the NX bus on the NX-series CPU Unit		Reconnect the EtherCAT slave or NX Unit that is allocated to the axis to the network.		Turn OFF the Servo before you perform any of the following for the EtherCAT slave or NX Unit. Disconnection or replacement Disablement Restart of the NX bus on the NX-series CPU Unit	
Attached infor- mation	None					
Precautions/ Remarks	None					
Event name	Feed Distance Ov			Event code	74380000 hex	
Meaning	The target position overflowed or und		input was received	d for the MC_Move	Feed (Interrupt Fee	eding) instruction
Source	Motion Control Fu	inction Module	Source details	Axis	Detection tim- ing	During instruc- tion execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	The axis decelera	ites to a stop.	
	Variable		Data type		Name	
System-de-	_MC_AX[*].MFaultLvl.Active		Data	typo	140	iiie

Meaning	l .	The target position after the interrupt input was received for the MC_MoveFeed (Interrupt Feeding) instruction overflowed or underflowed.							
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution			
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System			
Effects	User program	Continues.	Operation	The axis decelera	ites to a stop.				
System-de-	Vari	able	Data	type	Na	ıme			
fined variables	_MC_AX[*].MFau	ltLvl.Active	BOOL		Axis Minor Fault	Occurrence			
	Assumed cause		Correction		Prevention				
Cause and cor- rection	The target position after the interrupt input was received for the MC_MoveFeed (Interrupt Feeding) instruction exceeded the range of signed 40-bit data when converted to pulses.		mand position in t	the interrupt input not exceed the e number of puls-	put value for the o	0-bit data for the when the target			
Attached infor-	None								
mation									
Precautions/	None								
Remarks									

Event name	Error in Changing	Servo Drive Contr	ol Mode	Event code	74390000 hex		
Meaning			completed within the		7400000 flex		
Source	Motion Control Fu		Source details	Axis	Detection tim- ing	During instruc- tion execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program Continues.		Operation	The Servo for the	axis turns OFF.		
System-de-	Variable _MC_AX[*].MFaultLvI.Active		Data	type	Na	ıme	
fined variables			BOOL		Axis Minor Fault	Occurrence	
	Assume	d cause	Corre	ection	Preve	ention	
Cause and correction	When the MC_SyncMoveVelocity instruction was stopped, the actual current velocity was not reduced to 10% or less of the maximum velocity within 10 seconds for three consecutive periods after a command velocity of 0 was output. For an OMRON 1S-series Servo Drive or G5-series Servo Drive, the actual current velocity was not re-		that an error does	Adjust the commands and load so that an error does not occur.		Adjust the commands and load so that an error does not occur.	
	Changing the Control Mode of the Servo Drive between CSP, CSV, and CST was not completed within one second after the command was executed.		Check to see if the the Servo Drive a tings are correct. Iems that are four When changing the perform control the PDO map to rions for CSP.	nd to see if set- Correct any prob- nd. ne control mode I operations, set	in the Servo Drives and make so that the settings are correct. When changing the control more to perform control operations, so the PDO map to reference positions.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Master Axis Posit	ion Read Error		Event code	743A0000 hex		
Meaning		I control instruction onized control instr	was not executed ruction.	because an error o	occurred in the posi	tion of the master	
Source	Motion Control Fu	unction Module	Source details	Axis	Detection tim-	At or during instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		oossible for relevan ecelerates to a stop		
System-de-	Vari	able	Data	type	Na	ıme	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence	
	Assume	ed cause	Corre	ection	Preve	ention	
Cause and correction	EtherCAT process data communications are not established for the master axis of the synchronized control instruction or the I/O data of the NX Unit cannot be used for control.		Data Communica system-defined va EtherCAT master is is FALSE, inves the master axis an cause. If the master axis NX Unit, perform tion for the proces cating status of th	If the _EC_PDSlavTbl (Process Data Communicating Slave Table) system-defined variable for the EtherCAT master of the master axis is FALSE, investigate the error in the master axis and remove the cause. If the master axis is assigned to an NX Unit, perform the same correction for the process data communicating status of the NX Unit.		If you execute synchronized control instructions after you turn ON the power supply, download data, or reset slave communications error, make sure that the _EC_PDSlavTbl (Process Data Communicating Slave Table) system-defined variable for the Ether-CAT master is TRUE for the node of the master axis before you execute the synchronized control instruction. If the master axis is assigned to an NX Unit, perform the same correction for the process data communi-	
	The slave of the master axis for the synchronized control instruction was disconnected or disabled.		Check the slave of the master axis and reconnect it if it was disconnected or enable it if it was disabled.		Make sure that the slave of the master axis is not disconnected or disabled during execution of the synchronized control instruction.		
	An Absolute Encoder Current Position Calculation Failed error (64580000 hex) was detected for the master axis of the synchronized control instruction. The master axis for the synchron-		rent Position Calc ror (64580000 he the master axis an corrections to res	See if an Absolute Encoder Current Position Calculation Failed error (64580000 hex) occurred for the master axis and make suitable corrections to restore operation. Set the master axis to a Used Axis.		Do not use an axis with an Absolute Encoder Current Position Calculation Failed error (64580000 hex) as the master axis in the synchronized control instruction. Do not change the master axis to	
Attachadiusa	ized control instruused axis.	iction is an un-			an unused axis w synchronized cor	_	
Attached infor- mation	None						
Precautions/ Remarks	None						

_	·			i	I ==	
Event name	Auxiliary Axis Pos			Event code	743B0000 hex	
Meaning	· -	I control instruction nchronized control	was not executed instruction.	because an error c	occurred in the posi	tion of the auxili-
Source	Motion Control Fu	tion Control Function Module Source d		Axis	Detection tim- ing	At or during instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Cineration		oossible for relevan	
System-de-	Vari	able	Data	type	Na	ıme
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
	Assume	ed cause	Corre	ection	Preve	ention
Cause and correction	EtherCAT process data communications are not established for the auxiliary axis of the synchronized control instruction or the I/O data of the NX Unit cannot be used for control. If the _EC_PDSlavTbl (Production of the _EC_PDSlavT		ting Slave Table) ariable for the of the auxiliary vestigate the error is and remove s is assigned to rm the same cor- cess data com- of the NX Unit.	power supply, download data, or reset slave communications error, make sure that the _EC_PDSlavTbl (Process Data Communicating Slave Table) system-defined variable for the Ether-CAT master is TRUE for the node of the auxiliary axis before you ex-		
	The slave of the auxiliary axis for the synchronized control instruction was disconnected or disabled.		Check the slave of the auxiliary axis and reconnect if it was disconnected or enable it if it was disabled.		Make sure that the slave of the auxiliary axis is not disconnected or disabled during execution of the synchronized control instruction.	
	An Absolute Encoder Current Position Calculation Failed error (64580000 hex) was detected for the auxiliary axis of the synchronized control instruction.		See if an Absolute Encoder Current Position Calculation Failed error (64580000 hex) occurred for the auxiliary axis and make suitable corrections to restore operation.		Do not use an axis with a Absolute Encoder Current Position Calculation Failed error (64580000 hex) as the auxiliary axis in a synchronized control instruction.	
	The auxiliary axis ized control instruused axis.	•	Set the auxiliary a is.	ixis to a Used Ax-	Do not change the auxiliary axis to an unused axis when executing synchronized control instructions.	
Attached infor-	None					
mation						
Precautions/ Remarks	None					

Event name	EtherCAT Slave (Communications Er	ror	Event code	84400000 hex	
Meaning	A communication	s error occurred for	r the EtherCAT slav	e or NX Unit that is	allocated to an ax	is.
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	Continuously
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	The Servo for the	axis turns OFF.	
System-de-	Vari	able	Data	type	Na	ıme
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
	Assume	Assumed cause Correction		ection	Prevention	
Cause and cor- rection	A communications error occurred for the EtherCAT slave or NX Unit that is allocated to an axis.		Check the event log for the error that occurred in the EtherCAT Master Function Module or NX Bus Function Module. Remove the cause of the error and clear the relevant error.		None	
Attached infor- mation	None					
Precautions/ Remarks	connected with th	e slave or NX Unit	n the EtherCAT Mas allocated to an axis nction Module or N	s is not reset. This	error can be reset v	without resetting

Event name	Too Many Reset I	Motion Control Erro	or Instructions	Event code	571D0000 hex*1	
Meaning	There are more th	nan 100 instances o	of the ResetMCError (Reset Motion Control Error) instruction.			
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At power ON, Controller reset, download, or online editing
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Vari	able	Data	type	Na	me
fined variables	_MC_COM.Obsr.	Active	BOOL		MC Common Observation Active	
	Assumed cause		Correction		Preve	ention
	There are more th	nan 100 instances	Correct the user p	orogram so that	Write the user program so that	
	of the ResetMCE	rror (Reset Motion	there are not more than 100 in-		there are not more than 100 instan-	
	Control Error) ins	truction declared	stances of the Re	setMCError (Re-	ces of the ResetN	ICError (Reset
Cause and cor-	in the user progra		set Motion Contro	ol Error) instruc-	Motion Control Er	ror) instruction.
rection	side function bloc	ks are included.	tion. Use the sam	,		
			use the MC_Rese	•		
			ror) instruction or			
			Reset (Group Res	•		
			depending on the	error.		
Attached infor-	None					
mation						
Precautions/	None					
Remarks						

^{*1.} This event occurs for a CPU Unit with unit version between 1.02 and 1.09.

Event name	Following Error Warning			Event code	644C0000 hex		
Meaning	The following erro	or exceeded the Fo	llowing Error Warni	ing Value.			
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	During instruc- tion execution	
Error attributes	Level	Observation	Recovery	Recovery		System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data	Data type		Name	
fined variables	_MC_AX[*].Obsr	Active	BOOL		Axis Observation Occurrence		
	Assumed cause		Corre	ection	Prev	ention	
Cause and cor- rection	Performance of positioning operation is poor and the actual motion is slower than the command.		ing performance in operation. Or increase the F Warning Value w	Remove the cause of poor following performance in the positioning operation. Or increase the Following Error Warning Value within the range that will not create problems.		se of poor follow- in the positioning as possible.	
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Velocity Warning			Event code	644D0000 hex				
Meaning	The command ve	The command velocity exceeded the velocity warning value.							
Source	Motion Control Function Module		Source details	Axis/axes group	Detection tim- ing	During instruc- tion execution			
Error attributes	Level	Observation	Recovery		Log category	System			
Effects	User program	Continues.	Operation	Not affected.		•			
	Vari	able	Data	type	Na	ame			
System-de-			BOOL		Axis Observation	Occurrence			
fined variables			BOOL		Axes Group Observation Occur-				
						rence			
	Assumed cause		Corre	Correction		ention			
	The command velocity exceeded		Find the reason the velocity warn-		(The goal is to enable detecting				
Cause and cor-	the velocity warni	ng value.	ing value was exc	ing value was exceeded and make		when the velocity warning value is			
rection			suitable correction	suitable corrections.		exceeded. Preventative measures			
				Or increase the Velocity Warning		are not required.)			
			Value within the range that will not						
			create problems.						
			None						
Attached infor-	None								
Attached infor- mation	None								
mation		he event level to th	ne minor fault level.	If you change the I	evel to the minor fa	ault level, the			
7100001100	You can change t		ne minor fault level.	-					

Event name	Acceleration Warning			Event code	644E0000 hex	
Meaning	The command ac	celeration exceede	d the acceleration	warning value.		
Source	Motion Control Function Module		Source details	Axis/axes group	Detection tim- ing	During instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
	Vari	able	Data	type	Na	ıme
System-de-	_MC_AX[*].Obsr.Active		BOOL		Axis Observation	Occurrence
fined variables	_MC_GRP[*].Obsr.Active		BOOL		Axes Group Observation Occur- rence	
	Assumed cause		Correction		Prevention	
Cause and cor- rection	The command acceleration rate exceeded the acceleration warning value.		warning value wa make suitable co Or increase the A Warning Value w	Find the reason the acceleration warning value was exceeded and make suitable corrections. Or increase the Acceleration Warning Value within the range that will not create problems.		nable detecting ation warning val- Preventative t required.)
Attached infor-	None					
mation						
Precautions/ Remarks	I -	above will be char		If you change the large and the Operation		

Event name	Deceleration War	ning		Event code	644F0000 hex	
Meaning	The command de	celeration exceede	d the deceleration	warning value.		
Source	Motion Control Function Module		Source details	Axis/axes group	Detection tim- ing	During instruc- tion execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
	Vari	able	Data	type	Na	me
System-de-			BOOL		Axis Observation	Occurrence
fined variables			BOOL		Axes Group Observation Occur- rence	
	Assumed cause		Corre	Correction		ention
Cause and cor- rection	The command de exceeded the dec value.	celeration rate celeration warning	warning value warning value warning value cor Or increase the D Warning Value w	Find the reason the deceleration warning value was exceeded and make suitable corrections. Or increase the Deceleration Warning Value within the range that will not create problems.		able detecting ation warning val- Preventative t required.)
Attached infor-	None		•		•	
mation						
Precautions/ Remarks	ı	above will be char	e minor fault level. nged to "Error reset"	, ,		•

Frank name	Diti T M			Frant sada	C4500000 h		
Event name	Positive Torque Warning			Event code	64500000 hex		
Meaning	The torque comm	and value exceede	ed the positive torqu	ue warning value.			
Source	Motion Control Fu	unction Module	Source details	Axis	Detection tim-	During instruc-	
Source			Source details		ing	tion execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data	type	Na	ıme	
fined variables	_MC_AX[*].Obsr	Active	BOOL		Axis Observation Occurrence		
	Assume	ed cause	Corre	Correction		Prevention	
	The torque command value ex-		Find the reason the	Find the reason the torque warning		able detecting	
Cause and cor-	ceeded the positive torque warning		value was exceeded and make		when the torque warning value is		
rection	value.		suitable corrections.		exceeded. Preventative measures		
rection			Or increase the Positive Torque		are not required.)		
			Warning Value within the range				
			that will not create problems.				
Attached infor-	None						
mation							
Daniel Carret	You can change t	he event level to th	e minor fault level.	If you change the I	evel to the minor fa	ault level, the	
Precautions/	Recovery column	above will be char	nged to "Error reset	" and the Operatior	n column will be "Th	ne axis/axes	
Remarks	group decelerates	s to a stop."	-	•			

Event name	Negative Torque Warning			Event code	64510000 hex		
Meaning	The torque comm	and value exceede	ed the negative torc	ue warning value.			
Source	Motion Control Function Module Sou		Source details	Axis	Detection tim- ing	During instruc- tion execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation Not affected.				
System-de-	Variable		Data	type	Na	ame	
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence		
	Assumed cause		Corre	Correction		Prevention	
Cause and cor- rection	The torque comm ceeded the negating value.		Find the reason the value was exceed suitable correction or increase the N Warning Value with that will not create	ns. l egative Torque vithin the range	(The goal is to er when the torque exceeded. Preve are not required.)	warning value is ntative measures	
Attached infor- mation	None						
Precautions/ Remarks		above will be char	ne minor fault level. nged to "Error reset	, ,		-	

Event name	Command Position	on Overflow		Event code	code 64520000 hex		
Meaning	The number of pu	llses for the comma	and position overflo	wed.			
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	Continuously	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	The position is no	t updated, but mot	ion continues.	
System-de-	Vari	able	Data	type	Na	ıme	
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation	Occurrence	
	Assumed cause		Correction		Prevention		
Cause and cor- rection	In Linear Mode, the command position when converted to pulses exceeded the upper limit of signed 40-bit data.		Correct the program so that the input value for the command position does not exceed the range for the number of pulses for the instruction. Or, change the electronic gear ratio settings. To recover from the overflow, change the current position or perform the homing operation.		Check the gear rathe target position and make sure the number of pulses the range of signs	n setting value, nat the converted does not exceed	
Attached infor- mation	None						
Precautions/ Remarks		above will be char	e minor fault level. nged to "Error reset				

Event name	Command Position	on Underflow		Event code	64530000 hex	
Meaning	The number of pu	ulses for the comma	and position exceed	ded the valid range.	. (It underflowed.)	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	Continuously
Error attributes	Level Observation		Recovery		Log category	System
Effects	User program	Continues.	Operation	The position is no	t updated, but mot	ion continues.
System-de-	Vari	iable	Data	type	Na	me
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation	Occurrence
	Assumed cause		Correction		Prevention	
Cause and cor- rection	In Linear Mode, the sition when convected the lower 40-bit data.	erted to pulses ex-	put value for the of does not exceed to limit for the instruc- the electronic gea To recover from the change the current	Correct the program so that the in- put value for the command position does not exceed the pulse number limit for the instruction. Or, change the electronic gear ratio settings. To recover from the underflow, change the current position or per- form the homing operation.		atio setting and in setting value, at the converted does not exceed ed 40-bit data.
Attached infor-	None					
mation						
Precautions/ Remarks		above will be char	e minor fault level. nged to "Error reset	, ,		•

Event name	Actual Position Overflow			Event code	64540000 hex	
Meaning	The number of pu	ulses for the actual	position overflowed			
Source	Motion Control Fu	unction Module	Source details	Axis	Detection tim- ing	Continuously
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The position is no	t updated, but mot	ion continues.
System-de-	Var	able	Data	type	Na	ime
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation	Occurrence
	Assumed cause		Correction		Prevention	
Cause and cor- rection	The actual position when converted to pulses exceeded the upper limit of signed 40-bit data.		Correct the program so that the target position is well within the pulse number limit so that the actual position does not exceed the pulse number limit for the instruction. Or, change the electronic gear ratio settings. To recover from the overflow, change the current position or perform the homing operation.		Check the gear rathe target position and make sure the number of pulses the range of signal low some leeway	n setting value, at the converted does not exceed ed 40-bit data. Al-
Attached infor-	None					
mation						
Precautions/ Remarks	I -	he event level to the above will be chares to a stop."				

Event name	Actual Position U	nderflow		Event code	64550000 hex	
Meaning	The number of pu	ulses for the actual	position underflowe	ed.		
Source	Motion Control Function Module		Source details	Axis	Detection tim-	Continuously
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	The position is no	ot updated, but mot	tion continues.
System-de-	Var	able	Data	type	Na	ame
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence	
	Assumed cause		Correction		Prevention	
Cause and cor- rection	The actual position ed to pulses excellimit of signed 40-	eded the lower	get position is we number limit so the sition does not extended in the sition does not extended in the settings that the settings. To recover from the settings	To recover from the underflow, change the current position or per-		atio setting and n setting value, nat the converted s does not exceed ed 40-bit data. Al-
Attached infor- mation	None					
Precautions/ Remarks		above will be char	ne minor fault level. nged to "Error reset	, ,		•

Event name	Slave Observation	n Detected		Event code	74320000 hex		
Meaning	A warning was de	etected for an Ether	CAT slave or NX U	Init.			
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	Continuously	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Vari	Variable		Data type		Name	
fined variables	_MC_AX[*].Obsr.Active		BOOL		Axis Observation Occurrence		
	Assume	ed cause	Corre	ection	Prevention		
Cause and cor- rection	A warning was de EtherCAT slave o allocated to an ax	r NX Unit that is	Check the warnin EtherCAT slave a cause of the warn	nd remove the	None		
Attached information	Attached information 1: Drive warning code						
Precautions/ Remarks		above will be char		, ,	evel to the minor fan column will be "Th	·	

Event name	Cannot Execute S	Save Cam Table Ins	struction	Event code	ent code 743C0000 hex		
Meaning	You cannot save	a cam table to a file	e when non-volatile	memory is being a	accessed by anothe	er operation.	
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Vari	able	Data	type	Na	me	
fined variables	_MC_COM.Obsr.Active		BOOL		MC Common Observation Active		
	Assumed cause		Correction		Preve	ention	
Cause and cor- rection	An attempt was n the MC_SaveCar when another ope cessing the non-v (e.g., transfer or of tion from the Syst	nTable instruction eration was ac- rolatile memory data trace opera-	Execute the MC_instruction again.		None		
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Notice of Insuffici	ent Travel Distance Velocity	e to Achieve	Event code	94200000 hex		
Meaning	_		e to accelerate or de	ecelerate to the tra	nsit velocity during	blending opera-	
Source	Motion Control Function Module		Source details	Axis/axes group	Detection tim- ing	At multi-execu- tion of instruc- tions	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
	Vari	able	Data	type	Na	ime	
System-de-	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation	Occurrence	
fined variables	_MC_GRP[*].Obsr.Active		BOOL		Axes Group Observation Occur- rence		
	Assumed cause		Corre	ection	Preve	ention	
Cause and correction	set to Use rapid a deceleration (Bleat to Buffered), the r creation caused t deceleration rate when blending wa buffered was use	er parameter was acceleration/ ading is changed results of profile the acceleration/ to be exceeded as specified, so d.	Deceleration Over value other than I ation/deceleration changed to Buffer want to change to tion.	Set the Acceleration/ Deceleration Over parameter to a value other than Use rapid acceleration/deceleration (Blending is changed to Buffered) if you do not want to change to Buffered operation.		Set the Acceleration/ Deceleration Over parameter to a value other than Use rapid acceleration/deceleration (Blending is changed to Buffered) if you do not want to change to Buffered operation.	
	Blending was specified, but the target position was already reached, so it was changed to Buffered because the profile could not be created.		If unanticipated operation occurs from the switch to Buffered operation, correct the program so that the causes given at the left do not occur.		If unanticipated operation occurs from the switch to Buffered operation, write the program so that the causes given at the left do not occur.		
Attached infor- mation	None				•		
Precautions/ Remarks	_	above will be char	e minor fault level. nged to "Error reset				

Event name	Error Clear from I	MC Test Run Tab P	age	Event code	94210000 hex	
Meaning	An error was clea	An error was cleared from the MC Test Run Pane of the Sysmac Studio.				
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	When MC Test Run error is re- set
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Vari	able	Data type		Name	
fined variables	None					
	Assume	ed cause	Correction		Prevention	
Cause and cor-	An error was clea	red from the MC				
rection	Test Run Pane of dio.	the Sysmac Stu-				
Attached infor-	Attached informat	tion 1: Execution re	sults (0000_0000 h	nex: All errors reset	, 0000_0001 hex: I	Resetting all er-
mation	rors failed)					
Precautions/	None	None				
Remarks						

Event name	Slave Error Code	Report		Event code	94220000 hex	
Meaning	The error code wa	as reported by the	slave when a Slave	Error Detected err	or occurred.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	After Slave Er- ror Detected er- ror (742F0000 hex)
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Vari	able	Data	Data type		ıme
fined variables	None					
	Assume	ed cause	Corre	ection	Prevention	
	The error code wa	as reported by the	This error accompanies a Slave Er-		None	
Cause and cor-	slave when a Slav	ve Error Detected	ror Detected error (742F0000 hex).			
rection	error (742F0000 l	nex) occurred.	Check the slave e			
			attached informat			
			required correctio	ns.		
Attached infor- mation	Attached informat	tion 1: Slave error o	code			
	For an OMRON 1	S-series Servo Dri	ve or G5-series Se	rvo Drive, the error	code (the main pa	rt of the error dis-
Precautions/	play number) fron	n the Servo Drive is	s included in the lov	ver two digits of the	attached informat	ion.
Remarks	For example, if th	e attached informa	tion is displayed as	FF13, the error wi	th display number	13 (Main Circuit
	Power Supply Un	dervoltage) occurre	ed in the Servo Driv	e.		

Motion Control Instructions

This section provides a table of errors (events) that occur for motion control instructions. The upper four digits of the event code give the error code (ErrorID) for the motion control instruction. For descriptions of an error code, refer to the description of the corresponding event code. For example, if the error code for the motion control instruction is 16#3461, refer to the description for event code 34610000 hex.



Precautions for Correct Use

With CPU Unit with unit version 1.10 or later, a variable name that starts with _MC_AX[*] may start with _MC1_AX[*] or _MC2_AX[*] instead. In the same way, a variable name that starts with _MC_GRP[*] may start with _MC1_GRP[*] or _MC2_GRP[*] instead.

Event name	Process Data Obj	ect Setting Missing	J	Event code	34610000 hex	
Meaning	The PDO mappin	g is not correct.				
Source	Motion Control Fu	ınction Module	Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Operation is not p	ossible for relevan	t axis.
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The PDOs that are required for the motion control instruction are not mapped. The relevant instruction was executed for a device that does not		Map the PDOs that are required for the instruction. Refer to the <i>Function section</i> of the relevant instruction for the required PDOs. Some devices do not support the relevant instruction.		the instructions that are used. Refer to the NJ/NX-series CPU Unit Motion Control User's Manual (Cat. No. W507) for the PDOs (Servo Drive settings) that you must map for each instruction.	
	struction.	have an object that supports the instruction.		device, check to see if the relevant instruction is supported, and correct the program so that unsupported instructions are not executed.		
	A motion control instruction that specifies phase Z (_mcEncoder-Mark) as the trigger conditions was executed for an axis that is mapped to an OMRON GXEC02□□ EtherCAT Encoder slave.		Use an external input (_mcEXT) as the trigger conditions for an axis that is mapped to an OMRON GX-EC02 = EtherCAT Encoder slave.		Use an external input (_mcEXT) as the trigger conditions for an axis that is mapped to an OMRON GX-EC02□□ EtherCAT Encoder slave.	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Electronic Gear R Range	atio Numerator Se	tting Out of	Event code	54200000 hex		
Meaning	The parameter specified for the RatioNumerator input variable to a motion control instruction is out of ran						
Source	Motion Control Fu	inction Module	Source details	Axis	Detection tim-	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation			ossible for the slave axis. is decelerates to a stop if it is in m	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection		Instruction input parameter exceeded the valid range of the input		Correct the parameter so that the valid range of the input variable is not exceeded for the instruction.		ameter to the in he valid range is not exceede	
Attached infor- mation	None						
Precautions/ Remarks	None						
Event name	Electronic Gear R	atio Denominator S	Setting Out of	Event code	54210000 hex		
Meaning		ecified for the <i>Rati</i>	ioDenominator inpu	l ut variable to a moti	on control instruction	on is out of rand	
Source	Motion Control Fu		Source details	Axis	Detection tim-	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		possible for relevan	t slave axis.	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the in struction so that the valid range of the input variable is not exceede		
Attached infor- mation	None		1		1		
Precautions/	None						

Remarks

Event name	Target Velocity Se	etting Out of Range	:	Event code	54220000 hex	
Meaning	The parameter sp	ecified for the Velo	ocity input variable t	o a motion control	instruction is out of	range.
Source	Motion Control Function Module		Source details	Axis/axes group	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	If "axis" is given for the source details, operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion. If "axes group" is given for the source details, operation is not possible for relevant axes group. Relevant axes group decelerates to a stop if it is in motion.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvl.Active	BOOL	BOOL		Occurrence
	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Minor Fault Occur-	
					rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input p	arameter ex-	Correct the paran	neter so that the	Set the input para	meter to the in-
	ceeded the valid i	range of the input	valid range of the	input variable is	struction so that t	he valid range of
	variable.		not exceeded for	the relevant in-	the input variable is not exceeded.	
			struction.			
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Acceleration Setti	ng Out of Range		Event code	54230000 hex		
Meaning			<i>eleration</i> input varia	able to a motion cor	ntrol instruction is o	ut of range.	
Source	Motion Control Fu	inction Module	Source details	Source details Axis/axes group		At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	operation is not p axis decelerates t If "axes group" is operation is not p	"axis" is given for the source details, peration is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion. "axes group" is given for the source details, peration is not possible for relevant axes group. Relevant axes group decelerates to a stop if it is in moton.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Deceleration Sett	ing Out of Range		Event code	54240000 hex	
Meaning	The parameter sp	ecified for the <i>Dec</i>	<i>eleration</i> input varia	able to a motion cor	ntrol instruction is o	ut of range.
Source	Motion Control Function Module		Source details	Axis/axes group	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	If "axis" is given for the source details, operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion. If "axes group" is given for the source details, operation is not possible for relevant axes group. Relevant axes group decelerates to a stop if it is in motion.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence	
	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Jerk Setting Out of	of Range		Event code	54250000 hex		
Meaning	The parameter sp	ecified for the <i>Jerk</i>	input variable to a	motion control inst	ruction is out of ran	ge.	
Source	Motion Control Function Module		Source details	Axis/axes group	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	If "axis" is given for the source details, operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion. If "axes group" is given for the source details, operation is not possible for relevant axes group. Relevant axes group decelerates to a stop if it is in motion.			
System-de-	Variable		Data type	Data type			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
	_MC_GRP[*].MFa	aultLvl.Active	BOOL	Axes Group Minor Fault Occurence		r Fault Occur-	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter exceeded the valid range of the input variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
Attached information	None						
Precautions/ Remarks	None						

Event name	Torque Ramp Set	ting Out of Range		Event code	54270000 hex		
Meaning	The parameter sp	ecified for the <i>Torq</i>	<i>ueRamp</i> input vari	able to a motion co	ntrol instruction is o	out of range.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.				ossible for relevant axis. Relevant o a stop if it is in motion.	
System-de-	Variable		Data type		Name		
fined variables	fined variables _MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Master Coefficien	t Scaling Out of Ra	inge	Event code	54280000 hex		
Meaning	The parameter sp	pecified for the <i>Mas</i>	terScaling input va	riable to a motion c	ontrol instruction is	out of range.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		tion is not possible for relevant slave axis. ant slave axis decelerates to a stop if it is in mo-		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Occurrence	
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Slave Coefficient	Scaling Out of Ran	ge	Event code	54290000 hex		
Meaning	The parameter sp	ecified for the <i>Slav</i>	eScaling input vari	able to a motion co	ntrol instruction is	out of range.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation is not possible for relevant slave axis. Relevant slave axis decelerates to a stop if it is in it tion.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	ceeded the valid range of the input valid range variable.		valid range of the	orrect the parameter so that the lid range of the input variable is texceeded for the relevant inuction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
Attached infor-	None				•		
mation							
Precautions/	None						
Remarks							

Event name	Feeding Velocity Setting Out of Range			Event code	542A0000 hex		
Meaning	The parameter sp	pecified for the Fee	dVelocity input vari	able to a motion c	ontrol instruction is	out of range.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	l .	on is not possible for relevant axis. Relevant elerates to a stop if it is in motion.		
System-de-	Variable		Data type		Name	Name	
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault	Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The Feed Velocity (input variable FeedVelocity) is still at the default (0).		Specify a positive value for the Feed Velocity (input variable FeedVelocity).		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Buffer Mode Sele	ction Out of Range		Event code	5420000 hex		
Meaning	The parameter sp	ecified for the <i>Buff</i>	<i>erMode</i> input varial	ble to a motion con	trol instruction is ou	ıt of range.	
Source	Motion Control Fu	ınction Module			Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	If "axis" is given for the source details, operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion. If "axes group" is given for the source details, operation is not possible for relevant axes group. Re evant axes group decelerates to a stop if it is in motion.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Minor Fault Occur-		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p ceeded the valid r variable.		Correct the paran valid range of the not exceeded for struction.	input variable is	Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None		1		1		
Precautions/ Remarks	None						

Event name	Coordinate System Selection Out of Range			Event code	542C0000 hex		
Meaning	The parameter sp	The parameter specified for the <i>CoordSystem</i> input variable to a motion control instruction is out of range.					
Source	Motion Control Fu	unction Module	Source details	Axes group	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.				possible for relevant axes group.	
System-de-	Variable		Data type		Name	Name	
fined variables	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Circular Interpola	tion Mode Selection	n Out of Range	Event code	542D0000 hex		
Meaning	The parameter sp	ecified for the Circ	<i>Mode</i> input variable	to a motion contro	ol instruction is out	of range.	
Source	Motion Control Function Module		Source details	Axes group	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.			ossible for relevant axes group. oup decelerates to a stop if it is in		
System-de-	Variable Data type _MC_GRP[*].MFaultLvl.Active BOOL		Data type		Name		
fined variables			BOOL	Axes Group Minor Fault Occ rence		r Fault Occur-	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	ceeded the valid range of the input valid range		valid range of the not exceeded for	orrect the parameter so that the alid range of the input variable is ot exceeded for the relevant in-		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
Attached infor-	None						
mation							
Precautions/ Remarks	None						

Event name	Direction Selection	n Out of Range		Event code	542E0000 hex		
Meaning	The parameter sp	The parameter specified for the <i>Direction</i> input variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.				ossible for relevant axis. Relevant o a stop if it is in motion.	
System-de-	em-de- Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input para struction so that t the input variable	he valid range of	
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Path Selection O	ut of Range		Event code	Event code 542F0000 hex		
Meaning	The parameter sp	ecified for the <i>Path</i>	nChoice input varial	ble to a motion con	trol instruction is ou	ut of range.	
Source	Motion Control Fu	unction Module	Source details Axes group		Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	· ·			ossible for relevant axes group. oup decelerates to a stop if it is in	
System-de-	Variable		Data type		Name		
fined variables	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	ceeded the valid range of the input variable. valid range of the not exceeded for		Correct the paran valid range of the not exceeded for struction.	input variable is struction so that the valid range		he valid range of	
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Position Type Se	ection Out of Rang	je	Event code	54300000 hex		
Meaning	The parameter sp	The parameter specified for the ReferenceType input variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	MC common or axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.				ossible for relevant axis. Relevant o a stop if it is in motion.	
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFaultLvl.Active		BOOL		MC Common Minor Fault Occur- rence		
	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault (Occurrence	
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None				•		
Precautions/ Remarks	None						

Event name	Travel Mode Sele	ction Out of Range	<u> </u>	Event code	54310000 hex	
Meaning				ole to a motion cont		t of range
Source	Motion Control Function Module		Source details	Axis/axes group	Detection tim-	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	If "axis" is given for the source details, operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion. If "axes group" is given for the source details, operation is not possible for relevant axes group. Relevant axes group decelerates to a stop if it is in motion.		
System-de-	Variable		Data type	Data type		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault (Occurrence
	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction	Correction		
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
Attached information	None					
Precautions/ Remarks	None					

Event name	Transition Mode	Selection Out of Ra	inge	Event code	54320000 hex		
Meaning	The parameter sp	pecified for the <i>Trai</i>	nsitionMode input v	ariable to a motion	control instruction	is out of range.	
Source	Motion Control Fu	unction Module	Source details Axes group		Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.				ossible for relevant axes group. oup decelerates to a stop if it is in	
System-de-	Variable		Data type		Name		
fined variables	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Mino rence	or Fault Occur-	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
	_mcAborting or _mcBuffered was specified for BufferMode and _mcTMCornerSuperimposed was specified for TransitionMode.		If you specify _mcAborting or _mcBuffered for BufferMode, specify _mcTMNone for TransitionMode. If you specify _mcTMCornerSuperimposed for TransitionMode, specify _mcBlendingLow, _mcBlendingPrevious, _mcBlendingNext, or _mcBlendingHigh for BufferMode.		If you specify _mcAborting or _mcBuffered for BufferMode, spe ify _mcTMNone for TransitionMode. If you specify _mcTMCornerSuperimposed for TransitionMode, specify _mcBlendingLow, _mcBlendingPrevious, _mcBlendingNext, or _mcBlendingHigh for BufferMode		
Attached infor- mation	None		,		,= 3 0		
Precautions/ Remarks	None						

Event name	Continue Method Selection Out of Range			Event code 54330000 hex			
Meaning	The value of the r	The value of the reserved input variable <i>Continuous</i> to a motion control instruction changed.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation			ossible for relevant axis. Relevant o a stop if it is in motion.	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	The value of the reserved input variable <i>Continuous</i> changed.		value of the reser	Correct the program so that the value of the reserved input variable Continuous does not change.		Write the user program so that the value of the reserved input variable <i>Continuous</i> does not change.	
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Combine Mode S	Selection Out of Rai	nge	Event code	54340000 hex	
Meaning	The parameter s	pecified for the Con	nbineMode input va	riable to a motion	control instruction is	s out of range.
Source	Motion Control Function Module		Source details	Axis	Detection tim-	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation Operation is not possible for relevant a axis decelerates to a stop if it is in moti			
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input para struction so that t the input variable	he valid range of
Attached infor- mation	None					
Precautions/ Remarks	None					
Event name	Synchronization Start Condition Selection Out of Range		Event code	54350000 hex		
Meaning	The parameter s	pecified for the <i>Link</i>	<i>Option</i> input variab	le to a motion cont	rol instruction is out	t of range.
Sauraa	Motion Control E	unation Madula	Source details	pod details Avis Detection time At instruc		

Event name	Synchronization Start Condition Selection Out of Range			Event code	54350000 hex	
Meaning	The parameter sp	pecified for the <i>Link</i>	<i>Option</i> input variab	le to a motion cont	rol instruction is ou	t of range.
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.			ossible for relevant axis. Relevant o a stop if it is in motion.	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Master and Slave	Defined as Same	Avio	Event code	54360000 hex	
						_
Meaning	The same axis is	specified for the Ma	aster and Slave inp	out variables to a m	otion control instru	ction.
Source	Motion Control Fu	unction Module	Source details	MC common or	Detection tim-	At instruction
				axis	ing	execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Operation is not p	ossible for relevan	t slave axis.
				Relevant slave ax	is decelerates to a	stop if it is in mo-
				tion.		
System-de-	Variable	•	Data type		Name	
fined variables	MC COM.MFaultLvl.Active		BOOL		MC Common Minor Fault Occur-	
					rence	
	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The parameter is	the same for the	Correct the parameters so that dif-		Specify different axes for the	
	Master and Slave	input variables to	ferent axes are specified for the		Master and Slave input variables to	
	the instruction.	the instruction.		Master and Slave input variables to		
Attached infor-	None					
mation						
Precautions/	None					
Remarks						

Event name	Master and Auxili	ary Defined as Sar	ne Axis	Event code	54370000 hex		
Meaning	The same axis is	specified for the M	aster and Auxiliary	input variables to a	motion control ins	truction.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		possible for relevant slave axis. kis decelerates to a stop if it is in mo-		
System-de- fined variables	Variable		Data type		Name		
	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The parameter is the same for the <i>Master</i> and <i>Auxiliary</i> input variables to the instruction.		Correct the parameters so that dif- ferent axes are specified for the <i>Master</i> and <i>Auxiliary</i> input varia- bles to the instruction.		Specify different axes for the <i>Master</i> and <i>Auxiliary</i> input variables to the instruction.		
Attached infor-	None						
mation							
Precautions/ Remarks	None						

Event name	Master/Slave Axis	s Numbers Not in A	scending Order	Event code	54380000 hex			
Meaning	The axis numbers ascending order.	The axis numbers specified for the <i>Master</i> and <i>Slave</i> input variables to a motion control instruction are not in ascending order.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	Operation is not possible for relevant slave axi Relevant slave axis decelerates to a stop if it is tion.				
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The parameters for the <i>Master</i> and <i>Slave</i> input variables to the instruction were not in ascending order when _mcLatestCommand was specified for the <i>ReferenceType</i> input variable to the instruction.		When specifying _mcLatestCommand for the ReferenceType input variable to the instruction, correct the parameters so that the axis numbers specified for the Master and Slave input variables to the instruction are in ascending order. Or, specify _mcCommand for the Master Axis Position Type Selection.		When specifying _mcLatestComma ReferenceType in make sure to spe axis and slave ax so that they are in	iput variable, cify the master		
Attached infor- mation	None							
Precautions/ Remarks	None							

Event name	Incorrect Cam Ta	ble Specification		Event code	54390000 hex		
Meaning	The parameter sp	ecified for the Can	nTable input variabl	e to a motion contr	ol instruction is out	of range.	
Source			MC common or axis	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Not affected. If "axis" is given for		is given for the source details, or the source details, ossible for relevant slave axis.		
System-de- fined variables	Variable		Data type		Name		
	_MC_COM.MFaultLvl.Active		BOOL		MC Common Minor Fault Occur- rence		
	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	variable was spec	Something other than a cam data variable was specified for the CamTable input variable to the instruction.		Correct the parameter specified for the <i>CamTable</i> input variable to the instruction so that it is a cam data variable.		Specify a cam data variable for the <i>CamTable</i> input variable to the instruction.	
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Synchronization S	Stopped		Event code	543A0000 hex	
Meaning	A synchronized comet.	ontrol motion contr	ol instruction was e	executed, but condi	tions required for e	xecution were not
Source	Motion Control Fu	ınction Module	Source details	Source details Axis		At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation Operation is not possible for relevant slave axis Relevant slave axis decelerates to a stop if it is tion.			
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The MC_CamOut (End Cam Operation) instruction was executed even though the MC_CamIn (Start Cam Operation) instruction is not being executed. The MC_GearOut (End Gear Operation) instruction was executed even though the MC_GearIn (Start Gear Operation) or the MC_GearInPos (Positioning Gear Operation) instruction is not being executed. The MC_Phasing (Shift Master Axis Phase) instruction was executed even though the MC_CamIn (Start Cam Operation), MC_GearIn (Start Gear Operation), MC_GearInPos (Start Gear Operation), or MC_Move-Link (Synchronous Positioning) instruction is not being executed.		Correct the program so that required conditions are met when the instruction is executed.		Prevention Make sure that required conditions for execution are met when you execute synchronized control instructions.	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Motion Control In:	struction Re-execu	tion Disabled	Event code	543B0000 hex	
Meaning				struction that canno		
Source	Motion Control Function Module		Source details	MC common, axis, or axes group	Detection timing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	If "MC Common" is given for the source details, Not affected. If "axis" is given for the source details, operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion. If "axes group" is given for the source details, operation is not possible for relevant axes group. Re evant axes group decelerates to a stop if it is in mo- tion.		
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFaultLvl.Active		BOOL		MC Common Minor Fault Occur- rence	
	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Occurrence
	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection		annot be re-executed was re-exe- uted. Execute input change to TF output variable		Correct the program so that the Execute input variable does not change to TRUE until the Busy output variable from the instruction changes to FALSE.		uctions that can- ed, include a con- cute input variable t change to TRUE output variable for uction is FALSE. uction before exe-
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Motion Control Ins	struction Multi-exec	cution Disabled	Event code	543C0000 hex		
Meaning	Multiple functions axis, or axes grou		cuted simultaneou	sly were executed	for the same target	(MC common,	
Source	Motion Control Function Module		Source details	MC common, axis, or axes group	Detection tim- ing	At multi-execu- tion of instruc- tions	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Not affected. If "axis" is given for operation is not properation axis decelerates for the same operation is not properation is not properation.	mmon" is given for the source details, ed. given for the source details, is not possible for relevant axis. Relevant erates to a stop if it is in motion. oup" is given for the source details, is not possible for relevant axes group. Rels group decelerates to a stop if it is in mo-		
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFaultLvl.Active		BOOL		MC Common Minor Fault Occur- rence		
	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur-		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Multiple functions that cannot be executed simultaneously were executed for the same target (MC common, axis, or axes group).		Check the specifications of multi- execution of instructions for this in- struction and correct the program so that instructions that cannot be executed at the same time are not executed simultaneously.		Check the specifications for multi- execution of instructions for the in- struction and do not execute in- structions that cannot be executed at the same time.		
Attached infor- mation	None				,		
Precautions/ Remarks	None						

Event name	Instruction Not Allowed for Encoder Axis Type			Event code	543D0000 hex		
Meaning	An operation inst	ruction was execut	ted for an encoder a	ıxis.			
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation is not p	oossible for relevar	it axis.	
System-de-			Data type	•	Name		
fined variables			BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	An operation instruction was executed for an encoder axis.		al Servo axis as t the instruction, or gram so that the i	Specify either a Servo axis or virtual Servo axis as the axis type for the instruction, or correct the program so that the instruction is not executed for an encoder axis.		tion instructions virtual Servo ax-	
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Instruction Canno ordinated Control	t Be Executed duri	ng Multi-axes Co-	Event code	543E0000 hex			
Meaning	motion.	 An operation instruction was executed for an axis or an axes group that was in a coordinated multi-axes motion. A robot instruction that you cannot use for an axes group in a GroupEnable state was executed. 						
Source	Motion Control Function Module		Source details	Axis or axis group	Detection tim- ing	At multi-execu- tion of instruc- tions		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	The axes group of	lecelerates to a sto	p.		
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence			
	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur- rence			
Cause and cor-	Assumed cause	umed cause			Prevention			
rection			Correct the program so that axis operation instructions are executed only for axes or axes groups that are not in coordinated multi-axes motion.		Execute axis operation instructions only for axes or axes groups that are not in coordinated multi-axes motion.			
			Correct the program so that the instruction is executed only when the axes group is in a GroupDisable state.		Execute the instruction only when the axes group is in a GroupDisable state.			
Attached information	None							
Precautions/ Remarks	None							

Event name	Multi-axes Coord for Disabled Axes	inated Control Instr Group	uction Executed	Event code	543F0000 hex	
Meaning	A multi-axes coor bled state.	dinated control inst	truction was execu	ted for an axes gro	oup that was in the A	Axes Group Disa-
Source	Motion Control Fu	unction Module	Source details	Axes group	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation		possible for relevar	• .
System-de-	Variable		Data type		Name	
fined variables			BOOL			or Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Assumed cause A multi-axes coordinated control instruction was executed for an axes group that was in the Axes Group Disabled state. One of the following instructions was executed for an axes group that was in a GroupDisable state. • MC_MoveTimeAbsolute (Timespecified Absolute Positioning) instruction • MC_SyncLinearConveyor (Start Conveyor Synchronization) instruction • MC_SyncOut (End Synchronization) instruction • MC_RobotJog (Axes Group Jog)		Correct the program so that the instruction is executed only after changing the axes group to the Axes Group Enabled state. Execute the MC_GroupEnable (Enable Axes Group) instruction to change an axes group to the Axes Group Enabled state.		Prevention Execute multi-axes coordinated operation instructions only after enabling the axes group. Execute the MC_GroupEnable (Enable Axes Group) instruction to change an axes group to the Axes Group Enabled state.	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Axes Group Canr	not Be Enabled		Event code	54400000 hex	
Meaning	Execution of the I	MC_GroupEnable (Enable Axes Group	o) instruction failed		
Source	Motion Control Function Module		Source details	Axes group	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation		oossible for relevan composition axes w	• ,
System-de-	Variable		Data type		Name	
fined variables	_MC_GRP[*].MFaultLvl.Active		BOOL	BOOL		or Fault Occur-
Cause and cor-	Assumed cause	Assumed cause			Prevention	
rection	When the MC_GroupEnable (Enable Axes Group) instruction was executed, there was a composition axis that was not stopped.		MC_GroupEnable Group) instructior when all composi stopped. An axis Status.Disabled of	Correct the program so that the MC_GroupEnable (Enable Axes Group) instruction is executed only when all composition axes are stopped. An axis is stopped if Status.Disabled or Status.Standstill is TRUE in the Axis Variable.		ns so that the e (Enable Axes n is executed only ition axes are is stopped if or Status.Standstill xis Variable.
	When the MC_GroupEnable (Enable Axes Group) instruction was executed, there was a composition axis for which the MC_TouchProbe (Enable External Latch) instruction was being executed.		Correct the program so that the MC_GroupEnable (Enable Axes Group) instruction is executed only when the MC_TouchProbe (Enable External Latch) instruction is not being executed for any of the composition axes.		Write the program so that the MC_GroupEnable (Enable Axes Group) instruction is executed only when the MC_TouchProbe (Enable External Latch) instruction is not being executed for any of the composition axes.	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Impossible Axis C	peration Specified	when the Servo	Event code	54410000 hex	
Meaning	An operation instr	uction was execute	ed for an axis for w	hich the Servo is O	FF.	
Source	Motion Control Fu	ınction Module	Source details	Axis/axes group	Detection tim-	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	The motion instru	ction will not start.	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Mino	or Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An operation instruction was executed for an axis for which the Servo is OFF.		Correct the program so that the instruction is executed after the Servo is turned ON.		Make sure to execute the axis operation instruction after the Servo is turned ON.	
	Home was preset with the MC_Home or MC_HomeWithParameter instruction for an axis for which EtherCAT process data communications are not established.		Ilf the _EC_PDSlavTbl (Process Data Communicating Slave Table) system-defined variable for the EtherCAT master of the master ax- is is FALSE, remove the cause and execute the MC_Home or MC_HomeWithParameter instruc- tion to preset home after _EC_PDSlavTbl changes to TRUE.		If you execute the MC_Home or MC_HomeWithParameter instruction to preset home immediately after you turn ON the power supply to the Controller, download data, reset a slave communications error, disconnect the slave, reconnect the slave, enable the slave, or disable the slave, write the program to make sure that the _EC_PDSlavTbl (Process Data Communicating Slave Table) system-defined variable for the Ether-CAT master is TRUE before you execute MC_Home or MC_Home-WithParameter.	
Attached infor- mation	• Axis: 0	tion 1: Depends on	the source details I axis where the err	or occurred	,	
Precautions/ Remarks	None					

Event name	Composition Axis	Stopped Frror		Event code	54420000 hex			
Meaning			or an axes group w			n executed for a		
	composition axis.							
Source	Motion Control Fu	unction Module	Source details	Axes group	Detection tim-	At instruction		
		I	_	<u> </u>	ing	execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	Operation is not p	oossible for relevan	t axes group.		
System-de-	Variable		Data type		Name			
fined variables	_MC_GRP[*].MF	aultLvl.Active	BOOL		Axes Group Mino rence	r Fault Occur-		
Cause and cor-	Assumed cause	d cause Correction		Prevention				
rection	A motion instructi	ion was executed	Change the Exec	cute input variable	Change the Exec	ute input varia-		
	for an axes group	while the	to the MC_Stop in	nstruction for the	bles to the MC_S	top instructions		
	MC_Stop instruct	tion was being	composition axis	to FALSE, reset	for all of the comp	oosition axes to		
	executed for a co	mposition axis.	the error, and the	n execute the mo-	FALSE before yo	u execute motio		
			tion control instru	ction.	control instruction	1.		
Attached infor-	Attached informa	tion 1: Number of t	he logical axis that	was stopped.				
mation								
Precautions/	None							
Remarks								
Event name	Motion Control Instruction Multi-execution Buffer Limit Event code				54430000 hex			
	Exceeded							
Meaning		The number of motion control instructions that is buffered for Buffered or Blending Buffer Modes exceeded the						
	buffer limit.							
Source	Motion Control Fu	unction Module	Source details	Axis/axes group	Detection tim-	At multi-execu		
					ing	tion of instruc-		
						tions		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	•				
				operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion. If "axes group" is given for the source details,				
					ation is not possible for relevant axes group. Re t axes group decelerates to a stop if it is in mo-			
			evant axes gro tion.		decelerates to a si	top ii it is iii iiio-		
Cycetem de	Verieble		Data tuna	tion.	Neme			
System-de- fined variables	Variable	III I A C	Data type		Name			
illieu valiables	_MC_AX[*].MFau		BOOL		Axis Minor Fault			
	_MC_GRP[*].MF	aultLvl.Active	BOOL	BOOL		Axes Group Minor Fault Occur-		
					rence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	An axis instructio		Correct the progra		Do not execute a			
	when there was a	•	number of execut		when there is already a current in			
	instruction and a		does not exceed	does not exceed the buffer limit.		struction and a buffered instruction		
	tion for the same axis.				for the same axis			
		struction was exe-			Do not execute a			
		cuted when there was already				ere are already		
	eight current instructions and buf- fered instructions for the same ax-				eight current and			
		ior the same ax-			tions for the same	e axis.		
Attack 11 5	is.							
Attached infor-	None							
mation	N							
Precautions/	None							
Remarks								

Event name	Insufficient Travel	Distance		Event code	54440000 hex				
Meaning			cuted for the decele	eration rate or acce		as specified for			
	multi-execution or	multi-execution or re-execution of a positioning instruction.							
Source	Motion Control Fu	tion Control Function Module Source details Axis/ax		Axis/axes group	Detection tim- ing	At instruction execution			
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System			
Effects	User program	Continues.	Operation	on If "axis" is given for the source de operation is not possible for relev axis decelerates to a stop if it is ir If "axes group" is given for the so operation is not possible for relev evant axes group decelerates to a tion.		axis. Relevant otion. e details, axes group. Rel-			
System-de-	Variable		Data type	Data type		Name			
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault (Occurrence			
	_MC_GRP[*].MFaultLvl.Active		BOOL	BOOL		r Fault Occur-			
			0 "		rence Prevention				
Cause and cor-		Assumed cause		Correction					
rection	Stopping at the target position was not possible for the specified acceleration/deceleration rate for multi-execution or re-execution of a positioning instruction when the Acceleration/Deceleration Over parameter was set to generate a minor fault and stop.		Correct the program based on the operating specifications for the instruction so that the target position is not exceeded at the deceleration rate or acceleration rate specified for multi-execution or re-execution of the positioning instruction. Or, change the Acceleration / Deceleration Over parameter to a setting other than to generate a minor fault and stop.		Or, change the Acceleration / Deceleration Over parameter to a setting other than to generate a minor fault and stop.				
Attached infor- mation	None				,				
Precautions/ Remarks	None								

Event name	Insufficient Travel Transit Velocity	Distance to Achiev	ve Blending	Event code	54450000 hex	
Meaning	There is not suffic	cient travel distance	e to accelerate or d	ecelerate to the tra	nsit velocity.	
Source	Motion Control Fu	unction Module	Source details	Axis/axes group	Detection tim- ing	At multi-execu- tion of instruc- tions
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	operation is not p axis decelerates If "axes group" is operation is not p	or the source detail ossible for relevant to a stop if it is in m given for the source ossible for relevant decelerates to a si	axis. Relevant otion. e details, axes group. Rel-
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Mino rence	r Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	There was not sufficient travel distance to accelerate the current command to the transit velocity when the Acceleration/ Deceleration Over parameter was set to generate a minor fault and stop.		Correct the program to allow a sufficient travel distance according to the operating specifications of the instruction. Or, change the Acceleration/ Deceleration Over parameter to a setting other than to generate a mi-		Check the operating specifications for the relevant instruction and write the program so that this error does not occur. Or, change the Acceleration/ Deceleration Over parameter to a setting other than to generate a mi-	
Attached infor- mation	None		nor fault and stop	·	nor fault and stop	·
Precautions/ Remarks	None					
Event name	Move Link Consta	ant Velocity Insuffic	ient Travel Dis-	Event code	54460000 hex	
Manadan	tance					
Meaning	Motion Control Fu		of the master axis		Detection time	A4 :44:
Source	Motion Control Ft	inction Module	Source details	Axis	Detection tim-	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	l	possible for relevan to a stop if it is in m	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ltLvl.Active	BOOL		Axis Minor Fault	Occurrence
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The constant velocity travel distance of the master axis is below 0 for the MC_MoveLink (Synchronous Positioning) instruction.		Correct the program so that the master axis travel distance is greater than or equal to the master distance in acceleration plus the master distance in deceleration.		Check the operating specifications for the relevant instruction and write the program so that this error does not occur.	
Attached information	None					
Precautions/ Remarks	None					

Event name	Positioning Gear	Operation Insufficie	ent Target Velocity	Event code	54470000 hex			
Meaning	_	For the MC_GearInPos (Positioning Gear Operation) instruction, the target velocity of the slave axis is too small to achieve the required velocity.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.			ossible for relevan o a stop if it is in m			
System-de-	Variable		Data type	Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	For the MC_GearInPos (Positioning Gear Operation) instruction, the value of the <i>Velocity</i> (Target Velocity) input variable is smaller than the master axis velocity multiplied by the gear ratio when the instruction was executed.		get Velocity) input ue that is greater axis velocity multi ratio when the ins ed based on the o	Set the value of the <i>Velocity</i> (Target Velocity) input variable to a value that is greater than the master axis velocity multiplied by the gear ratio when the instruction is executed based on the operating specifications of the instruction.		ing specifications struction and so that this error		
Attached infor- mation	None							
Precautions/ Remarks	None							

Event name	Same Start Point tion	and End Point for (Circular Interpola-	Event code	54480000 hex	
Meaning	lar2D (Circular 20	•	ruction. Or, the sta	radius method was	•	_
Source	Motion Control Function Module		Source details	Axes group	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation		possible for relevant axes group. Dup decelerates to a stop if it is in	
System-de-	Variable		Data type		Name	
fined variables	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The start point and end point were the same when the radius method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction.		Correct the program so that the ra- dius specification is not used when the start point and end point for the instruction are the same.		Do not use the same start point and end point when you execute circular interpolation with a radius specification.	
	The start point, end point, and border point were the same when the border point method was specified for the MC_MoveCircular2D (Circular 2D Interpolation) instruction.		Correct the program so that border point specification is not used when the start point, end point, and border point for the instruction are the same.		Do not use the same start point, end point, and border point when you execute circular interpolation with a border point specification.	
Attached infor-	None		1		1	
mation						

Event name	Circular Interpola Out of Range	tion Center Specific	cation Position	Event code	54490000 hex	
Meaning		cified for the center Circular2D (Circula		_	en the center meth	od was specified
Source	Motion Control Fo	unction Module	Source details	Axes group	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation		oossible for relevan oup decelerates to	• .
System-de-	Variable		Data type		Name	
fined variables	_MC_GRP[*].MF	aultLvl.Active	BOOL		Axes Group Mino rence	or Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
Attached information Precautions/ Remarks	The difference betance from the stace from the stacenter point and tween the end popoint exceeded the specified for the cance ratio in the atings when the camethod was specified MC_MoveCircula Interpolation) instance	art point to the che distance be- int to the center ne permitted value correction allow- axes group set- enter designation cified for the r2D (Circular 2D	from the start point point input variab tance between the center point input than the permittee	distance from the start point to te center point and the distance between the end point to the tinput variables is less rmitted value specified ection allowance ratio in distance from the start point to te center point and the distance between the end point to the center point so that it does not exceed correction allowance ratio in the axes group settings.		
Event name	Instruction Execu	tion Error Caused b	by Count Mode	Event code	544A0000 hex	
Meaning		t cannot be used w	hen the Count Mod	de is set to Rotary I	l Mode was executed	d for an axis that
Source	Motion Control Fu	unction Module	Source details	Axes group	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation		oossible for relevan oup decelerates to	• .
System-de-	Variable		Data type		Name	
fined variables	_MC_GRP[*].MF	aultLvl.Active	BOOL		Axes Group Mino rence	r Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
rection		Mode is set to Ro- secuted for an ax-	Change the Cour evant axis to Line	nt Mode of the relear Mode.	Confirm the Cour you can execute and set the correthe axis.	
Attached infor- mation	None				1	
Precautions/ Remarks	None					

Event name	Parameter Selection Out of Range			Event code	544C0000 hex		
Meaning	The parameter sp	The parameter specified for the <i>ParameterNumber</i> input variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	The instruction is	not executed.		
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFaultLvl.Active		BOOL		MC Common Minor Fault Occur-		
						rence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p	arameter ex-	Correct the paran	Correct the parameter so that the		Set the input parameter to the in-	
	ceeded the valid range of the input		valid range of the input variable is		struction so that the valid range of		
	variable.		not exceeded for the relevant in-		the input variable is not exceeded.		
			struction.				
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Stop Method Selection Out of Range			Event code	544D0000 hex	
Meaning	The parameter sp	pecified for the Stop	Mode input variabl	e to a motion contr	ol instruction is out	of range.
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program Continues. Operation			Operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ltLvl.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
Attached infor-	None					
mation						
Precautions/	None					
Remarks						

Event name	Latch ID Selection Out of Range for Trigger Input Condition			Event code	544E0000 hex		
Meaning	The parameter sprange.	The parameter specified for the <i>TriggerInput::LatchID</i> input variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		possible for relevant axis. Relevant to a stop if it is in motion.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Setting Out of Ra	nge for Writing MC	Setting	Event code	544F0000 hex	
Meaning	The parameter sp	ecified for the Sett	<i>ingValue</i> input varia	able to a motion co	ntrol instruction is o	out of range.
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	The instruction is	not executed.	
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFaultLvl.Active		BOOL		MC Common Mir	or Fault Occur-
					rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
	The parameter specification and the data type of the setting value do not agree.		Make corrections so that the parameter settings and the data types of the settings agree.		Make sure the parameter settings and the data type of the setting values agree.	
Attached information	None					
Precautions/ Remarks	None					

Event name	Trigger Input Con	dition Mode Select	ion Out of Range	Event code	54500000 hex			
Meaning	The parameter sp range.	The parameter specified for the <i>TriggerInput:: Mode</i> input variable to a motion control instruction is out of range.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	Operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion.				
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.			
Attached infor-	None							
mation								
Precautions/	None							
Remarks								

Event name	Drive Trigger Signal Selection Out of Range for Trigger Input Condition			Event code	54510000 hex		
Meaning	The parameter sprange.	pecified for the <i>Trigg</i>	gerInput::InputDrive	e input variable to a	motion control ins	truction is out of	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		possible for relevant axis. Relevant to a stop if it is in motion.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter exceeded the valid range of the input variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	None		,				
Precautions/ Remarks	None						

Event name	Motion Control Instruction Re-execution Disabled (Axis Specification)			Event code	54530000 hex		
Meaning		An attempt was made to change the parameter for the <i>Axis</i> input variable when re-executing a motion contrinstruction. (This input variable cannot be changed when re-executing an instruction.)					
Source	Motion Control Fu	unction Module	Source details	Axis	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation			ossible for relevant axis. Relevant o a stop if it is in motion.	
System-de-	em-de- Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ltLvl.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable that cannot be changed for re-execution was changed.		rameter for the re	Correct the program so that the parameter for the relevant input variable does not change when the relevant instruction is re-executed.		put variables to the relevant motion	
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Motion Control In:	struction Re-execurection)	tion Disabled	Event code	54540000 hex			
Meaning		An attempt was made to change the parameter for the <i>BufferMode</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)						
Source	Motion Control Fu	unction Module	Source details	Axis/axes group	Detection tim- ing	At instruction re- execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	operation is not p axis decelerates t If "axes group" is operation is not p	If "axis" is given for the source details, operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion. If "axes group" is given for the source details, operation is not possible for relevant axes group. Relevant axes group decelerates to a stop if it is in motion			
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Occurrence		
	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur- rence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	A parameter for an input variable that cannot be changed for re-execution was changed.		Correct the program so that the parameter for the relevant input variable does not change when the relevant instruction is re-executed.		Check the manual to see if the input variables to the relevant motion control instruction can be changed by re-execution. Write the program so that the input parameters for any input variable that cannot be changed do not change upon re-execution.			
Attached infor- mation	None		,		,			
Precautions/ Remarks	None							

Event name	Motion Control Ir rection Selection	struction Re-execu	tion Disabled (Di-	Event code	54550000 hex		
Meaning		nade to change the n. (This input variab	•	-		-	
Source	Motion Control F	unction Module	Source details	Axis	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		possible for relevar to a stop if it is in m		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFat	ultLvl.Active	BOOL		Axis Minor Fault	Occurrence	
Cause and cor-	Assumed cause)	Correction		Prevention		
rection	changed for re-execution was rame changed.		rameter for the re	Correct the program so that the parameter for the relevant input variable does not change when the relevant instruction is re-executed.		al to see if the in- ne relevant motion in can be changed Write the program parameters for the that cannot be change upon re-	
Attached infor- mation	None						
Precautions/ Remarks	None						
Event name	Motion Control Ir ecution Mode)	struction Re-execu	tion Disabled (Ex-	Event code	54560000 hex		
Meaning	· ·	_	-	•	eriodic input variable when re-executing a motion con- then re-executing an instruction.)		
Source	Motion Control F	unction Module	Source details	Axis	Detection tim-	At instruction re- execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		possible for relevar to a stop if it is in m		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ıltLvl.Active	BOOL		Axis Minor Fault	Occurrence	
Cause and cor-	Assumed cause)	Correction		Prevention		
rection	l '	rameter for an input variable cannot be changed for re-exen was changed.		Correct the program so that the parameter for the relevant input variable does not change when the relevant instruction is re-executed.		al to see if the in- ne relevant motion in can be changed Write the program parameters for that cannot be change upon re-	
Attached infor- mation	None				execution.		
Precautions/ Remarks	None						

Event name	Motion Control Ins	struction Re-execu	tion Disabled (Ax-	Event code	54570000 hex	
Meaning	An attempt was made to change the parameter for the A control instruction. (This input variable cannot be change					ecuting a motion
Source	Motion Control Fu	inction Module	Source details	Axes group	Detection tim- ing	At instruction re- execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.			possible for relevan	• .
System-de-	Variable		Data type		Name	
fined variables	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A parameter for an input variable that cannot be changed for re-execution was changed.		Correct the program so that the parameter for the relevant input variable does not change when the relevant instruction is re-executed.		Check the manual to see if the input variables to the relevant motion control instruction can be changed by re-execution. Write the program so that the input parameters for any input variable that cannot be changed do not change upon re-execution.	
Attached infor-	None		1		1	
mation						
Precautions/ Remarks	None					

Event name	Motion Control Instruction Re-execution Disabled (Jerk Setting)			Event code	54580000 hex		
Meaning		•		<i>Jerk</i> input variable en re-executing an i	•	a motion control	
Source	Motion Control Fu	unction Module	Source details	Axis/axes group	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	If "axis" is given for the source details, operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion. If "axes group" is given for the source details, operation is not possible for relevant axes group. Relevant axes group decelerates to a stop if it is in motion.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable that cannot be changed for re-execution was changed.		Correct the program so that the parameter for the relevant input variable does not change when the relevant instruction is re-executed.		Check the manual to see if the input variables to the relevant motion control instruction can be changed by re-execution. Write the program so that the input parameters for any input variable that cannot be changed do not change upon re-execution.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Motion Control Instruction Re-execution Disabled (Master Axis)			Event code	54590000 hex	
Meaning		_	parameter for the a	•		ng a motion con-
Source	Motion Control Fu	ınction Module	Source details	Axis	Detection tim- ing	At instruction re- execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.			possible for relevan to a stop if it is in m	
System-de-	Variable _MC_AX[*].MFaultLvl.Active		Data type BOOL		Name	
fined variables					Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A parameter for an input variable that cannot be changed for re-execution was changed.		Correct the program so that the parameter for the relevant input variable does not change when the relevant instruction is re-executed.		control instruction	ne relevant motion or can be changed Write the program parameters for e that cannot be
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Motion Control In: (MasterOffset)	struction Re-execu	tion Disabled	Event code	545A0000 hex		
Meaning	· ·	An attempt was made to change the parameter for the <i>MasterOffset</i> input variable when re-executing control instruction. (This input variable cannot be changed when re-executing an instruction.)					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		peration is not possible for relevant axis. Releva		
System-de-	Variable		Data type BOOL		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active			Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable that cannot be changed for re-execution was changed.		rameter for the re	Correct the program so that the parameter for the relevant input variable does not change when the relevant instruction is re-executed.		put variables to the relevant motion	
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name		struction Re-execu	tion Disabled	Event code	545B0000 hex					
	(MasterScaling)									
Meaning		nade to change the ction. (This input va				_				
Source	Motion Control Fu	unction Module	Source details	Axis	Detection tim- ing	At instruction re- execution				
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System				
Effects	User program	Continues.	Operation		possible for relevan to a stop if it is in m					
System-de-	Variable		Data type		Name					
fined variables	_MC_AX[*].MFau	ultLvl.Active	BOOL		Axis Minor Fault	Occurrence				
Cause and cor-	Assumed cause		Correction		Prevention					
rection				am so that the pa-	Check the manua	al to see if the in-				
	that cannot be changed for re-exe-		rameter for the re	elevant input varia- nge when the rele-	control instruction	Write the program parameters for that cannot be				
Attached infor- mation	None									
Precautions/ Remarks	None									
Event name	Motion Control Instruction Re-execution Disabled Event code				545C0000 hex					
Meaning	(MasterStartDista		narameter for the	MasterStartDistanc	 					
Wearing		_	-		An attempt was made to change the parameter for the MasterStartDistance input variable when re-execu					
Source			ut variable cannot be changed when re-		-evecuting an inetr					
	Wotion Control Ft	unction Module	Source details	e changed when re Axis	-executing an instr Detection tim-	uction.) At instruction re-				
	Motion Control Fi				_	uction.)				
Error attributes	Level				Detection tim-	uction.) At instruction re-				
Error attributes Effects		unction Module	Source details	Axis Error reset Operation is not p	Detection timing Log category cossible for relevan	At instruction re- execution System t axis. Relevant				
	Level	unction Module Minor fault	Source details Recovery	Axis Error reset Operation is not p	Detection timing Log category	At instruction re- execution System t axis. Relevant				
Effects System-de-	Level	unction Module Minor fault	Source details Recovery	Axis Error reset Operation is not p	Detection timing Log category cossible for relevan	At instruction re- execution System t axis. Relevant				
Effects	Level User program	Minor fault Continues.	Source details Recovery Operation	Axis Error reset Operation is not p	Detection timing Log category cossible for relevant to a stop if it is in m	At instruction re- execution System t axis. Relevant				
Effects System-de-	Level User program Variable	Minor fault Continues.	Source details Recovery Operation Data type	Axis Error reset Operation is not p	Detection timing Log category cossible for relevanto a stop if it is in m	At instruction re- execution System t axis. Relevant				
Effects System-de- fined variables	Level User program Variable _MC_AX[*].MFau Assumed cause A parameter for a	Minor fault Continues. ultLvl.Active an input variable langed for re-exe-	Recovery Operation Data type BOOL Correction Correct the programeter for the research	Axis Error reset Operation is not passes decelerates and so that the passes devant input variange when the rele-	Detection timing Log category cossible for relevant to a stop if it is in m Name Axis Minor Fault of Prevention Check the manual put variables to the control instruction	At instruction re- execution System It axis. Relevant notion. Occurrence al to see if the in- ne relevant motion on can be changed Write the program parameters for eathat cannot be				
System-de- fined variables Cause and cor-	Level User program Variable _MC_AX[*].MFau Assumed cause A parameter for a that cannot be ch	Minor fault Continues. ultLvl.Active an input variable langed for re-exe-	Recovery Operation Data type BOOL Correction Correct the programeter for the reble does not char	Axis Error reset Operation is not passes decelerates and so that the passes devant input variange when the rele-	Detection timing Log category Possible for relevant to a stop if it is in managed and the stop if it is in managed and the stop if it is in managed and in the stop in the sto	At instruction re- execution System It axis. Relevant action. Occurrence al to see if the in- ne relevant motion a can be changed Write the program carameters for a that cannot be				
System-de- fined variables Cause and cor- rection	Level User program Variable _MC_AX[*].MFau Assumed cause A parameter for a that cannot be ch cution was chang	Minor fault Continues. ultLvl.Active an input variable langed for re-exe-	Recovery Operation Data type BOOL Correction Correct the programeter for the reble does not char	Axis Error reset Operation is not passes decelerates and so that the passes devant input variange when the rele-	Detection timing Log category Possible for relevant to a stop if it is in managed and the stop if it is in managed and the stop if it is in managed and in the stop in the sto	At instruction re- execution System It axis. Relevant notion. Occurrence al to see if the in- ne relevant motion on can be changed Write the program parameters for eathat cannot be				

Event name	Motion Control In: (Continuous)	struction Re-execu	tion Disabled	Event code	545D0000 hex		
Meaning	· ·	An attempt was made to change the parameter for the <i>Continuous</i> input variable when re-executing a mot control instruction. (This input variable cannot be changed when re-executing an instruction.)					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation is not possible for relevant axis. Release axis decelerates to a stop if it is in motion.			
System-de-	Variable		Data type		Name		
fined variables	ariables _MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable that cannot be changed for re-execution was changed.		Correct the program so that the parameter for the relevant input variable does not change when the relevant instruction is re-executed.		control instruction	ne relevant motion can be changed Write the program parameters for that cannot be	
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Motion Control Instruction Re-execution Disabled (MoveMode)			Event code	545E0000 hex		
Meaning		An attempt was made to change the parameter for the <i>MoveMode</i> input variable when re-executing a motio control instruction. (This input variable cannot be changed when re-executing an instruction.)					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	l	ation is not possible for relevant axis. Relevant decelerates to a stop if it is in motion.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable that cannot be changed for re-execution was changed.		rameter for the re	Correct the program so that the parameter for the relevant input variable does not change when the relevant instruction is re-executed.		put variables to the relevant motion	
Attached infor- mation	None		1		1		
Precautions/ Remarks	None						

Event name	Illegal Auxiliary A	xis Specification		Event code	545F0000 hex	
Meaning	The axis specified	for the <i>Auxiliary</i> in	put variable to a m	otion control instru	ction does not exis	i.
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation		celerates to a stop if it is in motion.	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An axis does not exist for the variable specified for the <i>Auxiliary</i> input variable to the instruction.		Correct the instruction so that the variable exists for the axis that was specified for the instruction.		Make sure to specify variables that exist when specifying variables for the input parameters to an instruction.	
Attached information	None					
Precautions/ Remarks	None					

Event name	Illegal Axis Specit	Illegal Axis Specification			54600000 hex		
Meaning	The axis specified	for the Axis input	variable to a motio	n control instruction	does not exist.		
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	The instruction is	not executed.		
System-de-	Variable		Data type	Data type			
fined variables	_MC_COM.MFaultLvl.Active		BOOL		MC Common Minor Fault Occur-		
						rence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An axis does not ble specified for the able to the instruc	·	Correct the instruction so that the variable exists for the axis that was specified for the instruction.		Make sure to specify a variable that exists when specifying a variable for an input parameter to an instruction.		
Attached infor- mation	None						
Precautions/	None						
Remarks							

Event name	Illegal Axes Grou	n Specification		Event code	54610000 hex		
Meaning	The axes group s	The axes group specified for the <i>AxesGroup</i> input variable to a motion control instruction does not exist or is not a used group.					
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	The instruction is	not executed.		
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFaultLvl.Active		BOOL		MC Common Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	the variable speci	An axes group does not exist for the variable specified for the AxesGroup input variable to the instruction		Correct the specification for the instruction so that the specified axes group exists.		Specify a variable that exists when specifying a variable for an input parameter to an instruction.	
	The axes group specified for the <i>AxesGroup</i> input variable to the instruction is not specified as a used group.		Correct the axes group specified by the instruction to a used group.		Set a used axes group for the <i>AxesGroup</i> input variable to the instruction.		
Attached infor- mation	None		,				
Precautions/ Remarks	None	None					

Event name	Illegal Master Axi	s Specification		Event code	54620000 hex		
		· ·	.4				
Meaning			ster input variable to a motion control in				
Source	Motion Control Fu	unction Module	Source details	MC common or axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		possible for relevan ecelerates to a stop		
System-de- fined variables	Variable		Data type		Name		
	_MC_COM.MFau	ıltLvl.Active	BOOL		MC Common Mir	or Fault Occur-	
	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Occurrence	
Cause and cor-			Correction	Correction			
rection	ble specified for the variable to the insection. The axis that was	An axis does not exist for the variable specified for the <i>Master</i> input variable to the instruction. The axis that was specified for the		Correct the instruction so that the variable exists for the axis that was specified for the instruction. Correct the variable that is input to		Specify a variable that exists when specifying a variable for an input parameter to an instruction. Set the variable that is input to the	
	Master input variable to the MC_Phasing (Shift Master Axis Phase) instruction is not the master axis for syncing.		MC_Phasing (Shi Phase) instruction ble that is specifie	the <i>Master</i> input variable of the MC_Phasing (Shift Master Axis Phase) instruction to the axis variable that is specified as the master axis of the synchronized control instruction		able of the ift Master Axis In to the axis varia- ed as the master ronized control in-	
	The master axis and a slave axis are not assigned to the same task.		Assign the axes that are input to the <i>Master</i> and <i>Slave</i> input variables to the instruction to the same task.		Specify axes that are assigned to the same tasks for the master and slave axes.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Motion Control Ins (SlaveOffset)	struction Re-execu	tion Disabled	Event code	54630000 hex		
Meaning	An attempt was made to change the <i>SlaveOffset</i> input variable when re-executing a motion control ir (This input variable cannot be changed when re-executing an instruction.)						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	1 .	possible for relevant axis. Relevant to a stop if it is in motion.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable that cannot be changed for re-execution was changed.		Correct the program so that the parameter for the relevant input variable does not change when the relevant instruction is re-executed.		put variables to the relevant motion		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Motion Control Instruction Re-execution Disabled (SlaveScaling)			Event code	54640000 hex		
Meaning	· ·	An attempt was made to change the <i>SlaveScaling</i> input variable when re-executing a motion control instruction. (This input variable cannot be changed when re-executing an instruction.)					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation is not possible for relevant axis. Rel axis decelerates to a stop if it is in motion.			
System-de-	em-de- Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable that cannot be changed for re-execution was changed.		rameter for the re	Correct the program so that the parameter for the relevant input variable does not change when the relevant instruction is re-executed.		put variables to the relevant motion	
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Motion Control In: (StartPosition)	struction Re-execu	tion Disabled	Event code	54650000 hex		
Meaning	An attempt was m	An attempt was made to change the <i>StartPosition</i> input variable when re-executing a motion control instruc- ion. (This input variable cannot be changed when re-executing an instruction.)					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction re- execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		possible for relevan to a stop if it is in m		
System-de-	de- Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ltLvl.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable		Correct the program so that the pa-		Check the manual to see if the in-		
		that cannot be changed for re-exe-		rameter for the relevant input varia-		put variables to the relevant motion	
	cution was changed.		ble does not change when the rele-		control instruction can be changed		
			vant instruction is	vant instruction is re-executed.		Vrite the program	
					so that the input p		
					any input variable		
						changed do not change upon re- execution.	
Attached information	None				- CASSELLISTIN		
Precautions/ Remarks	None	None					

Event name	Instruction Execut	tion Error with Und	efined Home	Event code	54660000 hex		
Meaning	High-speed homir	ng or an interpolation	on instruction was e	executed when hon	ne was undefined.		
Source	Motion Control Fu	unction Module	Source details	Axis/axes group	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	If "axis" is given for the source details,			
				operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion.			
					given for the sourc		
					ossible for relevant		
				'	decelerates to a st		
				tion.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault (Occurrence	
	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Mino	r Fault Occur-	
					rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	High-speed homing was executed			Execute the high-speed homing		speed homing in-	
	when home was undefined.		operation only after homing to de- fine home.		struction only after home is defined by homing.		
	An interpolation in	actruction was	Perform homing t	a dafina hama far	Perform homing to define home for		
	An interpolation ir executed for an a		all axes in the axe		all axes in the axes group before		
		cludes an axis with no defined		rpolation instruc-	executing the interpolation instruction.		
	home.		tion.				
	One of the following robot instruc-						
		tions was executed for an axes					
	- '	group that includes a logical axis					
		with no defined home.					
	_	 MC_SetKinTransform (Set Kine- matics Transformation) instruc- 					
	tion	mation, motido					
	MC_MoveTime	Absolute (Time-					
	specified Absol	lute Positioning)					
	instruction						
		arConveyor (Start					
	struction	chronization) in-					
		End Synchroniza-					
	tion) instruction						
	MC_GroupMor						
	instruction						
		(Axes Group Jog)					
	instruction						
Attached infor-		tion 1: Depends on	the source details				
mation	Axis: 0 Axes group: Le	agical axis number					
Propautions/		ogical axis number	uction ofter perform	ing homing homes	will again ha undaf	nod Vou must	
Precautions/ Remarks	1	e Set Position instru Igain to define hom	iction after perform e in this case	ing noming, nome	wılı ayalıı be undeti	neu. Tou must	
Komarks	l benonin noning a	gan to deline nom	5 III IIII 0036.				

Event name		struction Re-execu	tion Disabled (Po-	Event code	54670000 hex		
	sition Type)					_	
Meaning	An attempt was n	nade to change the	out variable when re	e-executing a motic	on control instruc-		
	tion. (This input v	ariable cannot be c	changed when re-ex	recuting an instruct	ion.)		
Source	Motion Control Fu	Motion Control Function Module		Axis	Detection tim-	At instruction re-	
					ing	execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation is not p	ossible for relevan	t axis. Relevant	
				axis decelerates t	o a stop if it is in m	otion.	
System-de-	Variable		Data type	Data type		Name	
fined variables	_MC_AX[*].MFau	ltLvl.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A parameter for an input variable		Correct the program so that the pa-		Check the manual to see if the in-		
	that cannot be ch	anged for re-exe-	rameter for the re	rameter for the relevant input variable does not change when the relevant instruction is re-executed.		put variables to the relevant motion	
	cution was chang	ed.	ble does not char			control instruction can be changed	
			vant instruction is			Vrite the program	
					so that the input p	parameters for	
					any input variable	that cannot be	
					changed do not c	hange upon re-	
					execution.		
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Unused Axis Spe	cification for Maste	r Axis	Event code	54680000 hex		
Meaning	The master axis s	specified for a motion	on control instructio	n is an unused axis	S.		
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation is not possible for relevant slave axis Relevant slave axis decelerates to a stop if it is tion.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ltLvl.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	The master axis s	specified for a mo-	Set a used axis fo	or the master axis	Make sure the master axis speci-		
	tion control instru	ction is an un-	that is specified for	or the instruction.	fied for the motion	n control instruc-	
	used axis.				tion is a used axis.		
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	First Position Sett	ting Out of Range		Event code	54690000 hex		
Meaning	The parameter sp	The parameter specified for the FirstPosition input variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program Continues. Operation		Operation	Operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Last Position Setting Out of Range			Event code	546A0000 hex		
Meaning	The parameter sp	The parameter specified for the <i>LastPosition</i> input variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	Axis	Detection tim-	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program			oossible for relevant axis. Relevant to a stop if it is in motion.			
System-de-	n-de- Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Illegal First/Last Position Size Relationship (Linear Mode)			Event code	546B0000 hex	
Meaning			tPosition input varia ition input variable.	ble to a motion cor	ntrol instruction is s	maller than the
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.			oossible for relevan o a stop if it is in m	
System-de-	Variable	e Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The value of the LastPosition input parameter is less than the value of the FirstPosition input variable for the instruction when the Count Mode is set to Linear Mode.		Correct the program so that the value of the <i>LastPosition</i> specified for the instruction is larger than the value of the <i>FirstPosition</i> . Or, change the value of the Count Mode to Rotary Mode.		Write the program so that the value of the <i>LastPosition</i> specified for the instruction is larger than the value of the <i>FirstPosition</i> . Or, check to make sure that the Count Mode of the relevant axis is set to Rotary Mode.	
Attached infor-	None					
mation						
Precautions/ Remarks	None					

Event name	Master Sync Star	t Position Setting C	Out of Range	Event code	546C0000 hex			
Meaning	The parameter sp	The parameter specified for the <i>MasterSyncPosition</i> input variable to a motion control instruction is out of range.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	Operation Operation is not possible for relevant slave a Relevant slave axis decelerates to a stop if tion.				
System-de-	Variable	Variable Data type			Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention		
rection	ceeded the valid range of the input valid range of the variable.		Correct the paran valid range of the not exceeded for struction.	e input variable is struction so that the valid range		he valid range of		
Attached infor- mation	None							
Precautions/ Remarks	None							

Event name	Slave Sync Start	Position Setting Ou	ut of Range	Event code	546D0000 hex		
Meaning	The parameter sp	The parameter specified for the SlaveSyncPosition input variable to a motion control instruction is out of range					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects				on is not possible for relevant axis. Relevant elerates to a stop if it is in motion.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p ceeded the valid i variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Duplicate Latch II) for Trigger Input (Condition	Event code	546E0000 hex	
Meaning	The same latch ID	was specified for	more than one mot	ion control instruct	ion.	
Source	Motion Control Fu	ınction Module	Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation		possible for relevan to a stop if it is in m	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The same latch ID is used simultaneously for more than one of the following instructions: MC_TouchProbe (Enable External Latch) instruction, MC_MoveLink (Synchronous Positioning) instruction, and MC_MoveFeed (Interrupt Feeding) instruction.		of the same latch ID is not used by another instruction at the same time as this instruction. Either use a different latch ID or do not execute any instructions that use the same freeding) latch ID at the same time.		Do not use the same latch ID simultaneously for more than one of the following instructions: MC_TouchProbe (Enable External Latch) instruction, MC_MoveLink (Synchronous Positioning) instruction, and MC_MoveFeed (Interrupt Feeding) instruction.	
	The MC_AbortTrigger (Disable External Latch) instruction was executed to cancel a latch that was used by an instruction other than the MC_TouchProbe (Enable External Latch) instruction.		Do not use the Disable External Latch instruction to cancel a latch that is used by an instruction other than the Enable External Latch instruction.		Do not execute the Disable External Latch instruction for a latch that is used by an instruction other than the Enable External Latch instruction.	
Attached infor- mation	None		•			
Precautions/ Remarks	If you decide to ch	nange the latch ID,	make sure that sar	me latch ID is not u	sed by any other ir	nstructions.

Event name	Jerk Override Factor Out of Range			Event code	546F0000 hex		
Meaning	The parameter sp	The parameter specified for the <i>JerkFactor</i> input variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	Axis/axes group	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.				ossible for relevant axis. Relevant o a stop if it is in motion.	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Acceleration/Deceleration Override Factor Out of Range			Event code	54700000 hex		
Meaning	The parameter sp	The parameter specified for the AccFactor input variable			ol instruction is out	of range.	
Source	Motion Control Fu	Motion Control Function Module		Axis/axes group	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.			ossible for relevant axis. Relevant o a stop if it is in motion.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ltLvl.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached information	None						
Precautions/ Remarks	None						

Event name	First Position Met	hod Specification C	Out of Range	Event code	54710000 hex	
Meaning	The parameter sp	ecified for the Star	<i>tMode</i> input variabl	e to a motion contr	ol instruction is out	of range.
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	l	oossible for relevan to a stop if it is in m	
System-de-	System-de- Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	ceeded the valid range of the input valid range variable.			Set the input parameter to struction so that the valid the relevant in-		he valid range of
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Motion Control Instruction Re-execution Disabled (First Position Method)			Event code	54720000 hex	
Meaning		•	StartMode input valed when re-execut	ariable when re-exe ing an instruction.)	cuting a motion co	ntrol instruction.
Source	Motion Control Fu	Motion Control Function Module		Axis	Detection tim- ing	At instruction re- execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.			ossible for relevan o a stop if it is in m	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A parameter for an input variable that cannot be changed for re-execution was changed.		Correct the program so that the parameter for the relevant input variable does not change when the relevant instruction is re-executed.		put variables to the relevant motion	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Unused Axis Specification for Auxiliary Axis			Event code	54740000 hex	_	
Meaning	The axis specified for the Auxiliary input variable to a motion control instruction is an unused axis.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Recovery Error reset		System	
Effects	User program	Continues.			ossible for relevant slave axis. is decelerates to a stop if it is in mo-		
System-de-	Variable		Data type	Data type		Name	
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	Auxiliaryinput variable to the instruction is an unused axis.		Set a used axis for specified for the incorrect the param specifies a used a	nstruction. Or, neter so that it	Make sure that the for the instruction	•	
Attached infor- mation	None						
Precautions/ Remarks	None						
Event name	Position Gear Value Error Event code 54750000 hex						
Meaning	Synchronized motion is not possible for the velocity, acceleration rate, and deceleration rate that were input to						

Event name	Position Gear Value Error			Event code	54750000 hex		
Meaning	Synchronized motion is not possible for the velocity, acceleration rate, and deceleration rate that were input to a motion control instruction.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level Minor fault		Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		t possible for relevant slave axis. axis decelerates to a stop if it is in mo-		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The specified synchronized motion cannot be performed at the velocity, acceleration rate, or deceleration rate that is input to the instruction.		Correct the program to enable synchronized motion according to the operating specifications of the MC_GearInPos (Positioning Gear Operation) instruction.		Check the processing of the relevant instruction and set a value that allows for synchronized motion.		
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Position Gear Master Axis Zero Velocity			Event code	54760000 hex	
Meaning	The velocity of the master axis was zero when a motion control instruction was started.					
Source	Motion Control Function Module		Source details	Axis	Detection tim-	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Operation is not possible for relevant slave axis. Relevant slave axis decelerates to a stop if it is i tion.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The velocity of the master axis was 0 when the instruction was started.		Correct the program so that the velocity of the master axis is not 0 when the instruction is started.		Write the program so that the velocity of the master axis is not 0 when the instruction is started.	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Target Position Setting Out of Range Event code 54780000 hex					
	3 3 3					
Meaning	The parameter specified for the <i>Position</i> input variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	Axis/axes group	Detection tim-	At instruction execution
Error attributes				ing Log category	System	
Effects	User program	Continues.				
Elicots	osci program	Continues.	Орегилен	If "axis" is given for the source details, operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion. If "axes group" is given for the source details, operation is not possible for relevant axes group. Re evant axes group decelerates to a stop if it is in motion.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence	
	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Minor Fault Occur-	
					rence	
Cause and cor-	Assumed cause		Correction		Prevention	
Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
	The target position of a Rotary Mode axis is not within the ring set- ting range.		Correct the target position of the Rotary Mode axis to within the ring setting range.		Set the target position of the Rotary Mode axis to within the ring setting range.	
Attached infor- mation	Attached Information 1: Depends on the source details • Axis: 0 • Axes group: Element number that is out of range in the <i>Position</i> input variable to the instruction.					
Precautions/ Remarks	None					

Event name	Travel Distance Out of Range			Event code	54790000 hex		
Meaning	The parameter that was specified for the <i>Distance</i> input variable to a motion control instruction is out of range or the target position with the value of <i>Distance</i> added is out of range.						
Source	Motion Control Function Module		Source details	Axis/axes group	Detection tim- ing	At instruction execution	
Error attributes	Level Minor fault Recovery Error reset		Error reset	Log category	System		
Effects	User program	Continues.	Operation	operation is not possible fo axis decelerates to a stop in If "axes group" is given for operation is not possible fo		e for relevant axis. Relevant op if it is in motion.	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The absolute value of the instruction input parameter exceeded the range of 40-bit data when it is converted to pulses. For a Linear Mode axis, the target position with the travel distance		Correct the input parameter specified for the <i>Distance</i> input variable of the instruction so that the travel distance and the target position are not out of range.		Write the program so that the travel distance and the target position for the instruction are not out of range.		
	added exceeded when the absolute verted to pulses.	signed 40-bit data e value is con-					
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Cam Table Start Point Setting Out of Range			Event code	547A0000 hex		
Meaning	The parameter sp	The parameter specified for the <i>StartPosition</i> input variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program Continues. Opera		Operation	Operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the paran valid range of the not exceeded for struction.	input variable is	Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Cam Master Axis Following First Position Setting Out of Range			Event code	547B0000 hex			
Meaning	The parameter sprange.	he parameter specified for the <i>MasterStartDistance</i> input variable to a motion control instruction is out of inge.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation			ssible for relevant axis. Relevant a stop if it is in motion.		
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.			
Attached infor- mation	None		,					
Precautions/ Remarks	None							

Event name	Circular Interpola	tion Radius Setting	Error	Event code	547C0000 hex		
Meaning	It was not possibl	e to create a circula	ar path for the spec D Interpolation) ins	cified radius when t		as specified for	
Source			Source details	Axes group	Detection tim-	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.				ossible for relevant axes group. oup decelerates to a stop if it is in	
System-de-			Data type		Name		
fined variables			BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	For the MC_MoveCircular2D (Circular 2D Interpolation) instruction, it was not possible to create a circular path for the specified radius when the radius method was specified for circular interpolation.		Correct the radius so that the circular path can be created.		Check the proces vant instruction at that allows the cre path.	J	
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Circular Interpola	tion Radius Overflo)W	Event code	547D0000 hex		
Meaning	For the MC_Move	eCircular2D (Circul	ar 2D Interpolation)	instruction, the rac	dius of the circle ex	ceeded the maxi-	
	mum value for the	e border point or ce	enter specification n	nethod.			
Source	Motion Control Fu	unction Module	Source details	Axes group	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program Continues. Operation Operation is n		Operation is not p	oossible for relevan	t axes group.		
				Relevant axes gro	oup decelerates to	a stop if it is in	
				motion.			
System-de-	Variable		Data type		Name		
fined variables	ables _MC_GRP[*].MFaultLvl.Active BOOL		BOOL		Axes Group Minor Fault Occur-		
			rence				
Cause and cor-	Assumed cause		Correction		Prevention		
rection	For the MC_Move	eCircular2D (Cir-	Correct the input parameter so that the circle radius does not exceed 40-bit data when it is converted to pulses based on the operating		Check the processing of the instruction and correct the input parameters so that the circle radius		
	cular 2D Interpola	ation) instruction,					
	the radius of the						
	40-bit data when				does not exceed		
	pulses for the bor	·	specifications of t		when converted t	o pulses.	
	ter specification n	nethod.	Border point spec				
			point, border point	•			
	Center point specification						
Attached info	Nana		point, end point, a	and center point			
Attached infor- mation	None						
	16.0	. 15 2				· 1/0 · 1 · D · :	
Precautions/			when the radius spe	ecification method i	s used, a Border P	oint/Center Posi-	
Remarks	Tion/Radius Spec	ification Out of Ran	ige error occurs.				

	0: 1 1 1				5.4750000.1		
Event name	Circular Interpola	tion Setting Out of	Range	Event code	547E0000 hex		
Meaning	The parameter sp	pecified for the Circ	Axes input variable	to a motion contro	rol instruction is out of range.		
Source	Motion Control Fu	unction Module	Source details	Axes group	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Minor fault	Recovery Error reset		Log category	System	
Effects	ffects User program Continues. Operation		Operation	Operation is not p	ossible for relevan	t axes group.	
			Relevant axes gro		oup decelerates to	a stop if it is in	
				motion.			
System-de-	Variable		Data type		Name		
fined variables	ed variables MC GRP[*].MFaultLvl.Active		BOOL		Axes Group Mino	r Fault Occur-	
					rence		
Cause and cor-	nd cor- Assumed cause		Correction	Correction			
rection	Instruction input parameter ex-		Correct the parameter so that the		Set the input parameters to the in-		
	ceeded the valid range of the input		valid range of the input variable is		struction so that the valid range of		
	variable.		not exceeded for the relevant instruction.		the input variables is not exceeded.		
	The axes that we	re specified in	Set the axes that are specified for		Make sure that the axes that are		
	CircAxes are not	included in the	CircAxes so that they are in an axes group configuration.		specified for CircAxes are in an ax-		
	composition axes	in the Axes			es group configur	ation.	
	Group Settings.						
	The same axis wa	as specified for	Correct the setting	gs so that the two	Write the progran	n so that the two	
	both axes of Circ	Axes.	axes specified for	CircAxes are dif-	axes specified for	CircAxes are dif-	
			ferent axes.		ferent axes.		
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Auxiliary/Slave Ax	ris Numbers Not in	Ascending Order	Event code	547F0000 hex		
Meaning		The values of the parameters for the <i>Auxiliary</i> and <i>Slave</i> input variables to a motion control instruction are not a scending order.					
Source	Motion Control Function Module S		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects			oossible for relevant axis. Relevant o a stop if it is in motion.				
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	and <i>Slave</i> input variables to the instruction are not in ascending or-		Correct the axis numbers specified for the <i>Auxiliary</i> and <i>Slave</i> input parameters to the instruction so that they are in ascending order.		Write the program so that the axis numbers specified for <i>Auxiliary</i> and <i>Slave</i> are in ascending order.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Cam Table Prope	rty Ascending Data	Frror at Undate	Event code	54800000 hex		
Meaning	A phase that was	A phase that was not in ascending order was found during calculating the number of valid data. Or, after calculations, the number of valid data is 0.					
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	During instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation Not affected.				
System-de-	Variable _MC_COM.MFaultLvI.Active		Data type	Data type		Name	
fined variables			BOOL		MC Common Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A phase that was not in ascending order was found when calculating the number of valid data.		Place the phase data into ascending order in the cam table data.		Place the phase data into ascending order in the cam table data.		
	After calculations, the number of valid data is 0.		Correct the cam table data so that it includes phases that are not 0.		Create the cam table data so that it includes phases that are not 0.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	MC_Write Target Out of Range			Event code	54810000 hex	
Meaning	The parameter sp	ecified for the <i>Targ</i>	<i>et</i> input variable to	a motion control in	struction is out of r	ange.
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-			Data type		Name	
fined variables			BOOL		MC Common Minor Fault Occur-	
					rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input parameter exceeded the valid range of the input variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		ameter to the in- he valid range of is not exceeded.
Attached information	None					
Precautions/ Remarks	None					

Event name	Master Travel Dis	tance Specification	Out of Range	Event code	54820000 hex	
Meaning	The parameter sp	ecified for the <i>Mas</i>	<i>terDistance</i> input v	ariable to a motion	control instruction	is out of range.
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.			ossible for relevant slave axis. is decelerates to a stop if it is in mo-	
System-de- fined variables	Variable		Data type		Name	
	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input para struction so that t the input variable	he valid range of
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Master Distance in Acceleration Specification Out of Range			Event code	54830000 hex		
Meaning	The parameter sprange.	pecified for the <i>Mas</i>	terDistanceACC in	put variable to a m	otion control instruc	ction is out of	
Source	Motion Control Function Module S		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	1 '	possible for relevant slave axis. ixis decelerates to a stop if it is in mo-		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ltLvl.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Master Distance	in Deceleration Spe	ecification Out of	Event code	54840000 hex		
Meaning	The parameter sprange.	ne parameter specified for the <i>MasterDistanceDEC</i> input variable to a motion control instruction is out of nge.					
Source	Motion Control Function Module Source details		Axis	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		not possible for relevant slave axis. re axis decelerates to a stop if it is in mo-		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter exceeded the valid range of the input variable. Correct the parameter exceeded the input valid range of the input valid range of the input variable.		input variable is struction so that the valid rang		he valid range of		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Execution Mode Selection Out of Range			Event code	54870000 hex		
Meaning	The parameter sp	The parameter specified for the ExecutionMode input variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program				ossible for relevant axis. Relevant o a stop if it is in motion.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvI.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Permitted Followi	ng Error Out of Rai	nge	Event code	54880000 hex			
Meaning	The parameter sprange.	The parameter specified for the <i>PermittedDeviation</i> input variable to a motion control instruction is out of lange.						
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	The instruction is	not executed.	•		
System-de-	Variable I		Data type		Name			
fined variables	_MC_COM.MFau	ltLvI.Active	BOOL		MC Common Minor Fault Occur-			
					rence			
Cause and cor-	Assumed cause		Correction Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Prevention			
rection	Instruction input p ceeded the valid in variable.	earameter ex- range of the input			Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.			
	variable.		struction.		ine input variable is not exceeded.			
Attached infor- mation	None							
Precautions/	None							
Remarks								

Event name	Border Point/Center Position/Radius Specification Ou of Range			Event code	54890000 hex		
Meaning	The parameter sp	The parameter specified for the <i>AuxPoint</i> input variable to a motion control instruction is out of range.					
Source	Motion Control Fu	unction Module			Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation Operation is not possible for relevant axes g Relevant axes group decelerates to a stop it motion.		• .		
System-de-	Variable		Data type		Name		
fined variables	_MC_GRP[*].MFa	aultLvl.Active	BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The value of <i>AuxPoint</i> exceeded signed 40-bit data when converted to pulses for the border point or center specification method. For a radius specifications, the absolute value of <i>AuxPoint[0]</i> exceeded 40-bit data when it is con-		Correct the paran valid range of the not exceeded for struction.	input variable is	Set the input para struction so that t the input variable	he valid range of	
	verted to pulses.						
Attached information	verted to pulses.						

Event name	End Point Specifi	cation Out of Rang	е	Event code	548A0000 hex			
Meaning	The parameter sp	The parameter specified for the <i>EndPoint</i> input variable to a motion control instruction is out of range.						
Source	Motion Control Function Module		Source details	Axes group	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation Operation is not possible for relevant axes g Relevant axes group decelerates to a stop if motion.		0 1			
System-de-	Variable		Data type		Name			
fined variables	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur- rence			
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention		
rection			Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.			
Attached infor- mation	None							
Precautions/ Remarks	None							

Event name	Slave Travel Dista	ance Specification	Out of Range	Event code	548B0000 hex		
Meaning	The parameter sp	ecified for the <i>Slav</i>	<i>eDistance</i> input va	riable to a motion c	ontrol instruction is	out of range.	
Source	Motion Control Fu	unction Module	Source details	Axis	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation is not p	ossible for relevan	t slave axis.	
				Relevant slave ax	Relevant slave axis decelerates to a stop if it is in mo-		
				tion.			
System-de-	System-de- Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The instruction in	put parameter ex-	Correct the paran	neter so that the	Set the input parameter to the in-		
	ceeded the range	of 40-bit data	valid range of the input variable is		struction so that the valid range of		
	when it is convert	when it is converted to pulses.		not exceeded for the relevant in-		the input variable is not exceeded.	
			struction.				
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Phase Shift Amou	unt Out of Range		Event code	548C0000 hex		
Meaning	The parameter sp	ecified for the <i>Pha</i>	seShift input variab	le to a motion con	trol instruction is ou	t of range.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		not possible for relevant slave axis. e axis decelerates to a stop if it is in mo-		
System-de-	Variable		Data type		Name	Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The absolute value of the instruction input parameter exceeded the range of 40-bit data when it is converted to pulses.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Feeding Distance	Out of Range		Event code	548D0000 hex		
Meaning	The parameter sp	The parameter specified for the <i>FeedDistance</i> input variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.				ossible for relevant axis. Relevant o a stop if it is in motion.	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The absolute value of the instruction input parameter exceeded the range of 40-bit data when it is converted to pulses.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None		•				
Precautions/ Remarks	None						

Event name	Auxiliary and Slav	ve Defined as Sam	e Axis	Event code	548E0000 hex	
Meaning	,	specified for the Au		nput variables to a	motion control instr	uction.
Source	Motion Control Function Module		Source details	Axis	Detection tim-	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation		not possible for relevant slave axis. ve axis decelerates to a stop if it is in mo-	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault (Occurrence
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The parameter was the same for the <i>Auxiliary</i> and <i>Slave</i> input variables to the instruction.		Correct the parameters so that different axes are specified for the <i>Auxiliary</i> and <i>Slave</i> input variables to the instruction.		Specify different axes for the auxiliary axis and slave axis for a motion control instruction.	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Relative Position	Selection Out of Ra	ange	Event code	548F0000 hex		
Meaning	The parameter sp	The parameter specified for the <i>Relative</i> input variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation			ossible for relevant axis. Relevant o a stop if it is in motion.	
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Cam Transition S	pecification Out of	Range	Event code	54900000 hex	
Meaning	The parameter sp	ecified for the <i>Can</i>	nTransition input va	riable to a motion o	ontrol instruction is	out of range.
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation		ossible for relevant slave axis. is decelerates to a stop if it is in mo-	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
Attached information	None					
Precautions/ Remarks	None					

Event name	Synchronized Control End Mode Selection Out of Range			Event code	54910000 hex		
Meaning	The parameter specified for the OutMode input variab			to a motion contro	l instruction is out o	of range.	
Source	Motion Control Fu	Motion Control Function Module		Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation is not possible for relevant slave axis. Relevant slave axis decelerates to a stop if it is in tion.			
System-de-	Variable		Data type	Data type			
fined variables	_MC_AX[*].MFau	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	ceeded the valid range of the input valid range of the input valid range of the input valid range variable.		valid range of the	Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
Attached infor- mation	None						
Precautions/	None						
Remarks							

Event name	Enable External L	atch Instruction Ex	ecution Disabled	Event code	54920000 hex	
Meaning				the <i>StopMode</i> inpu		e MC_TouchP-
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Operation is not possible for relevant axis. Releasis decelerates to a stop if it is in motion.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	_mcImmediateSto Stop) was specific StopMode input v MC_TouchProbe Latch) instruction Drive Mode for an	ed for the ariable when the (Enable External was executed in	_mcImmediateStop (Immediate stop) is not specified for StopMode for the encoder axis. ited in		If you specify _mcImmediateStop (Immediate Stop) and use Drive Mode, execute the MC_TouchProbe (Enable External Latch) instruction only for a servo axis.	
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Master Axis Offse	et Out of Range		Event code	54930000 hex		
Meaning	The parameter sp	ecified for the <i>Mas</i>	terOffset input varia	able to a motion co	ntrol instruction is o	out of range.	
Source	Motion Control Fu	unction Module	Source details	Axis	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation is not p	ossible for relevan	t slave axis.	
				Relevant slave ax	elevant slave axis decelerates to a stop if it is in mo-		
	tion.		tion.				
System-de-	System-de- Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The instruction in	put parameter ex-	Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the range	of signed 40-bit	valid range of the input variable is		struction so that the valid range of		
	data when it is converted to pulses.		not exceeded for the relevant in-		the input variable is not exceeded.		
			struction.				
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Slave Axis Offset	Out of Range		Event code	54940000 hex		
Meaning	The parameter sp	ecified for the <i>Slav</i>	eOffset input varia	ble to a motion co	ntrol instruction is o	ut of range.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	l .	ot possible for relevant slave axis. e axis decelerates to a stop if it is in mo-		
System-de-	Variable		Data type		Name	Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The instruction input parameter exceeded the range of signed 40-bit data when it is converted to pulses.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Command Current Position Count Selection Out of Range			Event code	54950000 hex		
Meaning	The parameter sp	ecified for the Cmo	dPosMode input va	riable to a motion c	ontrol instruction is	out of range.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		eration is not possible for relevant axis. Relevant s decelerates to a stop if it is in motion.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	Master Axis Gear	Ratio Numerator 0	Out of Range	Event code	54960000 hex		
Meaning	The parameter sp	The parameter specified for the <i>RatioNumeratorMaster</i> input variable to a motion control instruction is out of ange.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		not possible for relevant slave axis. Relexis decelerates to a stop if it is in motion.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor-	None						
Precautions/ Remarks	None						

Event name	Master Axis Gear	Ratio Denominato	r Out of Range	Event code	54970000 hex		
Meaning	The parameter sp	ecified for the <i>Rati</i>	oDenominatorMast	<i>er</i> input variable to	a motion control in	struction is out of	
Source	Motion Control Fu	unction Module	Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	l	oossible for relevan ecelerates to a stop		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input p ceeded the valid in variable.		Correct the paran valid range of the not exceeded for	input variable is	Set the input para struction so that t the input variable	he valid range of	
	variable.		struction.	uic reievant in-	The input variable	is not exceeded.	
Attached infor- mation	None						
Precautions/ Remarks	None						
Event name	Auxiliary Axis Gea	ar Ratio Numerator	Out of Range Event code		54980000 hex		
Meaning	The parameter sprange.	ecified for the <i>Rati</i>	oNumeratorAuxiliai	y input variable to	a motion control ins	struction is out of	
Source	Motion Control Fu	unction Module	Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	l	possible for relevan ecelerates to a stop		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	ceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None						

Precautions/

Remarks

None

Event name	Auxiliary Axis Gea	ar Ratio Denominat	or Out of Range	Event code	54990000 hex		
Meaning	The parameter specified for the <i>RatioDenominatorAuxiliary</i> input variable to a motion control instruction is out of range.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		possible for relevant slave axis. Releccelerates to a stop if it is in motion.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	ceeded the valid range of the input		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant in-		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor-	None		struction.				
mation	140110						
Precautions/	None						
Remarks							

Event name	Master Axis Posit	ion Type Selection	Out of Range	Event code	549A0000 hex		
Meaning	The parameter sp	The parameter specified for the <i>ReferenceTypeMaster</i> input variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	Axis	Detection tim-	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	l	n is not possible for relevant slave axis. Releve axis decelerates to a stop if it is in motion.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention	
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None						
Precautions/ Remarks	None						

Event name	Auxiliary Axis Position Type Selection Out of Range			Event code	549B0000 hex			
Meaning	The parameter sp range.	The parameter specified for the <i>ReferenceTypeAuxiliary</i> input variable to a motion control instruction is out of range.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	Operation is not possible for relevant slave axis. vant slave axis decelerates to a stop if it is in more				
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention		
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.			
Attached infor- mation	None							
Precautions/ Remarks	None							

Event name	Target Position R	ing Counter Out of	Range	Event code	549C0000 hex			
Meaning	Operation is not p struction.	Operation is not possible because the target position is out of range for the ring counter of the executed instruction.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	l	possible for relevant axis. Relevant to a stop if it is in motion.			
System-de-	Variable		Data type		Name			
fined variables	d variables _MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	High-speed homing was executed when 0 was not included in the ring counter.		cuted when the ri does not include (program so that h ing is not perform	High-speed homing cannot be executed when the ring counter range does not include 0. Correct the program so that high-speed homing is not performed. Or change the settings so that the ring counter range includes 0.		cuted when the ring counter range does not include 0. Write the program so that high-speed homing is not performed. Or make the set-		
Attached infor- mation	None							
Precautions/ Remarks	None							

Event name	Axes Group Com	position Axis Settin	g Out of Range	Event code	549D0000 hex*1		
Meaning	The parameter sp	ecified for the Axe	s input variable to a	I motion control ins	struction is out of ra	nge.	
Source	Motion Control Fu		Source details	Axes group	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		not possible for relevant axes group. Rel group decelerates to a stop if the axes are		
System-de-	Variable		Data type		Name		
fined variables	_MC_GRP[*].MFa	aultLvl.Active	BOOL	BOOL		Axes Group Minor Fault Occur- rence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
	The composition axes in the axes group are not assigned to the same task.		Assign all of the axes that are specified for the Axes input variable to the instruction to the same task.		Specify axes that are assigned to the same task for all of the composition axes in an axes group.		
Attached information	Attached Information 1: Error Details 01 hex: There is a type specification error. 02 hex: The number of elements in the array is lower than the number of composition axes. 03 hex: The same axis number is specified twice, the axis type of the specified axis number is not supported, or the specified axis number is out of range. 04 hex: The axis with the specified axis number cannot be set as the composition axis because it is a single-						
	axis position cont	•		22 201 40 410 00111		22 10 4 0111910	
Precautions/	None						
Remarks							

^{*1.} This event code occurs for a CPU Unit with unit version 1.01 or later.

Event name	Axis Use Setting	Out of Range		Event code	549E0000 hex*1		
Meaning	The parameter sp	ecified for the Axis	Use input variable	to a motion control	instruction is out o	f range.	
Source	Motion Control Function Module		Source details	MC common or axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFaultLvl.Active		BOOL		MC Common Minor Fault Occur-		
	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause			Correction		Prevention	
rection	Instruction input parameter exceeded the valid range of the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.		
Attached infor- mation	None						
Precautions/ Remarks		If an error occurs in executing an instruction for a used axis, an axis error will occur. If an error occurs in executing an instruction for an unused axis, an MC common error will occur.					

^{*1.} This event code occurs for a CPU Unit with unit version 1.04 or later.

Event name	Homing Paramete	er Setting Out of Ra	ange	Event code	57000000 hex*1	
Meaning	The parameter sp	pecified for the <i>Hon</i>	<i>ningParameter</i> inpu	t variable to a moti	on control instruction	on is out of range.
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFau	IltLvl.Active	BOOL		MC Common Min rence	or Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Instruction input p ceeded the valid i variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the relevant instruction.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded.	
Attached information	1: Homing Method Home Input Deter eration Selection Velocity out of rar Jerk out of range, range, 14: Homin Compensation Ve to pulses, 101: Ho ceeded 40-bit ran 104: Home Offsel range, 106: Homi velocity, 108: Hon sation Velocity is	ction Direction out of at Negative Limit Inge, 9: Homing Acc., 12: Home Input Mg Holding Time out elocity out of range, ome Input Mask Dirige when converted texceeded 40-bit rang Velocity exceed ning Approach Velonot less than or eq	lome Input Signal of range, 5: Operation out of range, 7: eleration out of range, 7: eleration out of range, 15: Homing 100: Home Input Matance exceeded material to pulses, 103: Home Inge when converted maximum velocation was not less the pulse of the Maximum Veleration exceeded in the pulses of the pulses of the pulses the pulses the pulse of the pulses the pulse of the pulses the pulse of t	ion Selection at Poi : Homing Velocity of ge, 10: Homing Def f range, 13: Absolu- ing Compensation Mask Distance exce- lodulo length, 102: oming Compensation ed to pulses, 105: I ity, 107: Homing Ap- nan or equal to Hor- locity, 110: Homing	sitive Limit Input out of range, 8: Hor receleration out of range, te Encoder Home (Value out of range, reeded 40-bit range Homing Compensation Value exceeded Home Offset excee oproach Velocity expring Velocity, 109: Acceleration exce	at of range, 6: Op- ming Approach inge, 11: Homing Offset out of 16: Homing when converted ation Value ex- modulo length, ded modulo acceeded maximum Homing Compen-
Precautions/	None	-				
Remarks						

^{*1.} This event code occurs for a CPU Unit with unit version 1.03 or later.

Event name	Axis Use Change	Error		Event code	57020000 hex*1			
Meaning		The MC_ChangeAxisUse (Change Axis Use) instruction was executed when the axis was not stopped or when the command velocity of the axis was saturated.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault	Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The MC_ChangeAxisUse (Change Axis Use) instruction was executed when the axis was not stopped or when the command velocity of the axis was saturated.		Reset the error and execute the MC_ChangeAxisUse (Change Axis Use) instruction when the axis is stopped or when the command velocity of the axis is not saturated. An axis is stopped if Status. Disabled or Status. Standstill is TRUE in the Axis Variable. The command velocity for an axis is saturated if Details. VelLimit is TRUE in the Axis Variable.		Execute the MC_ (Change Axis Uswhen the axis is command velocit	e) instruction		
Attached infor-	None							
mation								
Precautions/ Remarks	None							

^{*1.} This event code occurs for a CPU Unit with unit version 1.04 or later.

Event name	Cannot Change A	Axis Use		Event code	57030000 hex*1			
Meaning		The MC_ChangeAxisUse (Change Axis Use) instruction was executed in a way that would cause the maximum number of used real axes or the maximum number of used motion control servo axes to be exceeded.						
Source	Motion Control Function Module		Source details	MC Common	Detection tim-	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	_MC_COM.MFau	ultLvl.Active	BOOL		MC Common Minor Fault Occur- rence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The MC_ChangeAxisUse (Change Axis Use) instruction was executed in a way that would cause the maximum number of used real axes to be exceeded.		Correct the program so that the maximum number of real axes used by the CPU Unit is not exceeded.		Write the program so that the maximum number of real axes used by the CPU Unit is not exceeded.			
	The MC_ChangeAxisUse (Change Axis Use) instruction was executed in a way that would cause the maximum number of used motion control servo axes to be exceeded.		Correct the program so that the maximum number of used motion control servo axes that can be used by the CPU Unit is not exceeded.		Write the program so that the maximum number of used motion control servo axes that can be used by the CPU Unit is not exceeded.			
Attached information	Attached Information 1: Cause of the Error 1: Maximum number of used real axes exceeded 2: Maximum number of used motion control servo axes exceeded							
Precautions/	None							
Remarks								

^{*1.} This event code occurs for a CPU Unit with unit version 1.06 or later.

		Motion Control Parameter Setting Error When Chang- Event code 57200000 hex*1							
Event name	ing Axis Use	arameter Setting Er	ror When Chang-	Event code	57200000 hex*1				
Meaning	The motion contro	ol parameter setting	gs for the axis that	was changed to a ι	used axis are incor	rect.			
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution			
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System			
Effects	User program	Continues.	Operation	Not affected.					
System-de-	Variable		Data type		Name				
fined variables	_MC_COM.MFau	IltLvl.Active	BOOL	BOOL		nor Fault Occur-			
Cause and cor-	The MC_ChangeAxisUse (Change Axis Use) instruction was used to change an unused axis to a used axis, but the motion control parameter settings of the axis are not correct.		Correction		Prevention				
rection			the Axis Use of the error occurred to then check and concation. If an error change the setting	Use the Sysmac Studio to change the Axis Use of the axis where the error occurred to a Used Axis , and then check and correct the error location. If an error does not occur, change the setting to an Unused Axis and then download the settings again.					
	The power supply was interrupted while a download of the motion control parameter settings was in progress.		Download the MC parameters from the Sysmac Studio.		Do not interrupt the power supply while saving the parameter settings.				
	The non-volatile memory is faulty or the life of the non-volatile memory has been exceeded.		If this error remains even after making the above corrections, replace the CPU Unit.		None				
Attached infor- mation	None								
Precautions/ Remarks	None								

^{*1.} This event code occurs for a CPU Unit with unit version 1.04 or later.

Event name	Required Process ing Axis Use	s Data Object Not S	Set When Chang-	Event code	57210000 hex*1	
Meaning	The objects that a	are required for the	axis type of the axi	is that was change	d to a used axis are	e not set.
Source	Motion Control Fu	unction Module	Source details	MC Common	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation Not affected.			
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFau	ıltLvl.Active	BOOL		MC Common Min	or Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The objects that a the axis type of th changed to a use in the PDO map s	ne axis that was d axis are not set	Edit the PDO map settings on the Sysmac Studio and set the objects that are required for the axis where the error occurred. Refer to PDO Mapping on page 2-35 for the required objects.		Make sure that operation is correct when the axis is set to a Used Axis and then download the settings with it set to an Unused Axis .	
	The power supply while a download control parameter progress.	of the motion	Download the MC parameters from the Sysmac Studio.		Do not interrupt the power supply while saving the parameter settings.	
	The non-volatile memory is faulty or the life of the non-volatile memory has been exceeded.		If this error remains even after making the above corrections, replace the CPU Unit.		None	
	The MC_ChangeAxisUse (Change Axis Use) instruction was executed for an axis that Axis Use is set to Unused axis (unchangeable to used axis) .		Correct the program so that the MC_ChangeAxisUse (Change Axis Use) instruction is not executed for an axis that Axis Use is set to Unused axis (unchangeable to used axis) .		Write the program so that the MC_ChangeAxisUse (Change Axis Use) instruction is not executed for an axis that Axis Use is set to Unused axis (unchangeable to used axis) .	
Attached infor- mation	None					
Precautions/ Remarks	None					

^{*1.} This event code occurs for a CPU Unit with unit version 1.04 or later.

Event name	Motion Control Instruction Multi-execution Disabled (Master Axis)			Event code	572F0000 hex*1			
Meaning	A Master in-out va	ariable that cannot	be changed during	multi-execution of	multi-execution of instructions was changed.			
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At multi-execu- tion of instruc- tions		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	Not affected.	Not affected.			
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause	Assumed cause		Correction		Prevention		
rection	A <i>Master</i> in-out variable that cannot be changed during multiexecution of instructions was changed.		Correct the program so that the value of the <i>Master</i> in-out variable is not changed during multi-execution of the relevant instructions.		Write the program so that the value of the <i>Master</i> in-out variable is not changed during multi-execution of the relevant instructions.			
Attached information	None							
Precautions/	None							
Remarks								

^{*1.} This event code occurs for a CPU Unit with unit version 1.06 or later.

Event name	Motion Control Ins	struction Multi-exec	cution Disabled	Event code	57300000 hex*1	
	(Position Type Se	lection)				
Meaning	A ReferenceType in-out variable that cannot be changed			d during multi-exec	cution of instruction	s was changed.
Source	Motion Control Function Module		Source details	Axis	Detection tim-	At multi-execu-
					ing	tion of instruc-
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A ReferenceType	in-out variable	Correct the program so that the		Write the program so that the value	
	that cannot be ch	anged during	value of the <i>ReferenceType</i> in-out		of the ReferenceType in-out varia-	
	multi-execution of	instructions was	variable is not changed during mul-		ble is not changed during multi-ex-	
	changed.		ti-execution of the relevant instruc-		ecution of the relevant instructions.	
			tions.	tions.		
Attached infor-	None					
mation						
Precautions/	None					
Remarks						

^{*1.} This event code occurs for a CPU Unit with unit version 1.06 or later.

Event name	Cannot Write Axis	s Parameters		Event code	573A0000 hex*1	
Meaning	The instruction wa	as executed for an	axis that is not an ι	ınused axis.		
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-			Data type		Name	
fined variables			BOOL		MC Common Minor Fault Occur-	
					rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The instruction wa	as executed for a	Correct the program so that the		Write the program so that the	
	used axis or an u	ndefined axis.	MC_ChangeAxist	Use (Change Axis	se (Change Axis specified axis is an unused ax	
			Use) instruction is	s executed after	when the instruct	ion is executed.
			the specified axis	the specified axis is changed to an		
			unused axis.			
Attached infor-	None					
mation						
Precautions/	None					
Remarks						

^{*1.} This event code occurs for a CPU Unit with unit version 1.08 or later.

Event name	Axis Parameter S	etting Out of Range	е	Event code	573B0000 hex*1		
Meaning	The parameter sp valid range.	The parameter specified for the <i>AxisParameter</i> input variable to a motion control instruction is outside of the valid range.					
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation Not affected.			
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFau	IltLvI.Active	BOOL		MC Common Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Assumed cause The parameter specified for the AxisParameter input variable to the instruction is out of range for the input variable.		Correct the parameter so that the valid range of the input variable is not exceeded for the instruction. Confirm which parameter exceeded the range or what parameters are inconsistent in the attached information.		Set the input parameter to the instruction so that the valid range of the input variable is not exceeded. Refer to information on the MC_WriteAxisParameter (Write Axis Parameters) instruction for the valid ranges of the input variables.		

Attached information

Attached Information 1: Error Details

Range Check Detail Codes

0000 hex: Unit of Display out of range, 0001 hex: Command Pulse Count Per Motor Rotation out of range, 0002 hex: Work Travel Distance Per Motor Rotation out of range, 0003 hex: Work Travel Distance Per Rotation out of range, 0004 hex: Work Gear Ratio out of range, 0005 hex: Motor Gear Ratio out of range, 0100 hex: Maximum Velocity out of range, 0101 hex: Start Velocity out of range, 0102 hex: Maximum Jog Velocity out of range, 0103 hex: Maximum Acceleration out of range, 0104 hex: Maximum Deceleration out of range, 0105 hex: Acceleration/Deceleration Over out of range, 0106 hex: Operation Selection at Reversing out of range, 0107 hex: Velocity Warning Value out of range, 0108 hex: Acceleration Warning Value out of range, 0109 hex: Deceleration Warning Value out of range, 010A hex: Positive Torque Warning Value out of range, 010B hex: Negative Torque Warning Value out of range, 010C hex: In-position Range out of range, 010D hex: In-position Check Time out of range, 010E hex: Actual Velocity Filter Time Constant out of range, 010F hex: Zero Position Range out of range, 0200 hex: Immediate Stop Input Stop Method out of range, 0201 hex: Limit Input Stop Method out of range, 0202 hex: Drive Error Reset Monitoring Time out of range, 0203 hex: Maximum Positive Torque Limit out of range, 0204 hex: Maximum Negative Torque Limit out of range, 0300 hex: Software Limits out of range, 0301 hex: Positive Software Limit out of range, 0302 hex: Negative Software Limit out of range, 0303 hex: Following Error Over Limit Value out of range, 0304 hex: Following Error Warning Value out of range, 0400 hex: Count Mode out of range, 0401 hex: Modulo Maximum Position Setting Value out of range, 0402 hex: Modulo Minimum Position Setting Value out of range, 0500 hex: Homing Method out of range, 0501 hex: Home Input Signal out of range, 0502 hex: Homing Start Direction out of range, 0503 hex: Home Input Detection Direction out of range, 0504 hex: Operation Selection at Positive Limit Input out of range, 0505 hex: Operation Selection at Negative Limit Input out of range, 0506 hex: Homing Velocity out of range, 0507 hex: Homing Approach Velocity out of range, 0508 hex: Homing Acceleration out of range, 0509 hex: Homing Deceleration out of range, 050A hex: Homing Jerk out of range, 050B hex: Home Input Mask Distance out of range, 050C hex: Home Offset out of range, 050D hex: Homing Holding Time out of range, 050E hex: Homing Compensation Value out of range, 050F hex: Homing Compensation Velocity out of range

· Consistency Check Detail Codes

1000 hex: The value found by the following calculation was out of the range between 0.000000001 and 2³²-1: Work Travel Distance Per Rotation × Work Gear Ratio/Motor Gear Ratio, 1001 hex: The value found by the following formula exceeded 40-bit range: Command Pulse Count Per Motor Rotation × Motor Gear Ratio, 1100 hex: Maximum Velocity exceeded the upper limit*2 when converted to pluses, 1101 hex: Start Velocity exceeded Maximum Velocity, 1102 hex: Maximum Jog Velocity exceeded Maximum Velocity, 1103 hex: In-position Range exceeded 40-bit range when converted to pulses, 1104 hex: Zero Position Range exceeded 40-bit range when converted to pulses, 1300 hex: Positive Software Limit exceeded 40-bit range when converted to pulses, 1301 hex: Negative Software Limit exceeded 40-bit range when converted to pulses, 1302 hex: Positive Software Limit was not greater than Negative Software Limit, 1303 hex: Following Error Over Value exceeded 40-bit range when converted to pulses, 1304 hex: Following Error Over Value was not greater than or equal to Following Error Warning Value, 1400 hex: Modulo Maximum Position Setting Value exceeded 40-bit range when converted to pulses, 1401 hex: Modulo Minimum Position Setting Value exceeded 40-bit range when converted to pulses, 1402 hex: Modulo Maximum Position Setting Value was not greater than Modulo Minimum Position Setting Value, 1403 hex: Absolute value of Modulo Maximum Position Setting Value minus Modulo Minimum Position Setting Value was not 2 or greater after conversion to pulses, 1500 hex: Homing Velocity exceeded Maximum Velocity, 1501 hex: Homing Approach Velocity was not less than or equal to Homing Velocity, 1502 hex: Homing Acceleration exceeded Maximum Acceleration, 1503 hex: Homing Deceleration exceeded Maximum Deceleration, 1504 hex: Home Input Mask Distance exceeded 40-bit range when converted to pulses, 1505 hex: Home Input Mask Distance exceeded modulo length, 1506 hex: Home Offset exceeded 40-bit range when converted to pulses, 1507 hex: Home Offset exceeded modulo length, 1508 hex: Absolute value of Homing Compensation Value exceeded 40-bit range when converted to pulses, 1509 hex: Absolute value of Homing Compensation Value exceeded modulo length, 150A hex: Homing Compensation Velocity was not less than or equal to Maximum Velocity

Note Only one error code is given even if more than one error occurs. The range check detail codes are given priority over the consistency check detail codes.

Precautions/ Remarks

None

- *1. This event code occurs for a CPU Unit with unit version 1.08 or later.
- The upper limit of the Maximum Velocity is 500 MHz for unit version 1.10 or earlier and 2,147,483,647 Hz for unit version 1.11 or later.

Event name	Cam Property Se	tting Out of Range		Event code	573C0000 hex*1			
Meaning	The parameter spid range.	The parameter specified for the <i>CamProperty</i> input variable to a motion control instruction is outside of the valid range.						
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	_MC_COM.MFau	ItLvI.Active	BOOL		MC Common Minor Fault Occur- rence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The parameter sp CamProperty inpu instruction is out of input variable.	ut variable to the	Correct the param valid range of the not exceeded for Confirm which pa ed the range in th mation.	input variable is the instruction. rameter exceed-	Set the input para struction so that t the input variable	he valid range of		
Attached information	Attached Information 1: Error Details • 0000 hex: Initial Velocity out of range • 0001 hex: Initial Acceleration out of range • 0002 hex: Cycle Time out of range							
Precautions/ Remarks	None							

^{*1.} This event code occurs for a CPU Unit with unit version 1.08 or later.

Event name	Cam Node Settin	g Out of Range		Event code	573D0000 hex*1	
Meaning	The parameter s _l range.	pecified for the <i>Can</i>	nNodes input varial	ole to a motion cor	ntrol instruction is o	utside of the valid
Source	Motion Control F	unction Module	Source details MC Common		Detection tim-	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Not affected.		•
System-de-	Variable		Data type		Name	
fined variables	_MC_COM.MFaultLvl.Active		BOOL		MC Common Mil	nor Fault Occur-
Cause and cor-	Assumed cause)	Correction		Prevention	
	The parameter specified control of the parameter specified control of the put variable.	variable to the in-	Correct the parameter so that the valid range of the input variable is not exceeded for the instruction. Confirm which parameter exceeded the range in the attached information.			the valid range of e is not exceeded.
Attached information	Attached Information 1: Error Details • 0000 hex: Master Axis Phase out of range • 0001 hex: Slave Axis Displacement out of range • 0002 hex: Curve Shape out of range • 0003 hex: Connecting Velocity out of range • 0004 hex: Connecting Acceleration out of range • 0005 hex: Phase Pitch out of range Attached Information 2: Element Number of Error Node Point					
Precautions/ Remarks	None	aon 2. Lioineile Hui	nisor of Error Houce	T One		

^{*1.} This event code occurs for a CPU Unit with unit version 1.08 or later.

Event name	Incorrect Cam No	ode Type Specificat	ion	Event code	573E0000 hex*1		
Meaning		The parameter specified for the <i>CamNodes</i> input variable to a motion control instruction is not an _sMC_CAM_NODE array variable.					
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFaultLvl.Active		BOOL		MC Common Minor Fault Occur-		
					rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The parameter sp	ecified for the	Correct the program to specify an		Write the program to specify an		
	CamNodes input	variable to the in-	sMC_CAM_NODE array variable		sMC_CAM_NODE array variable		
	struction is not an		for the input variable to the instruc-		for the input variable to the instruc-		
	_sMC_CAM_NO	DE array variable.	tion.		tion.		
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

^{*1.} This event code occurs for a CPU Unit with unit version 1.08 or later.

Event name	Insufficient Nodes	Insufficient Nodes in Cam Table			573F0000 hex*1			
Meaning		The array variable of the parameter specified for the <i>CamNodes</i> input variable to a motion control instruction has a <i>Phase</i> value of 0 for element number 0.						
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation Not affected.					
System-de-	Variable		Data type		Name			
fined variables	_MC_COM.MFaultLvl.Active		BOOL		MC Common Minor Fault Occur- rence			
Cause and cor-	Assumed cause		Correction	Correction				
	7 toodiiiod oddoo	The array variable of the parameter specified for <i>CamNodes</i> input variable to the instruction has a <i>Phase</i> (master axis phase) value of 0 for element number 0.						
rection	The array variable specified for Cam able to the instruction (master axis phase)	Nodes input vari- ction has a <i>Phase</i> se) value of 0 for	Correct the progravalue of <i>Phase</i> (not provided for the partial for the partial for the <i>CamN</i> ble is not 0.	naster axis phase) per 0 in the array arameter speci-	of <i>Phase</i> (master element number (able for the paran	n so that the value axis phase) for 0 in the array vari- meter specified for aput variable is not		
	The array variable specified for Cam able to the instruction (master axis phase)	Nodes input vari- ction has a <i>Phase</i> se) value of 0 for	value of <i>Phase</i> (n for element numb variable for the <i>Park</i> fied for the <i>CamN</i>	naster axis phase) per 0 in the array arameter speci-	of <i>Phase</i> (master element number (able for the parar the <i>CamNodes</i> in	axis phase) for 0 in the array vari- meter specified for		
rection	The array variable specified for Cam able to the instruction (master axis phase element number to	Nodes input vari- ction has a <i>Phase</i> se) value of 0 for	value of <i>Phase</i> (n for element numb variable for the <i>Park</i> fied for the <i>CamN</i>	naster axis phase) per 0 in the array arameter speci-	of <i>Phase</i> (master element number (able for the parar the <i>CamNodes</i> in	axis phase) for 0 in the array vari- meter specified for		
rection Attached infor-	The array variable specified for Cam able to the instruction (master axis phase element number to	Nodes input vari- ction has a <i>Phase</i> se) value of 0 for	value of <i>Phase</i> (n for element numb variable for the <i>Park</i> fied for the <i>CamN</i>	naster axis phase) per 0 in the array arameter speci-	of <i>Phase</i> (master element number (able for the parar the <i>CamNodes</i> in	axis phase) for 0 in the array vari- meter specified for		

^{*1.} This event code occurs for a CPU Unit with unit version 1.08 or later.

Event name	Cam Node Maste der	r Axis Phase Not ir	Ascending Or-	Event code	57400000 hex*1		
Meaning		•	iable of the parameter specified for the <i>CamNodes</i> input variable to a moending order according to the element numbers.				
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFau	ltLvl.Active	BOOL		MC Common Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The values of <i>Phase</i> (master axis phase) in the array variable of the parameter specified for the <i>CamNodes</i> input variable to the instruction are not in ascending order according to the element numbers. Or, truncating the digits that are not effective more than seven digits caused the phases not to be in ascending order.		Correct the progravalues of <i>Phase</i> (phase) in the arraparameter specific <i>CamNodes</i> input cending order accoment numbers.	master axis y variable for the ed for the variable are in as-	eter specified for input variable are	aster axis phase) ble for the param- the <i>CamNodes</i>	
Attached infor- mation	Attached Informat	tion 1: Element Nur	mber of Error Node	Point			
Precautions/	None						
Remarks							

^{*1.} This event code occurs for a CPU Unit with unit version 1.08 or later.

Event name	Too Many Data P	oints in Cam Table		Event code	57410000 hex*1		
Meaning	_		points exceeded th			he cam data vari-	
Source	Motion Control Function Module		Source details	MC Common	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Not affected.		•	
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFau	ultLvl.Active	BOOL		MC Common Min	or Fault Occur-	
Cause and cor-	r- Assumed cause		Correction		Prevention		
rection	The number of cathe generated can the number of ele ray in the cam da specified for the (variable to the instance)	m table exceeded ements in the ar- ta variable that is CamTable input	Correct the program so that the number of cam data points in the generated cam table does not exceed the number of elements in the array in the cam data variable that is specified for the <i>CamTable</i> input variable to the instruction. Refer to information on the MC_GenerateCamTable (Generate Cam Table) instruction for the number of cam data points in generated cam tables.				
Attached infor-	Attached Informa	tion 1: Element Nu	mber of Error Node	Point			
mation							
Precautions/	None						
Remarks							

^{*1.} This event code occurs for a CPU Unit with unit version 1.08 or later.

Event name	Cam Table Displacement Overflow			Event code	57420000 hex*1		
Meaning	Distance in the go	enerated cam table	e exceeded the ran	ge of REAL data.			
Source	Motion Control Fu	unction Module Source details MC Common		Detection tim- ing	At or during instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	_MC_COM.MFau	ultLvl.Active	BOOL		MC Common Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Distance in the generated cam table exceeded the range of REAL data.		velocity), Connecting velocity), and (connecting accerbistance does not polynomial 3 curvourve is specified shape) in the Caliable. Refer to informat	eCamTable (Generate MC_GenerateCamTa nstruction for the lculate <i>Distance</i> . MC_GenerateCamTa Cam Table) instruction method to calculate <i>D</i>		cting Vel (connect- Connecting Acc eleration) so that of overflow when a ve or polynomial 5 If for Curve (curve mNodes input var- ion on the imTable (Generate uction for the	
Attached infor- mation	Attached Informa	tion 1: Element Nu	mber of Error Node	Point			
Precautions/ Remarks	None						

^{*1.} This event code occurs for a CPU Unit with unit version 1.08 or later.

Event name	Aborted Cam Table Used			Event code	57430000 hex*1			
Meaning	A cam data variable that was aborted during generation was specified for the <i>CamTable</i> input variable to an instruction.							
Source	Motion Control Function Module		Source details	MC common or axis	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined variables	_MC_COM.MFau	_MC_COM.MFaultLvl.Active BOOL			MC Common Minor Fault O rence			
	_MC_AX[*].MFau	ıltLvl.Active	BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction	Prevention				
rection	A cam data variable that was aborted during generation due to an error in the MC_Generate-CamTable (Generate Cam Table) instruction was specified for the CamTable input variable to the instruction.		Check the ErrorID (error code), ErrorParameterCode (parameter detail code), and ErrorNodePointIndex (node point element number) output variables from the MC_GenerateCamTable (Generate Cam Table) instruction and correct the program so that correct cam table variables are created.		Write the program so that the MC_GenerateCamTable (Generate Cam Table) instruction creates correct cam data variables. Or, write the program so that the relevant instruction is executed only when the MC_Generate-CamTable (Generate Cam Table) instruction ends normally.			
Attached infor-	None							
mation								
Precautions/ Remarks	None							

^{*1.} This event code occurs for a CPU Unit with unit version 1.08 or later.

Event name	Execution ID Setting Out of Range			Event code	57490000 hex ^{*1}			
Meaning	The parameter sp	The parameter specified for the ExecID input variable to a motion control instruction is out of range.						
Source	Motion Control Function Module		Source details	Axis	Detection tim-	At instruction		
					ing	execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.	Operation	Relevant axis ded	celerates to a stop i	f it is in motion.		
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ltLvl.Active	BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction	Prevention				
rection	The parameter specified for the Exec/D input variable to the in-		Correct the program so that the input parameter specified for the		Create the program so that the input parameter specified for the			
	struction is out of range for the in-		ExecID input variable to the in-		ExecID input variable to the in-			
	put variable.	· ·	struction is within	the setting range.	· ·			
Attached infor-	None							
mation								
Precautions/	None	None						
Remarks								

^{*1.} This event code occurs for a CPU Unit with unit version 1.10 or later.

Event name	Position Offset Out of Range			Event code	574A0000 hex*1		
Meaning	The parameter sp	The parameter specified for the <i>OffsetPosition</i> input variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		on is not possible for relevant axis. Relevant celerates to a stop if it is in motion.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The instruction input parameter exceeded the range of signed 40-bit data when it is converted to pulses.		Correct the paran valid range of the not exceeded for	input variable is	Set the input parameter to the i struction so that the valid range the input variable is not exceed		
Attached infor-	None						
mation							
Precautions/ Remarks	None						

^{*1.} This event code occurs for a CPU Unit with unit version 1.10 or later.

Event name	PDS State Transition Command Selection Out of Range			Event code	574B0000 hex*1		
Meaning	The parameter sp	ecified for the <i>Tran</i>	<i>sitionCmd</i> input va	riable to a motion o	control instruction is	out of range.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		ossible for relevant axis. Relevant o a stop if it is in motion.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Instruction input parameter ex-		Correct the parameter so that the		Set the input parameter to the in-		
	ceeded the valid range of the input		valid range of the input variable is		struction so that the valid range of		
	variable.		not exceeded for	the instruction.	the input variable is not exceeded.		
Attached infor-	None						
mation							
Precautions/	None	None					
Remarks							

^{*1.} This event code occurs for a CPU Unit with unit version 1.10 or later.

Event name	Single-axis Position Control Axis Motion Control Instruction Execution Disabled			Event code	574C0000 hex*1			
Meaning	An operation inst	An operation instruction was executed for a single-axis position control axis.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System		
Effects	User program	Continues.			possible for relevan to a stop if it is in m			
System-de-	Variable		Data type		Name			
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL		Axis Minor Fault Occurrence			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	An operation instruction was executed for a single-axis position control axis.		In the Axis Basic axis specified in the Control Functor O: All. Or specify the axic Control Function to 0: All in the Axi	he instruction, set ion parameter to is for which the parameter is set	Same as at the le	oft.		
Attached infor- mation	None							
Precautions/ Remarks	None							

^{*1.} This event code occurs for unit version 1.13 or later of the CPU Unit.

Event name	Cam Monitor Mode Selection Out of Range			Event code	57510000 hex *1		
Meaning	The cam monitor mode selection specified for the <i>CamMonitorMode</i> input variable to a motion control instruction is out of range.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Operation is not possible for relevant axis. Releva			
System-de-	Variable		Data type		Name		
fined variable	_MC_AX[*].MFau	ItLvI.Active	BOOL	Axis Minor Fault Occurre		Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The cam monitor mode selection is out of the valid range.		Make a correction monitor mode sel the valid range.				
Attached information	None						
Precautions/ Remarks	None						

^{*1.} This event code occurs for an NX102-\(\subseteq \si

Event name	Data Type of Cam Monitor Values Mismatch			Event code	57520000 hex *1		
Meaning	The data type of the cam monitor values specified for the <i>CamMonitorValue</i> in-out variable to a motion control instruction does not match the cam monitor mode selection.						
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation		not possible for relevant axis. Relevar ates to a stop if it is in motion.		
system-defined	Variable		Data type		Name		
variable	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The data type of the variable specified for the cam monitor values does not match the cam monitor mode selection.		Make a correction of the variable sp cam monitor valu				
Attached infor-	None		•		•		
mation							
Precautions/	None						
Remarks							

^{*1.} This event code occurs for an NX102-\(\subseteq \si

Event name	Target Position Positive Software Limit Exceeded			Event code	64400000 hex	
Meaning	The specified pos	ition exceeds the p	oositive software lim	nit.		
Source	Motion Control Fu	ınction Module	Source details	Axis/axes group	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery Error reset		Log category	System
Effects	User program	Continues.	operation is not pos axis decelerates to If "axes group" is gi operation is not pos		or the source details, ossible for relevant axis. Relevant to a stop if it is in motion. given for the source details, ossible for relevant axes group. Reldecelerates to a stop if it is in mo-	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Occurrence
	_MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur-	
					rence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The parameter specified for the Position input variable to the in- struction is beyond the positive		Correct the parameter specified for the <i>Position</i> input variable to the in- struction so that it is within the pos- itive software limit.		Set the parameter specified for the Position input variable to the in- struction so that it is within the pos-	
	software limit. The starting position is beyond the positive software limit and an instruction that specifies motion in the opposite direction of the software limit was executed.		Correct the program so that the travel direction for the instruction is towards the positive software limit.			ition is beyond are limit, write the he travel direction
The parameter that was specified for the <i>AuxPoint</i> input variable to a border point MC_MoveCircular2D (Circular 2D Interpolation) instruction is beyond the positive software limit.		Correct the parameter specified for the <i>AuxPoint</i> input variable to the instruction so that it is within the positive software limit.		Set the parameter specified for the AuxPoint input variable to the bor- der point MC_MoveCircular2D (Cir- cular 2D Interpolation) instruction so that it is within the negative soft- ware limit.		
Attached information	• Axis: 0	tion 1: Depends on	the source details.			
Precautions/	None					
Remarks						

Event name	Target Position N	egative Software L	imit Exceeded	Event code	64410000 hex		
Meaning	_		negative software li	nit.			
Source	Motion Control Fu		Source details	Axis/axes group	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	If "axis" is given for the source details, operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion. If "axes group" is given for the source details, operation is not possible for relevant axes group. Re evant axes group decelerates to a stop if it is in motion.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL			Occurrence	
	MC_GRP[*].MFaultLvl.Active		BOOL		Axes Group Minor Fault Occur- rence		
Cause and cor-	Assumed cause		Correction	Correction			
Cause and cor- rection	Position input var struction is beyon software limit.	The parameter specified for the Position input variable to the instruction is beyond the negative software limit.		Correct the parameter specified for the <i>Position</i> input variable to the instruction so that it is within the negative software limit.		Correct the input parameter specified for the <i>Position</i> input variable to the instruction so that it is within the negative software limit. If the starting position is beyond	
	The starting position is beyond the negative software limit and an instruction that specifies motion in the opposite direction of the software limit was executed.		Correct the program so that the travel direction for the instruction is towards the negative software limit.		the negative software limit, write the program so that the travel direction is in the direction of the negative software limit.		
	for the <i>AuxPoint</i> i border point MC_ (Circular 2D Inter	The parameter that was specified for the <i>AuxPoint</i> input variable to a border point MC_MoveCircular2D (Circular 2D Interpolation) instruction is beyond the negative software limit		Correct the parameter specified for the <i>AuxPoint</i> input variable to the instruction so that it is within the negative software limit.		Set the parameter specified for the <i>AuxPoint</i> input variable to the border point MC_MoveCircular2D (Circular 2D Interpolation) instruction so that it is within the negative software limit.	
Attached information	• Axis: 0	tion 1: Depends on	the source details.				
Precautions/ Remarks	None						

Event name	Command Position	on Overflow/Underf	low	Event code	64420000 hex	
Meaning	Positioning, an in	struction in the und	lerflow/overflow dire was an underflow/o	ection, or an instruc	ction for which the	direction is not
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Operation is not possible for relevant axis. Relevant axis decelerates to a stop if it is in motion.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFau	ItLvI.Active	BOOL	Axis Minor Fault Occu		Occurrence
Cause and cor-	Assumed cause		Correction		Prevention	
rection	tion • An instruction	a command posi- erflow. enstruction ontrol instruction w/overflow direc- for which the di- pecified (syncing	Execute an error clear the overflow by executing hom the actual position	//underflow state ning or presetting	Make sure that or flow does not occ	
Attached infor-	None					
Precautions/ Remarks	None					

Event name	Positive Limit Inpu	ut		Event code	64430000 hex	
Meaning			otion in the positive			was ON
Source	Motion Control Fu		Source details	Axis/axes group	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	eration If "axis" is given for the source details, operation is not possible for relevant axis. If "axes group" is given for the source detail operation is not possible for relevant axes of		axis. e details,
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].MFaultLvl.Active		BOOL		Axis Minor Fault	Occurrence
	_MC_GRP[*].MFaultLvI.Active		BOOL		Axes Group Mino rence	r Fault Occur-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	put was ON. An a control instruction when the positive ON.	was executed Ilimit input was tion for a motion specification was ne positive limit in- axes group motion a was executed Ilimit input was	Execute an error reset and then perform a recovery operation in the negative direction. If the error occurred during an axes group motion control instruction, disable the axes group and then perform the above operation. If this error occurs again, check the connection of the positive limit signal, the logic setting for the positive limit input, and the execution conditions for the start command, and correct any mistakes. Check the logic settings both in the axis parameters and in the slave settings.		nal connection, the the positive limit in cute conditions for	e positive limit sig- ne logic setting for nput, and the exe- or the instruction. ettings both in the
Attached infor- mation	• Axis: 0	tion 1: Depends on ogical axis number	the source details.			
Precautions/ Remarks	None	<u> </u>				

Event name	Negative Limit Inp	out		Event code	64440000 hex	
Meaning	An instruction for	a motion in the neહ	gative direction was	executed when the	e negative limit inpu	ut was ON.
Source	Motion Control Fu	ınction Module	Source details	Axis/axes group	Detection tim- ing	At instruction execution
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	operation is not po If "axes group" is g operation is not po		or the source details, ossible for relevant axis. given for the source details, ossible for relevant axes group.	
System-de- fined variables	Variable		Data type		Name	
illieu valiables	_MC_AX[*].MFau _MC_GRP[*].MFa				Axis Minor Fault Occurrence Axes Group Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction	Correction		
rection	An instruction for negative direction when the negative ON, or an instruct with no direction sexecuted when the input was ON. An tion control instruced when the negatives ON.	was executed e limit input was ion for a motion specification was e negative limit axes group mo- ction was execut- ative limit input	positive direction. red during an axe control instruction group and then pe operation. If this e again, check the o negative limit sign ting for the negati the execution con start command, a mistakes. Check the logic se axis parameters a settings.	ry operation in the If the error occur- s group motion , disable the axes erform the above error occurs connection of the hal, the logic set- ve limit input, and ditions for the and correct any ettings both in the and in the slave	Check to make suproblems with the signal connection for the negative liexecute condition tion. Check the logic seaxis parameters a settings.	negative limit , the logic setting mit input, and the s for the instruc- ettings both in the
Attached infor- mation	Attached Information • Axis: 0	tion 1: Depends on	the source details.			
		gical axis number				
Precautions/ Remarks	None					

Event name	Servo Main Circu	its OFF		Event code	74220000 hex		
Meaning	An attempt was m	nade to turn ON the	e Servo when the m	ain circuit power s	upply to the Servo	Drive was OFF.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation The Servo for the axis turns OFF.				
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].MFau	ltLvl.Active	BOOL	BOOL		Axis Minor Fault Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An attempt was not the Servo when the power supply to the was OFF.	ne main circuit	Turn ON the Serv ON the main circu Servo Drive for th error occurred.	uit power of the	Turn ON the Servo after turning ON the main circuit power supply to the Servo Drive.		
Attached infor- mation	None						
Precautions/	None						
Remarks							

Event name	Actual Position O	verflow/Underflow		Event code	57220000 hex*1		
Meaning	An instruction wa	s executed that is r	not supported durin	g an actual positior	overflow/underflo	W.	
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type	Data type		Name	
fined variables	_MC_AX[*].Obsr.Active		BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An instruction was executed that is not supported during an actual position overflow or underflow.		clear the overflow	Execute an error reset and then clear the overflow or underflow state by changing the current position or homing.		n so that over- ows do not occur.	
Attached infor- mation	None						
Precautions/ Remarks	None						

^{*1.} This event code occurs for a CPU Unit with unit version 1.06 or later.

Event name	Switch Structure	Track Number Setti	ing Out of Range	Event code	57230000 hex*1	
Meaning	The value of <i>Trac</i> of range.	<i>kNumber</i> that is sp	ecified in the <i>Switc</i>	hes in-out variable	to a motion control	instruction is out
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.		Correct the value of the member of the structure variable that is speci- fied for the in-out variable of the relevant instruction so that it is in the valid range.		Make sure that the value of the member of the structure variable that is specified for the in-out variable of the relevant instruction is in the valid range.	
Attached infor- mation	None					
Precautions/ Remarks	None					

^{*1.} This event code occurs for a CPU Unit with unit version 1.06 or later.

Event name	Switch Structure	First ON Position S	etting Out of	Event code	57240000 hex*1		
Meaning	_ <u> </u>	OnPosition that is	le to a motion contr	ol instruction is			
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.	ot affected.		
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].Obsr	Active	BOOL	Axis Observation Occurrence		Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.		the structure variation fied for the in-out	Correct the value of the member of the structure variable that is speci- fied for the in-out variable of the relevant instruction so that it is in the valid range		Make sure that the value of the member of the structure variable that is specified for the in-out variable of the relevant instruction is in the valid range.	
Attached infor- mation	None						
Precautions/ Remarks	None						

^{*1.} This event code occurs for a CPU Unit with unit version 1.06 or later.

Event name	Switch Structure Range	Last ON Position S	etting Out of	Event code	57250000 hex*1	
Meaning	The value of <i>Last</i> out of range.	OnPosition that is s	specified in the <i>Swi</i>	tches in-out variabl	le to a motion contr	ol instruction is
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.	·	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].Obsr	Active	BOOL		Axis Observation Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.		Correct the value of the member of the structure variable that is speci- fied for the in-out variable of the relevant instruction so that it is in the valid range.		Make sure that the value of the member of the structure variable that is specified for the in-out variable of the relevant instruction is in the valid range.	
Attached infor- mation	None					
Precautions/ Remarks	None					

^{*1.} This event code occurs for a CPU Unit with unit version 1.06 or later.

Event name	Switch Structure	Axis Direction Out	of Range	Event code	57260000 hex*1	
Meaning	The value of Axis of range.	Direction that is sp	ecified in the <i>Switcl</i>	hes in-out variable	to a motion control	instruction is out
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.	·	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The value of the	nember of the	Correct the value of the member of		Make sure that the value of the	
	structure variable that was speci-		the structure variable that is speci-		member of the structure variable	
	Silucture variable	tnat was speci-	tne structure varia	able that is speci-	member of the st	ructure variable
	fied for the in-out	•	fied for the in-out	•		ructure variable or the in-out varia-
		variable of the in-		variable of the		or the in-out varia-
	fied for the in-out	variable of the in-	fied for the in-out	variable of the	that is specified for	or the in-out varia-
Attached infor-	fied for the in-out	variable of the in-	fied for the in-out relevant instruction	variable of the	that is specified for	or the in-out varia-
Attached information	fied for the in-out struction is out of	variable of the in-	fied for the in-out relevant instruction	variable of the	that is specified for	or the in-out varia-
	fied for the in-out struction is out of	variable of the in-	fied for the in-out relevant instruction	variable of the	that is specified for	or the in-out varia-

^{*1.} This event code occurs for a CPU Unit with unit version 1.06 or later.

Event name	Switch Structure	Cam Switch Mode	Out of Range	Event code	57270000 hex*1	
Meaning	The value of <i>Carr</i> out of range.	<i>SwitchMode</i> that is	s specified in the S	witches in-out varia	ble to a motion cor	ntrol instruction is
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
	Accumed cause		Correction		1 TO VOITE OFF	
rection	The value of the r structure variable fied for the in-out struction is out of	that was speci- variable of the in-		variable of the	Make sure that the member of the st	ructure variable or the in-out varia-
Attached information	The value of the r structure variable fied for the in-out	that was speci- variable of the in-	Correct the value the structure varia fied for the in-out relevant instruction	able that is speci- variable of the	Make sure that the member of the state is specified for ble of the relevant	ructure variable or the in-out varia-

^{*1.} This event code occurs for a CPU Unit with unit version 1.06 or later.

Event name	Switch Structure I	Duration Setting Οι	ut of Range	Event code	57280000 hex*1		
Meaning	The value of <i>Dura</i> range.	The value of <i>Duration</i> that is specified in the <i>Switches</i> in-out variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type	Data type			
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range.		Correct the value of the member of the structure variable that is speci- fied for the in-out variable of the relevant instruction so that it is in the valid range.		Make sure that the value of the member of the structure variable that is specified for the in-out variable of the relevant instruction is in the valid range.		
Attached infor- mation	None						
Precautions/ Remarks	None						

^{*1.} This event code occurs for a CPU Unit with unit version 1.06 or later.

Event name	i i	cture ON Compens	sation Setting Out	Event code	57290000 hex*1		
	of Range						
Meaning	The value of OnC	Compensation that i	s specified in the T	rackOptions in-out	variable to a motio	n control instruc-	
	tion is out of rang	e.					
Source	Motion Control Fu	unction Module	Source details	Axis	Detection tim-	At instruction	
					ing	execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].Obsr.	Active	BOOL	300L		Axis Observation Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The value of the r	member of the	Correct the value of the member of		Make sure that the value of the		
	structure variable	that was speci-	the structure varia	able that is speci-	member of the structure variable		
	fied for the in-out	variable of the in-	fied for the in-out	fied for the in-out variable of the relevant instruction so that it is in		or the in-out varia-	
	struction is out of	range.	relevant instruction			t instruction is in	
			the valid range.		the valid range.		
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

^{*1.} This event code occurs for a CPU Unit with unit version 1.06 or later.

Event name	Track Option Stru Out of Range	cture OFF Comper	nsation Setting	Event code	572A0000 hex*1	
Meaning	The value of OffC	The value of <i>OffCompensation</i> that is specified in the <i>TrackOptions</i> in-out variable to a motion control instruction is out of range.				
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable	Data type			Name	
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The value of the member of the structure variable that was specified for the in-out variable of the instruction is out of range. Correct the value of the structure variation field for the in-out variable of the instruction the valid range.		able that is speci- variable of the	Make sure that the member of the state is specified for the relevant the valid range.	ructure variable or the in-out varia-	
Attached infor- mation	None					
Precautions/ Remarks	None					

^{*1.} This event code occurs for a CPU Unit with unit version 1.06 or later.

Event name	Number of Array Elements in Switch Structure Variable Out of Range		Event code	572B0000 hex*1			
Meaning		The number of elements in an array in the structure variable that is specified in the <i>Switches</i> in-out variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Not affected.	1.		
System-de-	Variable [Data type	Data type		Name	
fined variables	_MC_AX[*].Obsr	Active	BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	The number of elements in an array of the structure variable that Correct the number the array in the structure structure.		tructure variable or the in-out varia- t instruction so	Make sure that the number of elements in the array in the structure variable that is specified for the inout variable of the relevant instruction is in the valid range.			
Attached infor- mation	None						
Precautions/ Remarks	None						

^{*1.} This event code occurs for a CPU Unit with unit version 1.06 or later.

Event name	Number of Array Elements in Output Signal Structure Variable Out of Range		t Signal Structure	Event code	572C0000 hex*1		
Meaning	The number of el	The number of elements in an array in the structure variable that is specified in the <i>Outputs</i> in-out variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined variables	_MC_AX[*].Obsr.	Active	BOOL	BOOL		Axis Observation Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The number of elements in an array of the structure variable that was specified for the in-out variable of the instruction is out of range.		Correct the number of elements in the array in the structure variable that is specified for the in-out variable of the relevant instruction so that it is in the valid range.			y in the structure pecified for the in- e relevant instruc-	
Attached infor- mation	None						
Precautions/ Remarks	None						

^{*1.} This event code occurs for a CPU Unit with unit version 1.06 or later.

Event name	Number of Array Elements in Track Option Structure Variable Out of Range			Event code	572D0000 hex*1		
Meaning		The number of elements in an array in the structure variable that is specified in the <i>TrackOptions</i> in-out variable to a motion control instruction is out of range.					
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.	Not affected.		
System-de-	Variable	Variable Data type			Name		
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence		
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	The number of elements in an array of the structure variable that was specified for the in-out variable of the instruction is out of range.		Correct the number of elements in the array in the structure variable that is specified for the in-out variable of the relevant instruction so that it is in the valid range.			y in the structure pecified for the in- e relevant instruc-	
Attached infor- mation	None						
Precautions/ Remarks	None						

^{*1.} This event code occurs for a CPU Unit with unit version 1.06 or later.

Event name	Numbers of Elements in Output Signals ar Option Arrays Not Matched		nals and Track	Event code	572E0000 hex*1	
Meaning	1	The arrays in the structure variables that are specified for the <i>Outputs</i> and <i>TrackOptions</i> in-out variables to a motion control instruction do not have the same number of elements.				
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.	lot affected.	
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].Obsr.	Active	BOOL		Axis Observation Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The arrays in the structure variable structure variable for the in-out varia struction do not h number of elemen	and track option that are specified ables to the in- ave the same	Correct the output variable and track variable that are so inout variables to struction so that the have the same numents.	coption structure specified for the the relevant in- he arrays in them		acture variable and cture variable that the in-out varia- ant instruction
Attached infor- mation	None					
Precautions/ Remarks	None					

^{*1.} This event code occurs for a CPU Unit with unit version 1.06 or later.

Event name	Same Track Number Setting in Switch Structure Out of Range		Event code	57310000 hex*1		
Meaning		The same track number was specified more than the allowable number of times for the <i>TrackNumber</i> in the <i>Switches</i> in-out variable to a motion control instruction.				Number in the
Source	Motion Control Function Module		Source details	Axis	Detection tim- ing	At instruction execution
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined variables	_MC_AX[*].Obsr./	Active	BOOL		Axis Observation Occurrence	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The same track n	umber was speci-	Correct the values in the		Set the values in	the <i>TrackNumber</i>
	fied more than the allowable num-		TrackNumber so that the same		so that the same track number is	
	ber of times for the TrackNumber in		track number is not specified more		not specified more than the maxi-	
	the Switches in-or	ut variable to a	than the maximum number of		mum number of t	imes.
	motion control ins	truction.	times.			
Attached infor-	None					
mation						
Precautions/	None					
Remarks						

^{*1.} This event code occurs for a CPU Unit with unit version 1.06 or later.

3-6-3 Other Troubles and Corrections

This section describes remedial actions to take when problems occur the first time you use the MC Function Module or after starting operation.

Preliminary Check Items

If an error occurs, check the items below to investigate the problem.

Category	Item to check
Installation conditions	Is there dust in the ambient environment?
	Are there conductive foreign matters (metal, carbon, etc.) in the ambient environment that might enter the Controller?
	Is the ambient temperature higher than the ambient operating temperature in the specifications?
	Is the ambient area humid (due to moisture in the air, use of water, etc.)?
	Does the ambient air contain corrosive gases (acid, salt, sulfur, etc.)?
	Are there sources of noise around the Controller (welders, inverters, etc.)?
Wiring	Are power supply lines wired in the same duct as the signal lines?
	Is the Controller grounded properly?
	Is there a noise filter in the power supply?
Changes	Was any extension work (welding work) done lately?
	Was any power supply facility added lately?
	Was the system (including its program) modified in any way (including additions)?
Accidents	Was there a lightning strike nearby?
	Was there a ground-fault accident or was the earth leakage breaker tripped?
	Was there a power outage?

Problems and Countermeasures

This section describes troubleshooting when the MC Function Module is used in combination with an OMRON 1S-series Servo Drive or G5-series Servo Drive.

If an unexpected operation is performed, data such as parameter settings or cam data may not have been transferred properly to the CPU Unit from the Sysmac Studio.

Furthermore, variables may not be working properly between the user program and the MC Function Module.

Use the data tracing function of Sysmac Studio to check if variables are exchanged at the correct timings.

Problem	Cause	Item to check	Countermeasure
Motor does not lock. The MC Function Module does not output operation commands to		Make sure that you execute the MC_Power instruction.	Correct the program.
	the Servo Drive. Servo Drive setting error	Check the Servo Drive settings.	Set the Servo Drives correct- ly.

Problem	Cause	Item to check	Countormoscuro
	3 3 3 3 3	Use the Servo Drive software to	Consol the drive prohibit input
Motor does not run.	The drive prohibit input of the Servo Drive is enabled.	check the drive prohibit input.	Cancel the drive prohibit input of the Servo Drive. Change the setting so that you do not use the drive prohibit input of the Servo Drive.
	Servo Drive error	Check for a Servo Drive error.	If there is an error, follow troubleshooting procedures for it.
	Mechanical axis is locked.	Check for contact with mechanical limits and check to see if mechanical parts are caught on something.	Manually release the locked mechanical axis.
	CPU Unit failure		Replace the CPU Unit.
Homing cannot be performed.	Error	Check the nature of the error.	If there is an error, follow troubleshooting procedures for it.
	Incorrect wiring of the home proximity input.	Check the axis input information in the Axis Variables to see if the home proximity input sensor turns ON/OFF.	Wire all connections correctly.
	Incorrect wiring of the home input.	Check the wiring of the home input.	Wire all connections correctly.
	The rotation direction and limit input direction are inconsistent.	If the axis moves to the mechanical limit without reversing at the limit, check the axis input information in the Axis Variables to see if the limit input turns ON and OFF.	Wire the limit inputs correctly.
	Incorrect wiring of the limit input	Check the wiring of the limit inputs.	Wire all connections correctly.
	InPosWaiting does not change to FALSE.	Check to see if the Servo Drive gain is too low. Check to see if the in-position range is too narrow.	Increase the Servo Drive gain. Increase the in-position range.
	Homing approach velocity is too high.	Check the homing approach velocity.	Lower the homing approach velocity of the MC Function Module.
	Axis parameters are not set correctly.	Check the axis parameters in the Sysmac Studio.	After setting the axis parameters correctly, download them to the MC Function Module.
	CPU Unit failure		Replace the CPU Unit.
The position of home defined with homing changes occasionally.	Loose mechanical parts, such as couplings	Use a marker pen to mark the motor shafts, couplings, and other mechanical connections to check for shifting.	Securely tighten the connections that shifted.
occasionally.	Insufficient leeway for Z phase Insufficient leeway for home input signal	If the value is close to the setting per Servomotor rotation (number of pulses per encoder rotation) or near zero, the home may be shifted by one motor rotation due to slight changes in the timing of reading the sensor input.	Remove the motor coupling and shift the position by around one-quarter of a turn so that the Z phase pulse occurs at around one half of a Servomotor rotation (number of pulses per encoder rotation), and then perform homing again.

Problem	Cause	Item to check	Countermeasure
Unstable motor rotation	Incorrect wiring of Servomotor power line/ encoder line, missing phase, etc.	Check the wiring of the motor power line and encoder line.	Wire all connections correctly.
	Load torque variation due to gear meshing or not tightening the cou- pling eccentric screw connecting the motor axis with the mechani- cal system	Check the machine. Turn the coupling under a noload condition (with the mechanical part after the coupling removed).	Review and adjust the machine.
	Insufficient gain adjust- ment		Perform auto-tuning of the Servomotor. Manually adjust the Servomotor gain.
	Incorrect Servomotor selection (adjustment not possible)	Select another motor (check the torque and inertia ratio).	Change to an optimal motor.
	Damaged Servomotor bearings	Turn OFF the Servo Drive power supply, and also turn ON the brake power supply and release the brake if the motor comes with a brake. Then manually turn the motor output shaft with the motor power line disconnected (because the dynamic brake may be applied).	Replace the Servomotor.
	Broken Servomotor winding	Use a tester to check the resistance between phases U, V, and W of the motor power line. If the balance is off, there is a problem.	Replace the Servomotor.
Rotation direction is reversed.	The Servo Drive is set to the opposite rotation direction.	Jog the machine. If the rotation direction of the Servo Drive is opposite the jogging direction, the rotation direction of the Servo Drive is reversed. Also check for reversed feedback signals (phases A and B) and reverse rotation setting of the parameter.	Set the rotation direction of the Servo Drive correctly.
	(During homing) The axis parameters that set the polarity of the home proximity sensor and the polarity of the home proximity input do not match.	Check the axis parameters and sensor polarity again.	Set the correct axis parameters.
	(During homing) Incorrect wiring of the home proximity input	Check the axis input information in the Axis Variables to see if the home proximity input sensor turns ON/OFF.	Wire the home proximity input correctly.

Problem	Cause	Item to check	Countermeasure
Operation cannot be started, positioning is not completed, or positioning takes too much time to complete.	The in-position range of the Servo Drive is too narrow, and thus the current position does not enter the in-position range. (The current operation does not complete until the current position enters the in-position range, so you cannot start the next motion.) Servo Drive gain is low. The axis does not re-	Check the axis input information	Increase the in-position range. Adjust the Servo Drive gain. If you stop the axis so that a
	main in the in-position range due to an external force.	for the Axis Variables to see if the difference between the com- mand current position and the actual current position is within the in-position range.	position inside the inposition range is not achieved, such as holding control, you can use the following error reset output to forcibly achieve the inposition range.
Abnormal noise	Mechanical vibration	Check the moving parts of the machine for intrusion of foreign matter, damage, deformation, and loosening.	Correct the problem.
	Insufficient adjustment of the Servo Drive gain (high gain)		Perform auto-tuning. Manually lower the gain.
	Incorrect Servomotor selection (adjustment not possible).	Select another motor (check the torque and inertia ratio).	Change to an optimal motor.
	Misalignment of the coupling that connects the motor shaft and machine		Adjust the motor and machine installation.
Motor shaft shakes.	Insufficient adjustment of the gain (low gain)		Perform auto-tuning. Manually increase the gain.
	Gain cannot be adjusted due to low machine rigidity.	In particular, this condition occurs on vertical axes, SCARA robots, palletizers, and other systems whose axes are subject to bending or tensional loads.	Increase the machine rigidity. Readjust the gain.
	Mechanical configura- tion prone to stick slip (highly sticky static fric- tion)		Perform auto-tuning. Manually adjust the gain.
	Incorrect Servomotor selection (adjustment not possible).	Select an appropriate motor (check the torque and inertia ratio).	Change to an optimal motor.

Problem	Cause	Item to check	Countermeasure
	Failure		Replace the Servo Drive. Replace the Servomotor.
Position shift	The home position was already shifted before positioning.	Refer to The position of home defined with homing changes occasionally.	Refer to The position of home defined with homing changes occasionally.
	Malfunction due to noise from a welder, inverter, etc.	Check if a welder, inverter, or other similar device is located nearby.	Isolate the Controller from any nearby welders, inverters, etc.
	Mechanical shift	Check if dimensional shifts accumulated. (Mark the mechanical connections to check for shifting.)	Securely tighten the mechanical tightening points.
An MC Test Run is not possible from the Sysmac Stu- dio.	An MC Test Run is being executed from another installation of the Sysmac Studio.	Check to see if there is another installation of the Sysmac Studio connected to the same CPU Unit.	End all MC Test Run operation for other installations of the Sysmac Studio.

3-7 Errors in the EtherNet/IP Function Module

3-7-1 Error Tables

EtherNet/IP

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
04200000 hex [NJ-series]	Communications Controller Error	A hardware error was detected in the communications controller of the built-in Ether-Net/IP port.	Communications Controller hardware error		0				page 3-670
14200000 hex [NJ-series]	MAC Address Error	The MAC address in non-volatile memory was not read correctly.	Non-volatile memory failure		0				page 3-670
14220000 hex	EtherNet/IP Processing Error	A fatal error was detected in the Ether- Net/IP Function Module.	Hardware has failed.		0				page 3-671
34210000 hex [NJ-series]	Basic Ether- net Setting Error	An error was detected in the Ethernet settings.	Setting error Power was interrupted when a download was in progress for the built-in EtherNet/IP port settings. Memory error		0				page 3-671
34220000 hex [NJ-series]	IP Address Setting Error	An error was detected in the IP address settings.	Setting error Power was interrupted when a download was in progress for the built-in EtherNet/IP port settings. The IP address acquired from BOOTP server is illegal. Memory error		0				page 3-672
84010000 hex [NJ-series]	IP Address Duplication Error	The same IP address is used more than once.	The IP address of the built-in EtherNet/IP port is also used as the IP address of another node.		0				page 3-673
84020000 hex [NJ-series]	BOOTP Server Con- nection Error	Connection with the BOOTP server failed.	 Server setting error The server went down. An error occurred in the communications path. 		0				page 3-674

			Assumed cause		L	_eve			
Event code	Event name	Meaning			P rt	M i n	O b s	I n f o	Reference
04210000 hex (Ver. 1.10 or later) [NX-series]	Communications Controller Error	A hardware error was detected in the communications controller of the built-in Ether-Net/IP port.	Hardware error in the commu- nications controller			0			page 3-675
14210000 hex	Identity Error	The CIP identity information in non-volatile memory was not read correctly.	Non-volatile memory failure			0			page 3-676
14230000 hex (Ver. 1.10 or later)	MAC Address Error	The MAC address in non-volatile memory was not read correctly.	Non-volatile memory failure			0			page 3-677
34200000 hex	Tag Data Link Setting Error	An error was detected in the communications settings for tag data links.	Power was interrupted when a download was in progress for the data link settings. Memory error			0			page 3-678
34230000 hex	IP Route Ta- ble Setting Error	An IP routing setting error was detected.	Setting error Power was interrupted when a download was in progress for the built-in EtherNet/IP port settings. Memory error			0			page 3-679
34240000 hex	FTP Server Setting Error	An error was detected in the FTP server settings.	Setting error Power was interrupted when a download was in progress for the FTP server settings. Memory error			0			page 3-680
34250000 hex	NTP Client Setting Error	An error was detected in the NTP client settings.	 Setting error Power was interrupted when a download was in progress for the NTP client settings. Memory error 			0			page 3-681
34260000 hex	SNMP Set- ting Error	An error was detected in the SNMP agent/trap settings.	Setting error Power was interrupted when a download was in progress for the SNMP agent/trap settings. Memory error			0			page 3-682

					L	_eve	· I		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
34270000 hex	Tag Name Resolution Error	Resolution of a tag used in a tag data link failed.	 The size of the network variable is different from the tag settings. The I/O direction set for a tag data link and the I/O direction of the Controller variable do not match. There are no network variables for the Controller tag settings. A variable in the Controller that is set for a tag data link has the Network Publish attribute set to Input but also has the Constant attribute. 			0			page 3-683
34280000 hex (Ver. 1.10 or later) [NX-series]	Basic Ether- net Setting Error	An error was detected in the Ethernet settings.	Parameter error Power was interrupted when a download was in progress for the built-in EtherNet/IP port settings. A memory error occurred.			0			page 3-684
34290000 hex (Ver. 1.10 or later) [NX-series]	IP Address Setting Error	An error was detected in the IP address settings.	 Parameter error Power was interrupted when a download was in progress for the built-in EtherNet/IP port settings. The IP address acquired from BOOTP server is illegal. A memory error occurred. 			0			page 3-685
342A0000 hex (Ver. 1.10 or later) [NX-series]	DNS Setting Error	An error was detected in the DNS settings or Hosts settings.	 Parameter error Power was interrupted when a download was in progress for the built-in EtherNet/IP port settings. A memory error occurred. 			0			page 3-686
342B0000 hex	Link Setting Not Support- ed	Unsupported LINK settings. The Controller is operating with LINK setting set to Auto.	An item other than Auto is selected for LINK settings on the CPU Unit whose hardware revision supports only Auto setting of LINK settings.			0			page 3-687
50010000 hex (Ver. 1.02 or later)	Controller Insufficient Memory Warning	The amount of data for the EtherCAT slave configuration, network-published information, or other data exceeds the value that is specified for the CPU Unit. You may not be able to perform online editing or other operations.	The amount of data for the EtherCAT slave configuration, network-published information, or other data exceeds the value that is specified for the CPU Unit.			0			page 3-688

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause		P rt	M i n	O b s	I n f o	Reference
84030000 hex	DNS Server Connection Error	Connection with the DNS server failed.	 Parameter error The server went down. An error occurred in the communications path. 			0			page 3-689
84040000 hex	NTP Server Connection Error	Connection with the NTP server failed.	 Parameter error The server went down. An error occurred in the communications path. 			0			page 3-690
84070000 hex	Tag Data Link Con- nection Failed	Establishing a tag data link connection failed.	The tag data link connection information is not the same for the originator and target. Insufficient connections CIP message communications at the target node are stopped. Setting to use tag data link communications was made to the NX-series EtherNet/IP Unit that is included in the CIP Safety connection settings (for NX-series EtherNet/IP Units). The NX-series EtherNet/IP Unit with tag data link communications was added to the CIP Safety connection settings (for NX-series EtherNet/IP Units).			0			page 3-691

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
84080000 hex	Tag Data Link Timeout	A timeout occurred in a tag data link.	 The power supply to the target node is OFF. Communications at the target node are stopped. The Ethernet cable for Ether-Net/IP is disconnected. The Ethernet cable for Ether-Net/IP is broken. The link to the built-in Ether-Net/IP port is OFF. CIP message communications at the target node are stopped. When the Packet Filter function is enabled in the Built-in EtherNet/IP Port Settings, packets from the target are not allowed.*1 CIP communications are not allowed by the Packet Filter (Simple) or Packet Filter functions on the target node or the devices on the communication path. The packet loss occurred on the path due to the network communications load. Noise 			0			page 3-693
84090000 hex (Version 1.04 or later)	Tag Data Link Con- nection Timeout	A timeout occurred while trying to establish a tag data link connection.	 The power supply to the target node is OFF. Communications at the target node are stopped. CIP message communications are stopped at the target node or built-in EtherNet/IP port.*1 The Ethernet cable connector for EtherNet/IP is disconnected. The Ethernet cable for EtherNet/IP is broken. CIP communications are not allowed by the Packet Filter (Simple) or Packet Filter functions on the target node or the devices on the communication path. An error occurred in the communications path. 			0	•		page 3-695
840A0000 hex (Ver. 1.10 or later) [NX-series]	IP Address Duplication Error	The same IP address is used more than once.	The IP address of the built-in EtherNet/IP port is also used as the IP address of another node.			0			page 3-697

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
840B0000 hex (Ver. 1.10 or later) [NX-series]	BOOTP Server Con- nection Error	Connection with the BOOTP server failed.	 Server setting error The server went down. An error occurred in the communications path. 			0			page 3-698
840C0000 hex (Ver. 1.10 or later) [NX-series]	Allowed Communica- tions Band- width per Unit Exceed- ed	The total bandwidth for the connections that are set or established exceeded the allowed communications bandwidth of tag data links and CIP Safety communications per Unit for all of the built-in EtherNet/IP ports.	An attempt was made to establish a connection that would cause the used bandwidth (PPS) total of the packet transfer rates of the tag data links and CIP Safety communications that use all of the built-in EtherNet/IP ports to exceed the allowed communications bandwidth per Unit.			0			page 3-699
840E0000 hex	Number of Tag Sets for Tag Data Links Ex- ceeded	The total number of tag sets for tag data links for all ports of the built-in Ethernet/IP port exceeds the upper limit.	The total number for all ports of tag sets for tag data links that are set for each built-in Ethernet/IP port exceeds the total number the product allows.			0			page 3-700
54E00000 hex	Access Detected Outside Range of Variable	Accessing a value that is out of range was detected for a tag variable that is used in a tag data link.	An out-of-range value was written by an EtherNet/IP tag data link for a variable with a specified range. A value that does not specify an enumerator was written by an EtherNet/IP tag data link for an enumeration variable.				0		page 3-701
84050000 hex	Packet Discarded Due to Full Reception Buffer	A packet was discarded.	A network convergence occur- red.				0		page 3-702
84060000 hex	Link OFF Detected	An Ethernet link OFF was detected.	 An Ethernet cable is broken, disconnected, or loose. The Ethernet switch's power supply is turned OFF. Communications speed mismatched. Noise The Identity object was reset. Settings for EtherNet/IP were downloaded from the Network Configurator or Sysmac Studio, or the Clear All Memory operation was performed. EtherNet/IP was restarted. 			•	0		page 3-703

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
840F0000 hex (Ver. 1.60 or later) [NX502-1□□□]	DHCP Serv- er Connec- tion Error	Connection to the DHCP server failed.	The server is misconfigured.The server went down.Abnormalities occurred in the communication path.			0			page 3-704
940F0000 hex (Ver. 1.46 or later) [NX102-□00, NX1P2-□00] (Ver. 1.37 or later) [NX102-□20] (Ver. 1.60 or later) [NX502-1□00]	Secure Socket Com- munications Log Saving Failed	Secure socket communications log could not be saved to the SD Memory Card.	 An SD Memory Card is not inserted. The SD Memory Card type is not correct. The SD Memory Card format is invalid. The SD Memory Card is write protected. The SD Memory Card does not have sufficient available space. The SD Memory Card is damaged. 				0		page 3-705
94010000 hex	Tag Data Link Download Started	Changing the tag data link settings started.	Changing the tag data link set- tings started.					0	page 3-706
94020000 hex	Tag Data Link Download Finished	Changing the tag data link settings finished.	Changing the tag data link set- tings finished.					0	page 3-707
94030000 hex	Tag Data Link Stopped	Tag data links were stopped by the Network Configurator, Sysmac Studio, special instructions or manipulation of a system-defined variable. Or, the data link table was downloaded from Network Configurator or Sysmac Studio.	Tag data links were stopped by the Network Configurator, Sys- mac Studio, special instruc- tions or manipulation of a sys- tem-defined variable.					0	page 3-708
94040000 hex	Tag Data Link Started	Tag data links were started by the Network Configurator, Sysmac Studio, special instructions or manipulation of a system-defined variable. Or, the data link table was downloaded from Network Configurator or Sysmac Studio.	Tag data links were started by the Network Configurator, Sys- mac Studio, special instruc- tions or manipulation of a sys- tem-defined variable.					0	page 3-709
94050000 hex	Link Detect- ed	Establishment of an Ethernet link was de- tected.	Establishment of an Ethernet link was detected.					0	page 3-710

				Level						
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference	
94060000 hex	Restarting Ethernet Port	The built-in EtherNet/IP port was restarted.	The built-in EtherNet/IP port was restarted.					0	page 3-710	
94070000 hex	Tag Data Link All Run	Tag data link connections to all nodes have been normally established.	Tag data link connections to all target nodes have been nor- mally established.					0	page 3-711	
94080000 hex	IP Address Fixed	The correct IP address has been determined and Ethernet communications can start.	The correct IP address has been determined and Ethernet communications can start.					0	page 3-712	
94090000 hex	BOOTP Cli- ent Started	The BOOTP client started requesting an IP address.	The BOOTP client started requesting an IP address.					0	page 3-712	
940A0000 hex	FTP Server Started	The FTP agent start- ed normally.	The FTP agent started normally.					0	page 3-713	
940B0000 hex	NTP Client Started	The NTP client start- ed normally and a re- quest for the NTP server to obtain the time started.	The NTP client started normally and a request for the NTP server to obtain the time started.					0	page 3-713	
940C0000 hex	SNMP Start- ed	The SNMP agent started normally.	The SNMP agent started nor- mally.					0	page 3-714	
940E0000 hex (Ver. 1.46 or later) [NX102-□□00, NX1P2-□□□□□] (Ver. 1.37 or later) [NX102-□□20] (Ver.1.60 or later)	Secure Socket Com- munications Log Started/ Stopped	Secure socket communications logging has started or stopped.	Secure socket communications logging has started or stopped.					0	page 3-714	
[NX502-1 □ □ □] 94100000 hex (Ver.1.46 or later and Ver.1.48 or earlier) [NX102-□ □ 00, NX1P2-□ □ □ □ □ □ □] (Ver. 1.37 or later) [NX102-□ □ 20] (Ver.1.60 or later) [NX502-1 □ □ □ □	Access to Secure Socket Set- ting	Settings have been changed or read from the Secure Socket Configuration commands.	Settings have been changed or read from the Secure Socket Configuration commands.					0	page 3-715	
94110000 hex (Ver. 1.49 or later) [NX102-□□00, NX1P2- □□□□□, and NX102-□□20] (Ver. 1.60 or later) [NX502-1□□]	Access to Secure Socket Set- ting	Secure socket setting was changed or read.	Secure socket setting was changed or read.					0	page 3-716	

						Leve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
94120000 hex (Ver. 1.49 or later) [NX102-□00, NX1P2-□00, and NX102-□020] (Ver. 1.60 or later) [NX502-1□0]	Change or Reading of Secure Socket Set- ting	Secure socket setting was changed or read.	Secure socket setting was changed or read.					0	page 3-717
94130000 hex (Ver. 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	IP Address Changed	The IP address was changed.	The IP address was changed.					0	page 3-718
94140000 hex (Ver. 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	SNMP Set- tings Changed	SNMP Settings were changed.	SNMP Settings were changed.					0	page 3-719
94150000 hex (Ver. 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502] (Ver. 1.29 or later) [NX701]	Subnet Mask Changed	The subnet mask was changed.	The subnet mask was changed.					0	page 3-720
96450000 hex	Restarting Ethernet Port	The EtherNet/IP port was restarted.	The EtherNet/IP port was restarted.					0	page 3-720

^{*1.} Assumed cause for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

3-7-2 Error Descriptions

EtherNet/IP

Event name	Communications	Controller Error		Event code	04200000 hex						
Meaning	A hardware error	was detected in the	e communications	controller of the bui	lt-in EtherNet/IP po	ort.					
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port	Detection tim- ing	Continuously					
Error attributes	Level	Partial fault	Recovery	Cycle the power supply.	Log category	System					
Effects	User program	Continues.	Operation	EtherNet/IP comr	nunications will no	t operate.					
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINI	K/ACT					
	OFF		Lights.								
System-de-	Variable		Data type		Name						
fined variables	_EIP_LanHwErr		BOOL		Communications	Controller Error					
Cause and cor-	Assumed cause		Correction		Prevention						
rection	Communications ware error	Controller hard-	Replace the CPU	Unit.	None						
Attached infor-	None		•								
mation											
Precautions/	After the _EIP_La	nHwErr system-de	fined variable char	nges to TRUE, it wil	l not change to FA	LSE unless the					
Remarks	power supply to the	power supply to the Controller is cycled.									

Event name	MAC Address Err	or		Event code	14200000 hex					
Meaning	The MAC address	s in non-volatile me	emory was not read	correctly.						
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port	Detection tim- ing	At power ON or Controller reset				
Error attributes	Level	Partial fault	Recovery	Cycle the power supply.	Log category	System				
Effects	User program	Continues.	Operation	EtherNet/IP comn	nunications will not	operate.				
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINE	(/ACT				
	OFF		Lights.							
System-de-	Variable		Data type		Name					
fined variables	_EIP_MacAdrErr		BOOL		MAC Address Err	or				
Cause and cor-	Assumed cause		Correction		Prevention					
rection	Non-volatile mem	ory failure	Replace the CPU	Unit.	None					
Attached infor-	None									
mation										
Precautions/	After the _EIP_M	acAdrErr system-d	efined variable cha	nges to TRUE, it wi	II not change to FA	LSE unless the				
Remarks	power supply to the Controller is cycled.									

Event name	EtherNet/IP Processing Error			Event code	14220000 hex		
Meaning	A fatal error was	fatal error was detected in the EtherNet/IP Function Module.					
Source	EtherNet/IP Function Module		Source details	Communica- tions port	Detection tim- ing	Continuously	
Error attributes	Level	Partial fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program	Continues.	Operation	EtherNet/IP comr	nunications will no	t operate.	
Indicators	EtherNet/IP NET RUN		EtherNet/IP NET ERR		EtherNet/IP LINK/ACT		
	OFF		Lights.				
System-de-	Variable		Data type		Name	Name	
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Hardware has fail	ed.	Replace the CPU	Unit.	None		
Attached infor-	Attached informat	tion 1: System infor	mation				
mation	Attached informat	tion 2: System infor	mation				
	Attached information 3: System information						
	Attached information 4: System information						
Precautions/	None						
Remarks							

Event name	Basic Ethernet Se	etting Error		Event code	34210000 hex		
Meaning	An error was dete						
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Partial fault	Recovery	Automatic re- covery, cycle the power sup- ply, or reset the Controller.	Log category	System	
Effects	User program	Continues.	Operation	EtherNet/IP comr	nunications will not	operate.	
Indicators	EtherNet/IP NET RUN OFF		EtherNet/IP NET	ERR	EtherNet/IP LINE	K/ACT	
			Flashes at 1-s intervals.				
System-de-	Variable		Data type	Data type		Name	
fined variables	_EIP_EtnCfgErr		BOOL		Basic Ethernet Setting Error		
Cause and cor-	Assumed cause		Correction	Correction			
rection	Setting error		Identify the error from the attached information, correct the setting, and then download the settings again.		None		
	Power was interrupted when a download was in progress for the built-in EtherNet/IP port settings.		Perform the Clear All Memory operation or download the settings.		Do not turn OFF to the Controller vis in progress for Net/IP port setting	while a download the built-in Ether-	
	Memory error		If operation is not above, replace th	recovered by the e CPU Unit.	None		
Attached information	Attached information 1: Type of errors (01 hex: Non-volatile memory access error, 02 hex: tings) Attached information 2: Error details (00 hex: Non-volatile memory access error, 11 hex: In setting, 12 hex: Unsupported baud rate)						
Precautions/ Remarks	The cause of erro	r can be identified	with the attached in	nformation.			

Event name	IP Address Settin	g Error		Event code	34220000 hex	
Meaning	An error was dete	ected in the IP addi	ress settings.			
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port	Detection tim- ing	At power ON or Controller reset
Error attributes	Level	Partial fault	Recovery	Automatic re- covery (after downloading the settings), cycle the power sup- ply, or reset Controller.	Log category	System
Effects	User program	Continues.	Operation	EtherNet/IP comr	nunications will not	operate.
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINE	(/ACT
	OFF		Flashes at 1-s int	Flashes at 1-s intervals.		
System-de-	Variable		Data type		Name	
fined variables	_EIP_IPAdrCfgEr	r	BOOL		IP Address Setting Error	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Setting error		Identify the error from the attached information, correct the setting, and then download the settings again.		None	
	Power was interrupted when a download was in progress for the built-in EtherNet/IP port settings.		Perform the Clear All Memory operation or download the settings again.		Do not turn OFF the power supply to the Controller while a download is in progress for the built-in Ether-Net/IP port settings.	
	The IP address acquired from BOOTP server is illegal.		Correct the IP address that was provided to this port by the BOOTP server so that it is within the range specified for an NJ-series Controller.			=
	Memory error		If operation is not above, replace th	-	None	
Attached information				ault gateway, 14 he	•	
Precautions/ Remarks	_		with the attached in		,	

Event name	IP Address Duplic	cated		Event code	84010000 hex	
Meaning	The same IP add	ress is used more t	han once.			
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port	Detection tim- ing	After link is es- tablished
Error attributes	Level	Partial fault	Recovery	Automatic re- covery (after downloading the IP address set- tings), cycle the power supply, or reset Controller.	Log category	System
Effects	User program	Continues.	Operation		nunications will not local IP address ar	•
Indicators	EtherNet/IP NET RUN		EtherNet/IP NET ERR		EtherNet/IP LINK/ACT	
	OFF		Flashes at 1-s intervals.			
System-de-	Variable		Data type		Name	
fined variables	_EIP_IPAdrDupE	rr	BOOL		IP Address Duplication Error	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Assumed cause The IP address of the built-in EtherNet/IP port is also used as the IP address of another node.		address is not than one node. • Remove the ot the duplicate IF the network an	ddresses of other rect the IP adso that the same used by more ther node that has P address from d then cycle the to the Controller or		
Attached infor- mation	Attached informat	tion 1: Duplicated II	P address (example	e: C0A8FA01 hex =	address 192.168.	250.1)
Precautions/ Remarks	A duplicated addr	ress error occurs if	an ARP is sent with	n the set IP address	s and there is an A	RP response.

Event name	BOOTP Server C	onnection Error		Event code	84020000 hex	
Meaning	Connection with t	he BOOTP server	failed.			
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port	Detection tim- ing	At BOOTP operation
Error attributes	Level	Partial fault	Recovery	Automatic recovery Log category System		System
Effects	User program	Continues.	Operation	EtherNet/IP comm Requests to the B there is a respons freshing with the F An IP address was when it was suppo- server.		continue until P server. Data re- ule will continue. herNet/IP port
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET ERR		EtherNet/IP LINK/ACT	
	OFF		Flashes at 1-s intervals.			
System-de-	Variable		Data type		Name	
fined variables	_EIP_BootpErr		BOOL		BOOTP Server Error	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Server setting error		Correct the server settings at the remote connection.		Check to make sure that the server settings at the remote connection are correct.	
	Server is down.		connection is ope	Check if the server at the remote connection is operating normally and set it to operate normally if it is not.		ure that the server nection is operat-
	An error occurred in the communications path. Check the communithe server and take measures if there a lems.		ke corrective	None		
Attached infor- mation	None					
Precautions/ Remarks	None					

Event name	Communications	Controller Error		Event code	04210000 hex*1		
Meaning	A hardware error	was detected in the	e communications	controller of the built-in EtherNet/IP port.			
Source	EtherNet/IP Function Module		Source details	Communica- tions port 1 or 2	Detection tim- ing	Continuously	
Error attributes	Level	Minor fault	Recovery Cycle the power supply.		Log category	System	
Effects	User program	Continues.	Operation EtherNet/IP comm relevant communic		nunications are not ications port.	possible for the	
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET ERR		EtherNet/IP LINK/ACT		
	OFF		Lights.				
System-de-	Variable	Variable		Data type		Name	
fined variables	_EIP1_LanHwErr		BOOL		Port1 Communications Controller Error		
	_EIP2_LanHwErr		BOOL	BOOL		Port2 Communications Controller Error	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Hardware error in tions controller	Hardware error in the communications controller		Replace the CPU Unit.		None	
Attached information	None						
Precautions/ Remarks			_LanHwErr system he Controller is cyc		hanges to TRUE, it	will not change to	

^{*1.} This event code occurs for a CPU Unit with unit version 1.10 or later.

Event name	Identity Error			Event code	14210000 hex	
Meaning	The CIP identity in	nformation in non-v	olatile memory wa	s not read correctly		
Source	In the CPU Unit, EtherNet/IP Function Module. For the X Bus Unit, X Bus Ethernet/IP Function Module		Source details	CIP *1/CIP1 *2/ CIP2 *2/1 to 4: Mounting position of the X Bus Unit and CIP1 /CIP2 are given in combi- nation.*4	Detection timing	At power ON or Controller reset
Error attributes	Level	Minor fault	Recovery	Cycle the power supply.	Log category	System
Effects	User program	Continues.	Operation	EtherNet/IP communications are not possible for relevant communications port.		possible for the
Indicators	EtherNet/IP NET	EtherNet/IP NET RUN EtherNet/IP NET ERR		ERR	EtherNet/IP LINK/ACT	
			Lights.			
System-de-	Variable		Data type	7.		
fined variable	_EIP_IdentityErr *1 *3		BOOL		Identity Error	
	_EIP1_IdentityErr *2 *3		BOOL		CIP Communications1 Identity Error	
	_EIP2_IdentityErr *2 *3		BOOL		CIP Communications2 Identity Error	
	EIP_Comm1Statu	us.IdentityErr	BOOL		CIP Communications1 Identity Error	
	EIP_Comm2Statu *4	us.IdentityErr	BOOL		CIP Communicat	ions2 Identity Er-
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Non-volatile memory failure Replace the CPU U		l Unit.	None		
Attached infor- mation	None					
Precautions/ Remarks	None					

^{*1.} This applies to an NJ-series CPU Unit.

^{*2.} This applies to an NX-series CPU Unit.

^{*3.} This applies to a Unit other than NX-series EtherNet/IP Unit.

^{*4.} This applies to an NX-series EtherNet/IP Unit.

Event name	MAC Address Err	or		Event code	14230000 hex*1		
Meaning	The MAC address	s in non-volatile me	emory was not read	correctly.			
Source	EtherNet/IP Function Module		Source details	Communications port 1 or 2	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Minor fault	Recovery	Cycle the power supply.	Log category	System	
Effects	User program	Continues.	Operation	en EtherNet/IP communication relevant communications		unications are not possible for the ations port.	
Indicators	EtherNet/IP NET RUN		EtherNet/IP NET ERR		EtherNet/IP LINK/ACT		
	OFF		Lights.				
System-de-	Variable		Data type		Name		
fined variables	_EIP1_MacAdrEr	r	BOOL		Port 1 MAC Address Error		
	_EIP2_MacAdrEr	r	BOOL		Port2 MAC Addre	ess Error	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Non-volatile mem	ory failure	Replace the CPU	Unit.	None		
Attached infor-	None						
mation							
Precautions/	After the _EIP1_N	MacAdrErr or _EIP	2_MacAdrErr syste	m-defined variable	changes to TRUE,	it will not change	
Remarks	to FALSE unless	the power supply to	o the Controller is c	ycled.			

^{*1.} This event code occurs for unit version 1.10 or later of the CPU Unit.

Event name	Tag Data Link Se	tting Error		Event code	34200000 hex	
Meaning	An error was dete	ected in the commu	nications settings f	or tag data links.		
Source	In the CPU Unit, EtherNet/IP Function Module. For the X Bus Unit, X Bus Ethernet/IP Function Module		Source details	CIP *1/CIP1 *2/ CIP2 *2/1 to 4: Mounting position of the X Bus Unit and CIP1 /CIP2 are given in combination.*4	Detection timing	At power ON or Controller reset
Error attributes	Level	Minor fault	Recovery	Automatic re- covery (after downloading the tag data link set- tings), cycle the power supply, or reset Controller.	Log category	System
Effects	User program	Continues.	Operation Tag data link comm		munications will no	t operate.
Indicators	EtherNet/IP NET	ET RUN EtherNet/IP NET ERR		EtherNet/IP LINK/ACT		
	Flashes at 1-s into	ervals.	Flashes at 1-s int	ervals.		
System-de-	Variable		Data type		Name	
fined variable	_EIP_TDLinkCfgErr *1 *3		BOOL		Tag Data Link Se	tting Error
	_EIP1_TDLinkCfgErr *2 *3		BOOL		CIP Communications1 Tag Data Link Setting Error	
	_EIP2_TDLinkCfgErr *2 *3		BOOL		CIP Communicat Link Setting Error	=
	EIP_Comm1Status.TDLinkCfgErr *4		BOOL		CIP Communications1 Tag Data Link Setting Error	
	EIP_Comm2Statu	us.TDLinkCfgErr	BOOL	BOOL		ions2 Tag Data
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Power was interrupted when a download was in progress for the data link settings.		measures. • Clear All Memo	Clear All MemoryDownload the tag data link settings again.		the power supply while a download the tag data link
	Memory error			sures do not work,	None	
Attached infor- mation	Attached informat	tion 1: Type of erro	rs (01 hex: Non-vol	atile memory acces	ss error, 02 hex: Inc	consistency in set-
Precautions/ Remarks	None					

^{*1.} This applies to an NJ-series CPU Unit.

^{*2.} This applies to an NX-series CPU Unit.

^{*3.} This applies to a unit other than NX-series EtherNet/IP Unit.

^{*4.} This applies to an NX-series EtherNet/IP Unit.

Event name	IP Rout Table Set	ting Error		Event code	34230000 hex	
Meaning	An IP routing sett	ing error was detec	cted.			
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port	Detection tim- ing	At power ON or Controller reset
Error attributes	Level	Minor fault Recovery Automatic recovery (after downloading the settings), cycle the power supply, or reset Controller.		Log category	System	
Effects	User program	Continues.	Operation	Communications tings are not poss	that use the releva	nt IP routing set-
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINE	K/ACT
			Flashes at 1-s int	ervals.		
System-de-	Variable		Data type		Name	
fined variables	_EIP_IPRTblErr		BOOL		IP Route Table Error	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Setting error		Identify the error information, correand then download again.	ect the setting,	None	
	Power was interru	ıpted when a	Perform the Clear All Memory op-		Do not turn OFF the power supply	
	download was in progress for the built-in EtherNet/IP port settings.		eration or download the settings again.		to the Controller while a download is in progress for the built-in Ether-Net/IP port settings.	
	Memory error		If operation is not above, replace th	recovered by the e CPU Unit.	None	
Attached infor- mation	tings) Attached informat (00 hex: Non-vola When the settings (11 hex: Illegal IP	ion 2: Error Details tile memory acces are inconsistent router table settinç				·
Precautions/	_		with the attached in		non mor somings)	
Remarks						

Event name	FTP Server Settir	ng Error		Event code	34240000 hex	
Meaning	An error was dete	ected in the FTP se	erver settings.			
Source	EtherNet/IP Func	tion Module	Source details	FTP	Detection tim- ing	At power ON or Controller reset
Error attributes	Level	Minor fault	Recovery	Automatic re- covery (after downloading the FTP settings), cycle the power supply, or reset Controller	Log category	System
Effects	User program	Continues.	Operation	FTP will not opera	ate.	
Indicators	EtherNet/IP NET RUN		EtherNet/IP NET ERR		EtherNet/IP LINK/ACT	
			Flashes at 1-s intervals.			
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Setting error		Identify the error information, correand then download again.	ect the setting,	None	
	Power was interrupted when a download was in progress for the FTP server settings.		Perform the Clear All Memory operation or download the settings again.		Do not turn OFF the power supply to the Controller while a download is in progress for the FTP server settings.	
	Memory error		If operation is not recovered by the above, replace the CPU Unit.		None	
Attached infor- mation	Attached informat	Attached information 1: Type of errors (01 hex: Non-volatile memory access error, 02 hex: Inconsistency in set-				
Precautions/	_ <u> </u>	r can be identified	with the attached in	nformation.		
Remarks						

Event name	NTP Client Setting	g Error		Event code	34250000 hex		
Meaning	An error was dete	cted in the NTP cli	ent settings.				
Source	EtherNet/IP Func	tion Module	Source details	NTP	Detection tim-	At power ON or	
					ing	Controller reset	
Error attributes	Level	Minor fault	Recovery	Automatic re-	Log category	System	
				covery (after			
				downloading the			
				NTP settings),			
				cycle the power			
				supply, or reset			
				Controller			
Effects	User program	Continues.	Operation	NTP operation sto	ops.	pps.	
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINK/ACT		
			Flashes at 1-s into	ervals.			
System-de-	Variable		Data type	Data type			
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Setting error		Identify the error from the attached		None		
rection	Setting error						
	Setting error		information, corre				
1000011	Setting error			ect the setting,			
Toolion	Setting error		information, corre	ect the setting,			
	Power was interru	upted when a	information, corre	ect the setting, ad the settings	Do not turn OFF	the power supply	
	, and the second	•	information, corre and then downloa again.	ect the setting, ad the settings	Do not turn OFF to the Controller		
	Power was interru	progress for the	information, corre and then downloa again. Perform the Clear	ect the setting, ad the settings		while a download	
	Power was interru	progress for the	information, corre and then downloa again. Perform the Clear eration or download	ect the setting, ad the settings	to the Controller	while a download	
	Power was interru	progress for the	information, corre and then downloa again. Perform the Clear eration or download	ect the setting, ad the settings r All Memory op- ad the settings	to the Controller vis in progress for	while a download	
	Power was interrudownload was in NTP client setting	progress for the	information, corre and then downloa again. Perform the Clear eration or downloagain.	and the settings The All Memory operated the settings The recovered by the	to the Controller vis in progress for settings.	while a download	
Attached infor-	Power was interrudownload was in NTP client setting	progress for the s.	information, corre and then downloa again. Perform the Clear eration or downloagain. If operation is not	r All Memory op- ad the settings	to the Controller vis in progress for settings.	while a download the NTP client	
	Power was interrudownload was in NTP client setting	progress for the s.	information, corre and then downloa again. Perform the Clear eration or downloagain. If operation is not above, replace th	r All Memory op- ad the settings	to the Controller vis in progress for settings.	while a download the NTP client	
Attached infor-	Power was interrudownload was in NTP client setting Memory error Attached informatings)	progress for the s.	information, corre and then downloa again. Perform the Clear eration or downloagain. If operation is not above, replace th	r All Memory op- ad the settings r All Memory op- ad the settings recovered by the e CPU Unit. atile memory acces	to the Controller vis in progress for settings.	while a download the NTP client	

Event name	SNMP Setting Err	ror		Event code	34260000 hex	
Meaning	An error was dete	ected in the SNMP	agent/trap settings.			
Source	EtherNet/IP Func	tion Module	Source details	SNMP	Detection tim- ing	At power ON or Controller reset
Error attributes	Level	Minor fault	Recovery	Automatic re- covery (after downloading the SNMP settings), cycle the power supply, or reset Controller	Log category	System
Effects	User program	Continues.	Operation	SNMP operation	stops.	
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINE	(/ACT
			Flashes at 1-s into	ervals.		
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Setting error		Identify the error from the attached information, correct the setting, and then download the settings again.		None	
	Power was interrupted when a download was in progress for the SNMP agent/trap settings.		Perform the Clear All Memory operation or download the settings again.		Do not turn OFF the power supply to the Controller while a download is in progress for the SNMP agent/ trap settings.	
	Memory error		If operation is not recovered by the above, replace the CPU Unit.		None	
Attached information	Attached information 1: Type of errors (01 hex: Non-volatile memory access error, 02 hex: Inconsistency ir tings) Attached Information 2: Error Location When the settings are inconsistent (01 hex: SNMP agent settings, 02 hex: SNMP trap settings)					consistency in set-
Precautions/ Remarks	The cause of erro	r can be identified	with the attached ir	nformation.		

Event name	Tag Name Resolu	ition Error		Event code	34270000 hex		
Meaning		g used in a tag dat	a link failed.				
Source	In the CPU Unit, EtherNet/IP Function Module. For the X Bus Unit, X Bus Ethernet/IP Function Module		Source details	CIP *1/CIP1 *2/ CIP2 *2/1 to 4: Mounting position of the X Bus Unit and CIP1 /CIP2 are given in combi- nation.*4	Detection timing	At power ON, at Controller reset, when variables are changed from the Sys- mac Studio, or when the data link table is changed from the Network Configurator	
Error attributes	Level	Minor fault	Recovery	Automatic re- covery (after downloading the tag settings)	Log category	System	
Effects	User program	Continues.	Operation	Data links will not links for other tag	operate for unresons will operate.	olved tags. Data	
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINI	EtherNet/IP LINK/ACT	
	Flashes at 1-s into	ervals.	Flashes at 1-s in	tervals.			
System-de-	Variable		Data type		Name		
fined variable	_EIP_TagAdrErr *	1 *3	BOOL		Tag Name Resol	ution Error	
	_EIP1_TagAdrErr *2 *3		BOOL		CIP Communicat Resolution Error	ions1 Tag Name	
	_EIP2_TagAdrErr	_EIP2_TagAdrErr *2 *3			CIP Communicat Resolution Error	ions2 Tag Name	
	EIP_Comm1Status.TagAdrErr *4		BOOL	BOOL		ions1 Tag Name	
	EIP_Comm2Status.TagAdrErr *4		BOOL		CIP Communications2 Tag Name Resolution Error		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The size of the ne		Correct the sizes in the tag settings to match the network variables.		Set the sizes in the tag settings to match the network variables.		
	The I/O direction	set for a tag data	Correct the tag settings or the set-		Set the tag settings or the settings		
	link and the I/O di		tings of the Controller variables so		of the Controller variables so that		
	Controller variable	e do not match.	that the I/O direction for the tag data links match the I/O direction of the Controller variables.		the I/O directions for the tag data links match the I/O directions of the Controller variables.		
	There are no netw the Controller tag		Correct the tag s	ettings so that ex- riables are set for	Set the tag settings so that existing network variables are set for the tags.		
	A variable in the Controller that is set for a tag data link has the Network Publish attribute set to Input but also has the Constant attribute.		Remove the Constant attribute from the Controller variable that has the Network Publish attribute set to Input.		Do not set the Constant attribute for a Controller variable that has the Network Publish attribute set to Input.		
Attached infor- mation	None						
Precautions/	None						

^{*1.} This applies to an NJ-series CPU Unit.

^{*2.} This applies to an NX-series CPU Unit.

^{*3.} This applies to a unit other than NX-series EtherNet/IP Unit.

^{*4.} This applies to an NX-series EtherNet/IP Unit.

Event name	Basic Ethernet Se	etting Error		Event code	34280000 hex*1	
Meaning	An error was dete	ected in the Etherno	et settings.			
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port 1 or 2	Detection tim- ing	At power ON or Controller reset
Error attributes	Level	Minor fault	Recovery	Automatic re- covery, cycle the power sup- ply, or reset the Controller.	Log category	System
Effects	User program	Continues.	Operation	EtherNet/IP comr	nunications are not ications port.	possible for the
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINE	(/ACT
	OFF		Flashes at 1-s int	ervals.		
System-de-	Variable		Data type		Name	
fined variables	les _EIP1_EtnCfgErr		BOOL	BOOL		net Setting Error
	_EIP2_EtnCfgErr		BOOL	BOOL		net Setting Error
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Setting error		Identify the error from the attached information, correct the setting, and then download the settings again.		None	
	Power was interru	•	Perform the Clear All Memory op-		Do not turn OFF the power supply	
	download was in progress for the built-in EtherNet/IP port settings.		eration or download the settings.		to the Controller while a download is in progress for the built-in Ether-Net/IP port settings.	
	Memory error	Memory error		recovered by the e CPU Unit.	None	
Attached information	Attached information 1: Type of errors (01 hex: Non-volatile memory access error, 02 hex: Inconsistency in s tings) Attached information 2: Error details (00 hex: Non-volatile memory access error, 11 hex: Incorrect baud rate					•
Precautions/	_	Insupported baud r	ate) with the attached in	oformation		
Remarks	The cause of effo	or can be identified	with the attached If	nonnauon.		

^{*1.} This event code occurs for unit version 1.10 or later of the CPU Unit.

Event name	IP Address Settin	g Error		Event code	34290000 hex*1	
Meaning	An error was dete	ected in the IP addr	ess settings.			
Source	EtherNet/IP Func	tion Module	Source details	Communications port 1 or 2, or Internal port 1	Detection tim- ing	At power ON, at Controller reset, or at user oper- ation
Error attributes	Level	Minor fault	Recovery	Automatic re- covery (after downloading the settings), cycle the power sup- ply, or reset Controller.	Log category	System
Effects	User program	Continues.	Operation	EtherNet/IP comr	nunications are not ications port.	possible for the
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINK	(/ACT
	OFF		Flashes at 1-s int	ervals.		
System-de-	Variable		Data type		Name	
fined variable	_EIP1_IPAdrCfgErr		BOOL		Port1 IP Address Setting Error	
	_EIP2_IPAdrCfgE	_EIP2_IPAdrCfgErr			Port2 IP Address Setting Error	
	_EIPIn1_IPAdrCf	gErr	BOOL		Internal Port1 IP Address Setting Error	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Setting error		Identify the error from the attached information, correct the setting, and then download the settings again.		None	
	Power was interrupted when a download was in progress for the built-in EtherNet/IP port settings.		Perform the Clear All Memory operation or download the settings again.		Do not turn OFF the power supply to the Controller while a download is in progress for the built-in Ether-Net/IP port settings.	
	The IP address acquired from BOOTP server is illegal.		Correct the IP address that was provided to this port by the BOOTP server so that it is within the range specified for an NX-series Controller.		Set the IP address that was provided to this port by the BOOTP server so that it is within the range specified for an NX-series Controller.	
	Memory error		If operation is not above replace the	=	None	
Attached information					consistency in set-	
Precautions/ Remarks	The cause of erro	or can be identified	with the attached in	nformation.		

^{*1.} This event code occurs for unit version 1.10 or later of the CPU Unit.

Event name	DNS Setting Erro	r		Event code	342A0000 hex *1	
Meaning	An error was dete	ected in the DNS se	ettings or Hosts set	tings.		
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port	Detection tim- ing	At power ON or Controller reset
Error attributes	Level	Minor fault	Recovery	Automatic re- covery (after downloading the settings), cycle the power sup- ply, or reset Controller.	Log category	System
Effects	User program	Continues.	Operation	EtherNet/IP comm	nunications will not	operate.
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINE	(/ACT
	OFF		Flashes at 1-s int	ervals.		
System-de-	Variable		Data type		Name	
fined variables	_EIP_DNSCfgErr		BOOL		DNS Setting Error	
Cause and cor-	Assumed cause		Correction	Correction		
rection	Setting error		Identify the error from the attached information, correct the setting, and then download the settings again.		None	
	Power was interrupted when a download was in progress for the built-in EtherNet/IP port settings.		Perform the Clear All Memory operation or download the settings again.		Do not turn OFF the power supply to the Controller while a download is in progress for the built-in Ether-Net/IP port settings.	
	Memory error		If operation is not recovered by the above replace the CPU Unit.		None	
Attached information	Attached information 1: Type of errors (01 hex: Non-volatile memory access error, 02 hex: Inconsistency in tings) Attached information 2: Error Details (00 hex: Non-volatile memory access error When the settings are inconsistent 14 hex: Preferred DNS setting error, 15 hex: Alternate DNS setting error, 16 hex: Illegal domain name, 17Holllegal Hosts setting					·
Precautions/ Remarks	The cause of erro	r can be identified	with the attached ir	nformation.		

^{*1.} This event code occurs for unit version 1.10 or later of the CPU Unit.

Event name	Link Setting Not S	Supported		Event code	342B0000 hex	
Meaning	Unsupported LINI	K settings. The Cor	ntroller is operating	with LINK setting s	et to Auto.	
Source	EtherNet/IP Function Module		Source details	Communications port, communications port 1 or 2	Detection timing	At power ON, Controller reset, or synchroniza- tion transfer / re- storation from the Sysmac Stu- dio
Error attributes	Level	Minor fault	Recovery	Automatic re- covery (after downloading the settings)	Log category	System
Effects	User program	Continues.	Operation	Not affected.		
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	TERR EtherNet/IP LINK/ACT		K/ACT
			Flashes at 1-s intervals.			
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An item other than Auto is selected for LINK settings on the CPU Unit whose hardware revision supports only Auto setting of LINK settings.		Change the setting to Auto from the Sysmac Studio and download the project.		None	
Attached infor- mation	None		,			
Precautions/ Remarks				visions of the CPU User's Manual (Cat		0 , ,

Event name	Controller Insuffic	ient Memory Warn	ing	Event code	50010000 hex*1		
Meaning		The amount of data for the EtherCAT slave configuration, network-published information, or other data exceeds the value that is specified for the CPU Unit. You may not be able to perform online editing or other operations.					
Source	EtherCAT Master Function Module or EtherNet/IP Function Module		Source details	Master or CIP	Detection tim- ing	At power ON, download, or online editing	
Error attributes	Level	Minor fault	Recovery	Automatic re- covery	Log category	System	
Effects	User program	Continues.	Operation Not affected.				
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINK/ACT		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The amount of da CAT slave configured informata exceeds the varied for the CPU I	uration, network- ation, or other da- lue that is speci-	Reduce the number of PDOs that are used by the EtherCAT slaves. Reduce the number of data types that are used for network variables or reduce the length of the text strings that are used for names.		None		
Attached information	None						
Precautions/ Remarks	You may not be a	You may not be able to perform online editing or other operations.					

^{*1.} This event code occurs for unit version 1.02 or later of the CPU Unit.

_	I						
Event name	DNS Server Coni			Event code	84030000 hex		
Meaning	Connection with t	he DNS server fail	ed.		1		
Source	EtherNet/IP Func	tion Module	Source details	Communica-	Detection tim-	At DNS opera-	
				tions port	ing	tion	
Error attributes	Level	Minor fault	Recovery	Automatic re-	Log category	System	
				covery (after			
				downloading the			
				DNS settings)			
Effects	User program	Continues.	Operation	Communications			
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINE	(/ACT	
			Flashes at 1-s inte	ervals.			
System-de-	Variable		Data type		Name		
fined variables	_EIP_DNSSrvErr	-	BOOL		DNS Server Connection Error		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Setting error		If there is a mistake with the speci- fications of the connected server, correct the server specifications		Make sure that the connected serv-		
					er is specified correctly.		
			and download them again.				
	The server is down.			Check if the server at the remote		Check to make sure that the server	
			connection is operating normally			nection is operat-	
			and set it to opera	ate normally if it is	ing normally.		
		12-0	not.				
	An error occurred	in the communi-	Check the commu	•	None		
	cations path.		measures if there				
			lems.	are arry prob-			
Attached infor-	None		156.				
mation							
Precautions/	None						
Remarks							

Event name	NTP Server Conn	ection Error		Event code	84040000 hex	
Meaning	Connection with t	he NTP server faile	ed.			
Source	EtherNet/IP Func	tion Module	Source details	NTP	Detection tim- ing	At NTP operation
Error attributes	Level	Minor fault	Recovery	Automatic re- covery (after downloading the NTP settings)	Log category	System
Effects	User program	Continues.	Operation	Time cannot be a	cquired from NTP.	
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINI	(/ACT
			Flashes at 1-s into	ervals.		
System-de-	Variable		Data type		Name	
fined variables	_EIP_NTPSrvErr		BOOL		NTP Server Connection Error	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Setting error		If there is a mistake with the speci- fications of the connected server, correct the server specifications and download them again.		Make sure that the connected server is specified correctly.	
	The server is down.		Check if the server at the remote connection is operating normally and set it to operate normally if it is not.		Check to make sure that the server at the remote connection is operating normally.	
	An error occurred in the communications path.		Check the communications path to the server and take corrective measures if there are any problems.		None	
Attached infor- mation	None					
Precautions/ Remarks	If TCP Server Rui nected to the DNS		e event log after the	correction is made	, then the CPU Un	it is correctly con-

_						
Event name	Tag Data Link Co			Event code	84070000 hex	
Meaning	Establishing a tag	data link connection	on failed.			1
Source	tion Module. For the X Bus Unit, X Bus Ethernet/IP Function Module		Source details	CIP *1/CIP1 *2/ CIP2 *2/1 to 4: Mounting position of the X Bus Unit and CIP1 /CIP2 are given in combi- nation.*4	Detection timing	When establishing tag data link connection
Error attributes	Level	Minor fault	Recovery	Automatic re- covery	Log category	System
Effects	User program	Continues.	Operation		operate for connect	
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINE	(/ACT
	Flashes at 1-s into	ervals.	Flashes at 1-s into	ervals.		
System-de-	Variable		Data type		Name	
fined variable	_EIP_TDLinkOpn	Err *1 *3	BOOL		Tag Data Link Co	nnection Failed
	_EIP1_TDLinkOpnErr *2 *3		BOOL		CIP Communication I	•
	_EIP2_TDLinkOp	nErr *2 *3	BOOL		CIP Communications2 Tag Data Link Connection Failed	
	EIP_Comm1Status.TDLinkOpnErr *4		BOOL		CIP Communication I	=
	EIP_Comm2Statu *4	us.TDLinkOpnErr	BOOL			ions2 Tag Data Failed
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The tag data link mation is not the nator and target.	connection infor- same for the origi-	Correct the tag data link connection information, and then download the device parameters or connection settings from the Network Configurator or Sysmac Studio.		Before you use the tag data links, make sure that the tag data link connection information in the originator and target are suitable.	
	Insufficient conne	ctions	Reduce the number of class-3 messages.		Reduce the number of data links and class-3 messages that are used.	
	CIP message con the target node at NJ/NX-series CPI	re stopped. (for	Make the device start normal CIP message communications.		Make the device start normal CIP message communications before you use a tag data link.	
	Setting to use tag data link communications was made to the NX-series EtherNet/IP Unit that is included in the CIP Safety connection settings (for NX-series EtherNet/IP Units).		Do not configure the NX-series EtherNet/IP Unit, which is included in the CIP Safety connection set- tings, to use tag data link commu- nications (for NX-series EtherNet/IP Units).		Do not configure the NX-series EtherNet/IP Unit, which is included in the CIP Safety connection settings, to use tag data link communications (for NX-series EtherNet/IP Units).	
	The NX-series EtherNet/IP Unit with tag data link communications was added to the CIP Safety connection settings (for NX-series EtherNet/IP Units).		Do not add the NX-series Ether-Net/IP Unit, for which tag data link communications are set to use, to the CIP Safety connection settings (for NX-series EtherNet/IP Units).		Do not add the Ni Net/IP Unit, for what communications at the CIP Safety conference (for NX-series Ethern)	hich tag data link are set to use, to nnection settings
Attached information	Attached informat	tion 1: Target node tion 2: Connection i tion 3: Connection s	IP address (examp	ole: C0A8FA01 hex	= address 192.168	3.250.1)

Precautions/ Remarks

- You can investigate a detailed cause from the connection status.
 Refer to the Connection Status Codes and Troubleshooting described in the NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual (Cat. No. W506).
- This event occurs only once even if this error occurred simultaneously in several connections for the same target node.
- *1. This applies to an NJ-series CPU Unit.
- *2. This applies to an NX-series CPU Unit.
- *3. This applies to a unit other than NX-series EtherNet/IP Unit.
- *4. This applies to an NX-series EtherNet/IP Unit.
- *5. Attached information 2 and 3 are not available for a CPU Unit with unit version 1.10 or earlier.

	I						
Event name	Tag Data Link Tin	neout		Event code	84080000 hex		
Meaning	A timeout occurre	ed in a tag data link	ζ	_		_	
Source	In the CPU Unit, EtherNet/IP Function Module. For the X Bus Unit, X Bus Ethernet/IP Function Module		Source details	CIP *1/CIP1 *2/ CIP2 *2/1 to 4: Mounting position of the X Bus Unit and CIP1 /CIP2 are given in combi- nation.*4	Detection timing	Continuously after starting tag data link communications	
Error attributes	Level	Minor fault	Recovery	Automatic re- covery	Log category	System	
Effects	User program	Continues.	Operation		The relevant data link connection will stop. Reconnection processing is periodically repeated for the tag data link error target.		
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINK/ACT		
	Flashes at 1-s int	ervals.	Flashes at 1-s int	ervals.			
System-de-	Variable		Data type		Name		
fined variable	_EIP_TDLinkErr *	_EIP_TDLinkErr *1 *3		BOOL		Tag Data Link Communications Error	
	_EIP1_TDLinkErr	_EIP1_TDLinkErr *2 *3		BOOL		CIP Communications1 Tag Data Link Communications Error	
	_EIP2_TDLinkErr	· *2 *3	BOOL		CIP Communicat	0	
	EIP_Comm1Statu	us.TDLinkErr *4	BOOL	BOOL		CIP Communications1 Tag Data Link Communications Error	
	EIP_Comm2Statu	us.TDLinkErr *4	BOOL		CIP Communications2 Tag Data Link Communications Error		

Cause and cor-	Assumed cause	Correction	Prevention
rection	The power supply to the target node is OFF.	Check the status of the target node and start it normally.	Use the tag data link after you confirm that the target node is normal.
	Communications with the target node stop.		
	The Ethernet cable connector for EtherNet/IP is disconnected.	Reconnect the connector and make sure it is connected correctly.	Connect the connector securely.
	The Ethernet cable for EtherNet/IP is broken.	Replace the Ethernet cable.	None
	The link to the built-in EtherNet/IP port is OFF.	Refer to the Link OFF Detected error (84060000 hex) for the assumed causes and other information on link OFF.	Refer to the Link OFF Detected error (84060000 hex) for the assumed causes and other information on link OFF.
	CIP message communications at the target node are stopped. (for NJ/NX-series CPU Units)	Make the device start normal CIP message communications.	Make the device start normal CIP message communications before you use a tag data link.
	When the Packet Filter function is enabled in the Built-in EtherNet/IP Port Settings, packets from the target are not allowed. (for NJ/NX-series CPU Units)*5	Allow packets from the target in the Packet Filter settings of the Built-in EtherNet/IP Port Settings.	Make sure that packets from the target are allowed in the Packet Filter settings of the Built-in EtherNet/IP Port Settings before you use a tag data link.
	CIP communications are not allowed by the Packet Filter (Simple) or Packet Filter functions on the target node or the devices on the communication path. (for NJ/NX-series CPU Units)	Allow CIP communications in the Packet Filter (Simple) or Packet Filter functions on the target node or the devices on the communication path.	Make sure that CIP communications are allowed in the Packet Filter (Simple) or Packet Filter functions on the target node or the devices on the communication path to use tag data links.
	The packet loss occurred on the path due to the network communications load.	Increase the timeout value or RPI. Or, review the network environment and network devices.	Design the network so that there is not too much load on the network.
	Noise	Implement noise countermeasures if there is excessive noise.	Implement noise countermeasures if there is excessive noise.
Attached infor- mation	Attached information 1: Connection Attached information 2: Target node	instance No. 0 to 255 IP address (example: C0A8FA01 hex	= address 192.168.250.1)
Precautions/ Remarks	The following cases are not include Connections as a target This event occurs only once even	ded in this error. if this error occurred simultaneously in	n several connections for the same
	target node.		

^{*1.} This applies to an NJ-series CPU Unit.

^{*2.} This applies to an NX-series CPU Unit.

^{*3.} This applies to a unit other than NX-series EtherNet/IP Unit.

^{*4.} This applies to an NX-series EtherNet/IP Unit.

^{*5.} Assumed cause for the following CPU Units.

[•] NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later

[•] NX502 CPU Unit: Version 1.60 or later

[•] NX701 CPU Unit: Version 1.29 or later

	T. D. III.O						
Event name	Tag Data Link Co			Event code	84090000 hex*1	84090000 hex ⁻¹	
Meaning	A timeout occurre	d while trying to es	tablish a tag data li	nk connection.			
Source	In the CPU Unit, EtherNet/IP Function Module. For the X Bus Unit, X Bus Ethernet/IP Function Module		Source details	CIP *2/CIP1 *3/ CIP2 *3/1 to 4: Mounting position of the X Bus Unit and CIP1 /CIP2 are given in combination.*5	Detection timing	When establishing tag data link connection	
Error attributes	Level	Minor fault	Recovery	Automatic re- covery	Log category	System	
Effects	User program	Continues.	Operation	Data links will not operate for connections that tim out. Reconnection processing is periodically repeat for the connection that timed out.			
Indicators	EtherNet/IP NET		EtherNet/IP NET		EtherNet/IP LINE	(/ACT	
	Flashes at 1-s into	ervals.	Flashes at 1-s into	ervals.			
System-de- fined variable	Variable		Data type		Name		
Tined variable	_EIP_TDLinkOpnErr *2 *4		BOOL		Tag Data Link Co	nnection Failed	
	_EIP1_TDLinkOpnErr *3 *4		BOOL		CIP Communications1 Tag Data Link Connection Failed		
	_EIP2_TDLinkOp	nErr *3 *4	BOOL		CIP Communications2 Tag Data Link Connection Failed		
	EIP_Comm1Statu *5	us.TDLinkOpnErr	BOOL	BOOL		ions1 Tag Data Failed	
	EIP_Comm2Statu	us.TDLinkOpnErr	BOOL		CIP Communications2 Tag Data Link Connection Failed		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The power supply to the target node is OFF. Communications at the target node are stopped.		Check the status of the target node and start it normally.		Use the tag data link after you confirm that the target node is normal.		
	CIP message communications are stopped at the target node or built-in EtherNet/IP Port. (for NJ/NX-series CPU Units)*6		Make the device start normal CIP message communications.		Make the device start normal CIP message communications before you use a tag data link.		
		The Ethernet cable connector for EtherNet/IP is disconnected.		Reconnect the connector and make sure it is connected correctly.		Connect the connector securely.	
	The Ethernet cab is broken.	le for EtherNet/IP	Replace the Ethe	rnet cable.	None		
	lowed by the Pack or Packet Filter futarget node or the communication paseries CPU Units	CIP communications are not allowed by the Packet Filter (Simple) or Packet Filter functions on the target node or the devices on the communication path. (for NJ/NX-series CPU Units)		Allow CIP communications in the Packet Filter (Simple) or Packet Filter functions on the target node or the devices on the communication path.		Make sure that CIP communications are allowed in the Packet Filter (Simple) or Packet Filter functions on the target node or the devices on the communication path to use tag data links.	
	An error occurred in the communications path.		Check the communications path and take corrective measures if there are any problems.		None		
Attached information	Attached informat	tion 1: Target node	IP address (examp		= address 192.168	3.250.1)	

Precautions/ Remarks

- You can change the event level to the observation level. If you change the level to the observation level, the EtherNet/IP NET ERR column above will be changed to "---" (no change) and recovery will not be necessary
- The following cases are not included in this error.
 Connections as a target
 - Connection timeouts due to a Link OFF detection for an Ethernet switch
- This event occurs only once even if this error occurred simultaneously in several connections for the same target node.
- *1. This event code occurs for unit version 1.04 or later of the CPU Unit.
- *2. This applies to an NJ-series CPU Unit.
- *3. This applies to an NX-series CPU Unit.
- *4. This applies to a unit other than NX-series EtherNet/IP Unit.
- *5. This applies to an NX-series EtherNet/IP Unit.
- *6. Assumed cause for the following CPU Units.
 - NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
 - NX502 CPU Unit: Version 1.60 or later
 - NX701 CPU Unit: Version 1.29 or later

Event name	IP Address Duplic	cation Error		Event code	840A0000 hex *1		
Meaning	The same IP add	ress is used more	than once.				
Source	EtherNet/IP Func	tion Module	Source details	Communications port 1 or 2, or Internal port 1	Detection tim- ing	After link is established	
Error attributes	Level	Minor fault	Recovery	Automatic re- covery (after downloading the IP address set- tings), cycle the power supply, or reset Controller.	Log category	System	
Effects	User program	Continues.	Operation	relevant communic		nunications are not possible for the cations port. Packets addressed to ss of the relevant communications	
Indicators	EtherNet/IP NET	et/IP NET RUN EtherNet/IP NET		ERR	EtherNet/IP LINK/ACT		
	OFF		Flashes at 1-s int	ervals.			
System-de-	Variable		Data type	Data type		Name	
fined variable	_EIP1_IPAdrDupErr		BOOL		Port1 IP Address	Duplication Error	
	_EIP2_IPAdrDupErr		BOOL		Port2 IP Address	Duplication Error	
	_EIPIn1_IPAdrDu	ıpErr	BOOL	BOOL		Internal Port1 IP Address Duplication Error	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The IP address of EtherNet/IP port in the IP address of	s also used as	rections. • Check the IP a nodes and condress settings address is not than one node • Remove the of the duplicate II the network an	so that the same used by more ther node that has address from the difference of the controller or	Perform allocation dresses of nodes are used for only	on the network	
Attached infor- mation	Attached information	tion 1: Duplicated	IP address (example		address 192.168.	250.1)	
Precautions/	A duplicated addr	ess error occurs i	f an ΔRP is sent with	n the set IP address	s and there is an Al	RP response	
Remarks	A duplicated address error occurs if an ARP is sent with the set IP address and there is an ARP response.						

^{*1.} This event code occurs for unit version 1.10 or later of the CPU Unit.

Event name	BOOTP Server C	onnection Error		Event code	840B0000 hex *1		
Meaning	Connection with t	he BOOTP server	failed.				
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port 1 or 2	Detection tim- ing	At BOOTP operation	
Error attributes	Level	Minor fault	Recovery	Automatic re- covery	Log category	System	
Effects	User program	Continues.	relevant communic Requests to the B0 there is a response freshing with the P An IP address was		nunications are not possible for the cations port. OOTP server will continue until e from the BOOTP server. Data re-PLC Function Module will continue. It is not set for the EtherNet/IP port posed to be set from the BOOTP		
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET ERR		EtherNet/IP LINK/ACT		
	OFF		Flashes at 1-s int	Flashes at 1-s intervals.			
System-de-	Variable		Data type		Name		
fined variables	_EIP1_BootpErr		BOOL		Port1 BOOTP Server Error		
	_EIP2_BootpErr		BOOL		Port2 BOOTP Server Error		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Server setting error		Correct the server settings at the remote connection.		Check to make sure that the server settings at the remote connection are correct.		
	The server is down.		Check if the server at the remote connection is operating normally and set it to operate normally if it is not.		Check to make sure that the server at the remote connection is operating normally.		
	cations path. the serve		the server and tal measures if there	Check the communications path to the server and take corrective measures if there are any problems.			
Attached infor- mation	None						
Precautions/ Remarks	None						

^{*1.} This event code occurs for unit version 1.10 or later of the CPU Unit.

Event name	Allowed Commun	ications Bandwidth	per Unit Exceed-	Event code	840C0000 hex *1		
Meaning	The total bandwid	Ith for the connection	ons that are set or e	established exceed	ed the allowed con	nmunications	
	bandwidth of tag	bandwidth of tag data links and CIP Safety communications*2 per Unit for all of the built-in EtherNet/IP ports.					
Source	In the CPU Unit, EtherNet/IP Function Module. For the X Bus Unit, X Bus Ethernet/IP Function Module		Source details	CIP1/CIP2/ 1 to 4: Mounting position of the X Bus Unit and CIP1 /CIP2 are given in combination.*4	Detection timing	When establishing tag data link connection or CIP Safety connection	
Error attributes	Level	Minor fault	Recovery	Automatic re- covery (after downloading the settings), cycle the power sup- ply, or reset Controller.	Log category	System	
Effects	User program	Continues.	Operation	"	d CIP Safety communications ^{*2} will bandwidth that exceeds the allowed bandwidth per Unit.		
Indicators	EtherNet/IP NET RUN		EtherNet/IP NET	ERR	EtherNet/IP LINK	(/ACT	
	Flashes at 1-s into	ervals.	Flashes at 1-s into	ervals.			
System-de-	Variable		Data type		Name		
fined variable	_EIP_TDLinkOpn	Err *3	BOOL		Tag Data Link Co	nnection Failed	
	_EIP1_TDLinkOp	nErr ^{*3}	BOOL		CIP Communication I	•	
	_EIP2_TDLinkOp	nErr ^{*3}	BOOL		CIP Communications2 Tag Data Link Connection Failed		
	EIP_Comm1Statu *4	ıs.TDLinkOpnErr	BOOL		CIP Communications1 Tag Data Link Connection Failed		
	EIP_Comm2Statu	ıs.TDLinkOpnErr	BOOL		CIP Communications2 Tag Data Link Connection Failed		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An attempt was m	nade to establish	Change the settin	gs at the origina-	Set the tag data li	inks and CIP	
	a connection that used bandwidth (I packet transfer ra ta links and CIP S	PPS) total of the tes of the tag da- cafety communi-	tor node for the tag data links and CIP Safety communications*2 so that the total PPS for all of the built-in EtherNet/IP ports does not		Safety communications*2 so that the total PPS for all of the built-in EtherNet/IP ports does not exceed the allowed communications band-		
	cations*2 that use EtherNet/IP ports lowed communica per Unit.	to exceed the al-	exceed the allowed communications bandwidth per Unit, and then cycle the power supply to the Controller or reset the Controller.		width per Unit.		
Attached infor-	None						
mation Precautions/	You can confirm t	he handwidth (DDS	S) of the tea data lin	k for EtherNet/ID s	orts in the Etherne	t Information	
Remarks	Tab Page on the I Refer to <i>Ethernet</i>	Network Configurat Information Tab Pa	6) of the tag data lingcor.age section in Checon the Network Co	cking Status with th			

^{*1.} This event code occurs for unit version 1.10 or later of the CPU Unit.

^{*2.} This applies for a CPU Unit that supports CIP Safety communications.

^{*3.} This applies to a Unit other than NX-series EtherNet/IP Unit.

^{*4.} This applies to an NX-series EtherNet/IP Unit.

Event name	Number of Tag Se	ets for Tag Data Lir	nks Exceeded	Event code	840E0000 hex*1	840E0000 hex*1		
Meaning	The total number limit.	of tag sets for tag	data links for all po	rts of the built-in Etl	hernet/IP port exce	eds the upper		
Source	In the CPU Unit, EtherNet/IP Function Module. For the X Bus Unit, X Bus Ethernet/IP Function Module		Source details	CIP1/CIP2/ 1 to 4: Mounting position of the X Bus Unit and CIP1/CIP2 are given in combi- nation.*3	Detection timing	At power ON, Controller reset, download from the Sysmac Stu- dio, or download from the Net- work Configura- tor		
Error attributes	Level	Minor fault	Recovery	Automatic re- covery	Log category	System		
Effects	User program	Continues.	Operation	Tag data link com were stopped.	munications for the	munications for the relevant port		
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	EtherNet/IP NET ERR		EtherNet/IP LINK/ACT		
	Flashes at 1-s into	ervals.	Flashes at 1-s int	ervals.				
System-de-	Variable		Data type		Name			
fined variable	_EIP_TDLinkCfgErr		BOOL		Tag Data Link Setting Error			
	_EIP1_TDLinkCfgErr		BOOL	BOOL		ions1 Tag Data		
	_EIP2_TDLinkCfgErr		BOOL		CIP Communicati Link Setting Error	•		
	EIP_Comm1Status.TDLinkCfgErr *3		BOOL		CIP Communications1 Tag Data Link Setting Error			
	EIP_Comm2Status.TDLinkCfgErr		BOOL		CIP Communications2 Tag Data Link Setting Error			
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The total number for all ports of tag sets for tag data links that are set for each built-in Ethernet/IP port exceeds the total number of which the product can be allowed.		Change the number of tag sets so that the total number for all ports of tag sets for tag data links that are set for each built-in Ethernet/IP port does not exceed the total number of which the product can be allowed.		When the number of tag sets for tag data links that are set for each built-in Ethernet/IP port is changed, check that the total number of tag sets for all ports does not exceed the total number of which the product can be allowed in advance.			
Attached information	Attached information 1: The number of tag sets that are set for the port. Attached information 2: Total number of tag sets that are set for the product. Attached information 3: Total number of tag sets that the product can be allowed.							
Precautions/ Remarks	None							

^{*1.} This event code occurs for an NX102 CPU Unit.

^{*2.} This applies to a unit other than NX-series EtherNet/IP Unit.

^{*3.} This applies to an NX-series EtherNet/IP Unit.

Event name	Access Detected Outside Range of Variable Eve			Event code	54E00000Hex	
Meaning	Accessing a value	e that is out of rang	e was detected for	a tag variable that	is used in a tag da	ta link.
Source	In the CPU Unit, I tion Module. For t Bus Ethernet/IP F	- ,	it, X tions port/		Detection timing	When variable is written
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINE	K/ACT
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An out-of-range value was written by an EtherNet/IP tag data link for a variable with a specified range. A value that does not specify an enumerator was written by an EtherNet/IP tag data link for an enumeration variable.		Correct the value that is written to the variable with a specified range so that the value is in the range. Correct the value that is written to the enumeration variable so that the value specifies an enumerator.		Write values that variables with spourie values that tors to enumerati	ecified ranges.
Attached infor- mation	None					
Precautions/ Remarks		•	values or values that sp			end normally.

^{*1.} This applies to an NX-series EtherNet/IP Unit.

Event name	Packet Discarded	Due to Full Receiv	ve Buffer	Event code	84050000 hex		
			VC Bullet	LVCIII COGC	04000000 NCX		
Meaning	A packet was disc						
Source	EtherNet/IP Func	tion Module	Source details	Communica-	Detection tim-	After link is es-	
				tions port,*1	ing	tablished	
				communications			
				port 1,*2 or com-			
				munications port			
				2*2			
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET ERR		EtherNet/IP LINK/ACT		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	A network conver	gence occurred.	The load on the n	The load on the network is too		Make sure that unnecessary	
			high. Check whether there are no-		broadcast frames are not sent on		
			des that send unnecessary broad-		the network.		
			cast frames on the network and re-		Do not connect th	e Ethernet cable	
			move them. After	that, check that	in a loop.		
			the received num	ber of frames has			
			reduced in the ne	twork statistical			
			information.	information.			
Attached infor- mation	None						
Precautions/	None						
Remarks							

^{*1.} This applies to an NJ-series CPU Unit.

^{*2.} This applies to an NX-series CPU Unit.

Event name	Link OFF Detecte	ed		Event code	84060000 hex	
Meaning	An Ethernet link (OFF was detected.				
Source	EtherNet/IP Function Module		Source details	Communications port *1/ Communications port 1 *2/ Communications port 2 *2/ Internal port 1	Detection timing	Continuously
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	EtherNet/IP com	munications will not	operate.
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINE	(/ACT
					OFF	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction	Correction		
rection	An Ethernet cable is broken, disconnected, or loose.		Firmly connect the Ethernet cable. Replace the cable if it is broken.		Firmly connect the Ethernet cable. Also, make sure that the cable to be used is not disconnected.	
	The Ethernet switch's power supply is turned OFF.		Turn ON the power supply to the Ethernet switch. Replace the Ethernet switch if it fails.		Do not turn OFF switch.	the Ethernet
	Communications speed mismatched.		Modify the setting so that the communication speed is the same as that of the remote node.		Set the same communication speed as that on the remote node.	
	Noise		Implement noise countermeasures if there is excessive noise.		Implement noise countermeasures.	
	One of the following operations was performed. The Identity object was reset. Settings for EtherNet/IP were downloaded from the Network Configurator or Sysmac Studio, or the Clear All Memory operation was performed. EtherNet/IP was restarted.		None. This error occurs when the operations on the left are performed.		None. This error occurs when the operations on the left are performed.	
Attached infor- mation	None					
Precautions/ Remarks	The level can be matic recovery".	changed to minor f	ault. When it is cha	nged to minor fault	t, the recovery meth	nod used is "auto-

^{*1.} This applies to an NJ-series CPU Unit.

^{*2.} This applies to an NX-series CPU Unit.

Event name	DHCP Server Co	nnection Error		Event code	840F0000 hex	
Meaning	Connection to the	e DHCP server faile	ed.			
Source	EtherNet/IP Fund	tion Module	Source details	Communica- tions port 1 or 2	Detection tim- ing	When DHCP is in operation
Error attributes	Level	Minor fault	Recovery	Automatic recovery Log category Systems		System
Effects	User program	Continues.	Operation	EtherNet/IP communications are not possil relevant communications port. Requests to the DHCP server will continue is a response from the DHCP server. Data with the PLC Function Module will continue An IP address was not set for the EtherNet which the DHCP server attempted to set andress.		ontinue until there Data refreshing ontinue. herNet/IP port for
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET ERR		EtherNet/IP LINK/ACT	
	OFF		Flashes at 1-s int	ervals.		
System-de-	Variable		Data type		Name	
fined variables	_EIP1_DhcpErr		BOOL		Port1 DHCP Server Error	
	_EIP2_DhcpErr		BOOL		Port2 DHCP Serv	er Error
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The server is misconfigured.		Correct the server settings at the remote connection.		Check to make sure that the server settings at the remote connection are correct.	
	The server went down.		Check if the server at the remote connection is operating normally and set it to operate normally if it is not.		Check to make sure that the server at the remote connection is operating normally.	
	An error occurred in the communications path.		Check the common the server and tal measures if there lems.	ke corrective	None	
Attached infor- mation	None		1		ı	
Precautions/ Remarks	None					

Event name	TLS Log Saving F	ailed		Event code	940F0000 hex*1	940F0000 hex*1	
Meaning	Failed to save the	TLS log to the SD	Memory Card.				
Source	EtherNet/IP Function Module		Source details	Communica- tions port	Detection timing	When TLS log- ging is enabled but the log could not be saved.	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINE	(/ACT	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An SD Memory Card is not inserted.		Insert an SD Memory Card.		Insert an SD Memory Card.		
	The SD Memory Card type is not correct.		Replace the SD Memory Card with an SD or SDHC card.		Use an SD or SDHC card.		
	The SD Memory Card format is invalid.		Format the SD Memory Card with the Sysmac Studio.		Use a formatted SD Memory Card. Do not turn OFF the power supply or remove the SD Memory Card while the SD BUSY indicator is lit.		
	The SD Memory (tected.	The SD Memory Card is write pro- ected.		Remove write protection from the SD Memory Card.		Make sure that the SD Memory Card is not write protected.	
	The SD Memory (Replace the SD Memory Card for one with sufficient available space.		Use an SD Memory Card that has sufficient available space.		
The SD Memory Card is da		Card is damaged.	Replace the SD Memory Card.		Do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit. Or, replace the SD Memory Card periodically according to the write life of the SD Memory Card. Do not remove the SD Memory Card while the SD PWR indicator is lit.		
Attached infor-	None						
mation							
Precautions/ Remarks	None						

^{*1.} This event code occurs for the following CPU Units.

- NX102-□□00, NX1P2-□□□□□: Version 1.46 or later
- NX102-□□20: Version 1.37 or later
- NX502-1□□□: Version 1.60 or later

Event name	Tag Data Link Do	wnload Started		Event code	94010000 hex	
Meaning	Changing the tag	data link settings s	tarted.			
Source	In the CPU Unit, EtherNet/IP Function Module. For the X Bus Unit, X Bus Ethernet/IP Function Module		Source details	CIP *1/CIP1 *2/ CIP2 *2/1 to 4: Mounting position of the X Bus Unit and CIP1 /CIP2 are given in combination.*3	Detection timing	At user operation
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation	Not affected.		
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET ERR		EtherNet/IP LINK/ACT	
	Flashes at 1-s into	ervals.				
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Changing the tag started.	data link settings				
Attached information	Attached informat	ion 1: Controller st	atus (01 hex: PRO	GRAM mode, 02 he	ex: RUN mode)	
Precautions/ Remarks	None					

^{*1.} This applies to an NJ-series CPU Unit.

^{*2.} This applies to an NX-series CPU Unit.

^{*3.} This applies to an NX-series EtherNet/IP Unit.

Event name	Tag Data Link Do	wnload Finished		Event code	94020000 hex	
Meaning	Changing the tag	data link settings fi	nished.			
Source	In the CPU Unit, EtherNet/IP Function Module. For the X Bus Unit, X Bus Ethernet/IP Function Module		Source details	CIP *1/CIP1 *2/ CIP2 *2/1 to 4: Mounting position of the X Bus Unit and CIP1 /CIP2 are given in combination.*3	Detection timing	At user operation
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation	Not affected.		
Indicators	EtherNet/IP NET RUN		EtherNet/IP NET ERR		EtherNet/IP LINK/ACT	
	Flashes at 1-s int	ervals.				
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Changing the tag finished.	data link settings				
Attached infor- mation	Attached information	Attached information 1: Controller status (01 hex: PROGRAM mode, 02 hex: RUN mode)				
Precautions/ Remarks	None					

^{*1.} This applies to an NJ-series CPU Unit.

^{*2.} This applies to an NX-series CPU Unit.

^{*3.} This applies to an NX-series EtherNet/IP Unit.

Event name	Tag Data Link Sto	ppped		Event code	94030000 hex	
Meaning	•		•	or, Sysmac Studio, s downloaded from	•	
Source	In the CPU Unit, EtherNet/IP Function Module. For the X Bus Unit, X Bus Ethernet/IP Function Module		Source details	CIP *1/CIP1 *2/ CIP2 *2/1 to 4: Mounting position of the X Bus Unit and CIP1 /CIP2 are given in combi- nation.*4	Detection timing	At user operation
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation	Not affected.	-	
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINI	K/ACT
	Flashes at 1-s int	ervals.				
System-de-	Variable		Data type		Name	
fined variables	_EIP_TDLinkStopCmd *1 *3		BOOL		Tag Data Link Co Stop Switch	mmunications
	_EIP1_TDLinkStopCmd *2 *3		BOOL		CIP Communications1 Tag Data Link Communications Stop Switch	
	_EIP2_TDLinkSto	opCmd *2 *3	BOOL		CIP Communications2 Tag Data Link Communications Stop Switch	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Tag data links we	re stopped by the				
	Network Configur	ator, Sysmac Stu-				
	dio, special instru	ctions or manipu-				
	,	-defined variable.				
Attached infor- mation			•	GRAM mode, 02 he eration by Network	•	smac Studio, 02
			ed variable, 03 hex	:: Manipulation by s	pecial instructions))
	Attached informati					
		d information 2 is 03	3 hex			
	IP address of t	ŭ		2 hav		
	When attached information 2 is a value other than 03 hex 0					
Precautions/	None					
Remarks	INOLIC					
Remarks						

^{*1.} This applies to an NJ-series CPU Unit.

^{*2.} This applies to an NX-series CPU Unit.

^{*3.} This applies to a unit other than NX-series EtherNet/IP Unit.

^{*4.} This applies to an NX-series EtherNet/IP Unit.

Event name	Tag Data Link Sta	rted		Event code	94040000 hex	94040000 hex	
Meaning	_	-	_	or, Sysmac Studio, s lownloaded from Ne	•	or manipulation of r or Sysmac Stu-	
Source	In the CPU Unit, EtherNet/IP Function Module. For the X Bus Unit, X Bus Ethernet/IP Function Module		Source details	CIP *1/CIP1 *2/ CIP2 *2/1 to 4: Mounting position of the X Bus Unit and CIP1 /CIP2 are given in combi- nation.*4	Detection timing	At user operation	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
Indicators	EtherNet/IP NET RUN		EtherNet/IP NET	ERR	EtherNet/IP LIN	K/ACT	
	Flashes at 1-s into	ervals.					
System-de-	Variable		Data type		Name		
_	_EIP_TDLinkStartCmd *1 *3		BOOL		Tag Data Link Co Start Switch	ommunications	
	_EIP1_TDLinkStartCmd *2 *3		BOOL		CIP Communicat	tions1 Tag Data tions Start Switch	
	_EIP2_TDLinkStartCmd *2 *3		BOOL		CIP Communications2 Tag Data Link Communications Start Switch		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Tag data links we Network Configur dio, special instru lation of a system	ator, Sysmac Stu- ctions or manipu-					
Attached information	Attached information 1: Controller status (01 hex: PROGRAM mode, 02 hex: RUN mode) Attached information 2: Operation method (01 hex: Operation by Network Configurator or Sysmac Studio, 02 hex: Manipulation by a system defined variable, 03 hex: Manipulation by special instructions) Attached information 3: • When attached information 2 is 03 hex IP address of the target node • When attached information 2 is a value other than 03 hex 0						
Precautions/ Remarks	None						

^{*1.} This applies to an NJ-series CPU Unit.

^{*2.} This applies to an NX-series CPU Unit.

^{*3.} This applies to a unit other than NX-series EtherNet/IP Unit.

^{*4.} This applies to an NX-series EtherNet/IP Unit.

Event name	Link Detected			Event code	94050000 hex		
Meaning	Establishment of	an Ethernet link wa	as detected.				
Source	EtherNet/IP Function Module		Source details	Communications port *1/ Communications port 1 *2/ Communications port 2 *2/ Internal port 1	Detection timing	When links are established	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINK/ACT		
					Lights.		
System-de-	Variable		Data type	Data type		Name	
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	Establishment of an Ethernet link was detected.						
Attached information	None						
Precautions/ Remarks	None						

^{*1.} This applies to an NJ-series CPU Unit.

^{*2.} This applies to an NX-series CPU Unit.

Event name	Restarting Ethern	et Port		Event code	94060000 hex		
Meaning	The built-in Ether	Net/IP port was res	started.				
Source	EtherNet/IP Function Module		Source details	Communications port *1/ Communications port 1 *2/ Communications port 2 *2/ Internal port 1	Detection timing	At user operation	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Not affected.			
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET ERR		EtherNet/IP LINE	EtherNet/IP LINK/ACT	
System-de-	Variable		Data type	Data type		Name	
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The built-in Ether restarted.	Net/IP port was					
Attached infor- mation	None						
Precautions/ Remarks	None						

^{*1.} This applies to an NJ-series CPU Unit.

^{*2.} This applies to an NX-series CPU Unit.

Event name	Tag Data Link All	Run		Event code	94070000 hex	
Meaning	Tag data link con	nections to all node	s have been norma	ally established.		
Source	In the CPU Unit, EtherNet/IP Function Module. For the X Bus Unit, X Bus Ethernet/IP Function Module		Source details	CIP *1/CIP1 *2/ CIP2 *2/1 to 4: Mounting position of the X Bus Unit and CIP1 /CIP2 are given in combination.*4	Detection timing	When establishing tag data link connection
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
Indicators	EtherNet/IP NET RUN		EtherNet/IP NET ERR		EtherNet/IP LINK/ACT	
	Lights.					
System-de-	Variable		Data type		Name	
fined variable	_EIP_TDLinkAllRunSta *1 *3		BOOL		All Tag Data Link Communications Status	
	_EIP1_TDLinkAllRunSta *2 *3		BOOL		CIP Communications1 All Tag Data Link Communications Status	
	_EIP2_TDLinkAllRunSta *2 *3		BOOL		CIP Communications2 All Tag Data Link Communications Status	
	EIP_Comm1Status.TDLinkAllRun- Sta *4		BOOL		CIP Communications1 All Tag Data Link Communications Status	
	EIP_Comm2Status.TDLinkAllRun- Sta *4		BOOL		CIP Communications2 All Tag Data Link Communications Status	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Tag data link con					
Attached infor- mation	None				1	
Precautions/ Remarks	None					

^{*1.} This applies to an NJ-series CPU Unit.

^{*2.} This applies to an NX-series CPU Unit.

^{*3.} This applies to a unit other than NX-series EtherNet/IP Unit.

^{*4.} This applies to an NX-series EtherNet/IP Unit.

Event name	IP Address Fixed			Event code	94080000 hex		
Meaning	The correct IP ad	dress has been det	termined and Ether	net communication	s can start.		
Source	EtherNet/IP Function Module		Source details	Communications port *1/ Communications port 1 *2/ Communications port 2 *2/ Internal port 1	Detection timing	At power ON or Controller reset	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET ERR		EtherNet/IP LINE	(/ACT	
	Lights.						
System-de-	Variable		Data type	Data type		Name	
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The correct IP ad						
	determined and E						
Attached info	nications can star)4 hay — addra = - 4:	00.460.050.4)		
Attached infor- mation	Attached Information 1: IP address (example: C0A8FA01 hex = address 192.168.250.1)						
Precautions/	None						
Remarks							

^{*1.} This applies to an NJ-series CPU Unit.

^{*2.} This applies to an NX-series CPU Unit.

Event name	BOOTP Client St	arted		Event code	94090000 hex	
Meaning	The BOOTP clier	nt started requesting	g an IP address.			
Source	EtherNet/IP Function Module		Source details	Communications port,*1 communications port 1,*2 or communications port 2*2	Detection timing	At power ON or Controller reset
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET ERR		EtherNet/IP LINK/ACT	
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The BOOTP clier	it started request-				
	ing an IP address	i.				
Attached infor-	None					
mation						
Precautions/	None					
Remarks						

^{*1.} This applies to an NJ-series CPU Unit.

^{*2.} This applies to an NX-series CPU Unit.

Event name	FTP Server Started			Event code	940A0000Hex			
Meaning	The FTP agent st	The FTP agent started normally.						
Source	EtherNet/IP Function Module		Source details	FTP	Detection tim- ing	At power ON or Controller reset		
Error attributes	Level	Information	Recovery		Log category	System		
Effects	User program	Continues.	Operation Not affected.					
Indicators	EtherNet/IP NET	T RUN EtherNet/IP NET ERR		ERR	EtherNet/IP LINK/ACT			
System-de-	Variable		Data type		Name	Name		
fined variables	None							
Cause and cor-	Assumed cause		Correction		Prevention			
rection	The FTP agent st	arted normally.						
Attached infor-	None							
mation								
Precautions/	None							
Remarks								

_	I						
Event name	NTP Client Started			Event code	940B0000Hex		
Meaning	The NTP client st	The NTP client started normally and a request for the NTP server to obtain the time started.					
Source	EtherNet/IP Function Module		Source details	NTP	Detection tim-	At power ON or	
					ing	Controller reset	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINE	K/ACT	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The NTP client st	arted normally					
	and a request for	and a request for the NTP server to					
	obtain the time started.						
Attached infor-	None						
mation							
Precautions/	None						
Remarks							

Event name	SNMP Started	SNMP Started			940C0000Hex		
Meaning	The SNMP agent	The SNMP agent started normally.					
Source	EtherNet/IP Function Module		Source details	SNMP	Detection tim- ing	At power ON or Controller reset	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation Not affected.				
Indicators	icators EtherNet/IP NET RUN		EtherNet/IP NET	EtherNet/IP NET ERR		EtherNet/IP LINK/ACT	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The SNMP agent	started normally.					
Attached infor-	None						
mation							
Precautions/	None	None					
Remarks							

Event name	TLS Log Started/	Stopped		Event code	940E0000 hex*1		
Meaning	TLS logging has	started or stopped.					
Source	EtherNet/IP Function Module		Source details	Communications port	Detection timing	At power ON, Controller reset, or when settings are changed from Secure Socket Configu- ration com- mands	
Error attributes	Level	Information	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET ERR		EtherNet/IP LINK/ACT		
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	Correction		Prevention	
rection	TLS logging has started or stopped.						
Attached information	Attached information 1: 00 hex for TLS logging stopped, and 01 hex for TLS logging started						
Precautions/ Remarks	None						

^{*1.} This event code occurs for the following CPU Units.

[•] NX102-□□00, NX1P2-□□□□□: Version 1.46 or later

NX102-□□20: Version 1.37 or later

[•] NX502-1□□□: Version 1.60 or later

Event name	Access to Secure Socket Setting			Event code	94100000 hex*1				
Meaning	Settings were changed or read from the Secure Socket Configuration commands.								
Source	EtherNet/IP Function Module		Source details	Communications port	Detection timing	When settings are changed or read from the Secure Socket Configuration Tool			
Error attributes	Level	Information	Recovery		Log category	Access			
Effects	User program	Continues.	Operation	Not affected.					
Indicators	EtherNet/IP NET RUN		EtherNet/IP NET	NET ERR EtherNet/IP		INK/ACT			
System-de-	Variable name		Data type		Name				
fined variables	None								
Cause and cor-	Assumed cause		Correction		Prevention				
rection	Settings were changed or read from the Secure Socket Configuration commands.								
Attached information	Attached information 1: 00 hex: Secure socket setting was read, 01 hex: Secure socket setting was written, 02 hex: Secure socket setting was deleted Attached information 2: 00 hex: An access to session setting was made, 01 hex: An access to secure socket communications log setting was made Attached information 3: • When attached information 2 is 00 hex 0 to 29: ID of accessed session (Controllers other than NX102 and NX1P2), 0 to 59: ID of accessed session (NX102 and NX1P2) • When attached information 1 is 01 hex and attached information 2 is 01 hex 00 hex: Secure socket communications log setting is disabled, 01 hex: Secure socket communications log setting is enabled								
Precautions/	None								
Remarks	1								

^{*1.} This event code occurs for the following CPU Units.

- NX102- \square 00, NX1P2- \square \square : Version 1.46 or later and Ver. 1.48 or earlier
- NX102-□□20: Version 1.37 or later
- NX502-1□□□: Version 1.60 or later

Event name	Access to Secure Socket Setting			Event code	94110000 hex*1				
Meaning	Secure socket setting was changed or read.								
Source	EtherNet/IP Function Module		Source details	Communica- tions port	Detection timing	When secure socket setting was changed or read			
Error attributes	Level	Information	Recovery		Log category	Access			
Effects	User program	Continues.	Operation	Not affected.					
Indicators	EtherNet/IP NET RUN		EtherNet/IP NET ERR		EtherNet/IP LINK/ACT				
System-de- fined variables	Variable name		Data type		Name				
	None								
Cause and cor- rection	Assumed cause		Correction		Prevention				
	Secure socket setting was changed or read.								
Attached information	Attached information 1: Connection method 1: Direct connection via USB 2: Direct connection via Ethernet 3: Remote Connection via USB or Ethernet connection via a hub Attached information 2: When attached information 1 is 2 or 3, the connection source IP address is given. When connection is made through proxy, proxy IP address is given.								
Precautions/	None								
Remarks									
User name in	When the user authentication function is enabled: User name								
the access log	When the user authentication function is disabled: NULL								

^{*1.} This event code occurs for the following CPU Units.

[•] NX102-000, NX1P2-000, NX102-020: Version 1.49 or later

[•] NX502-1□□□□: Version 1.60 or later

Event name	Change or Readi	ng of Secure Socke	et Setting	Event code	94120000 hex*1							
Meaning	Secure socket se	tting was changed	or read.									
Source	EtherNet/IP Func	tion Module	Source details	Communica- tions port	Detection timing	When secure socket setting was changed or read						
Error attributes	Level	Information	Recovery		Log category	System						
Effects	User program	Continues.	Operation	Not affected.								
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINE	K/ACT						
System-de-	Variable name		Data type		Name							
fined variables	None											
Cause and cor-	Assumed cause		Correction		Prevention							
rection	Secure socket se changed or read.	tting was										
Attached information												
Precautions/	setting is enabl	<u>cu</u>										
Remarks	110.10											

^{*1.} This event code occurs for the following CPU Units.

[•] NX102-\(\subseteq 00, NX1P2-\(\subseteq \subseteq \subsete \), NX102-\(\subseteq 20: Version 1.49 or later

[•] NX502-1□□□□: Version 1.60 or later

Event name	IP Address Chang	ged		Event code	94130000 hex*1							
Meaning	The IP address w	as changed.										
Source	EtherNet/IP Func	tion Module	Source details	Communications port 1 or 2	Detection timing	If the last IP address is found to be changed when an IP address is defined						
Error attributes	Level	Information	Recovery		Log category System							
Effects	User program	Continues.	Operation	Not affected.								
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINK/ACT							
System-de-	Variable name		Data type		Name							
fined variables	None											
Cause and cor-	Assumed cause		Correction		Prevention							
rection	The IP address w	as changed.										
Attached infor-	Attached informat	ion 1: IP address a	ifter change, e.g. 1	92.168.250.1								
mation												
Precautions/	None											
Remarks												

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	SNMP Settings C	hanged		Event code	94140000 hex*1	
Meaning	The SNMP setting				04140000 110X	
Source	EtherNet/IP Func		Source details	SNMP	Detection timing	When SNMP settings were changed
Error attributes	Level	Information	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINI	K/ACT
System-de-	Variable name		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	SNMP Settings w	ere changed.				
Attached information	 1: SNMP Servi 2: SNMP Servi 3: SNMP Servi 4: No change (Attached informat 1: Recognition 2: Recognition 3: Recognition 4: No change (Attached informat 1: Recognition 2: Recognition 	ce disabled ce Settings change Not 1, 2, or 3) tion 2: Changes in 1 1 enabled 1 disabled 1 setting changed Not 1, 2, or 3) tion 3: Changes in 1 2 enabled 2 disabled 2 setting changed	ed Recognition 1			
Precautions/	None					
Remarks						

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Subnet Mask Cha	anged		Event code	94150000 hex*1							
Meaning	The subnet mask	was changed.										
Source	EtherNet/IP Func	tion Module	Source details	Communications port 1 or 2	Detection timing	If the last subnet mask is found to be changed when an IP ad- dress is defined						
Error attributes	Level	Information	Recovery		Log category System							
Effects	User program	Continues.	Operation	Not affected.								
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINE	(/ACT						
System-de-	Variable name		Data type		Name							
fined variable	None											
Cause and cor-	Assumed cause		Correction		Prevention							
rection	The subnet mask	was changed.										
Attached infor-	Attached informat	tion 1: Subnet masl	k after change, e.g.	255.255.255.0								
mation												
Precautions/	None											
Remarks												

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Restarting Ethern	et Port		Event code	96450000 hex	96450000 hex						
Meaning	The EtherNet/IP port was restarted.											
Source	In the CPU Unit, I tion Module. For t Bus Ethernet/IP F	- ,	Source details	CIP1/CIP2/ 1 to 4: Mounting position of the X Bus Unit and CIP1 /CIP2 are given in combi- nation.*1	Detection timing	At user operation						
Error attributes	Level	Information	Recovery		Log category Access							
Effects	User program	Continues.	Operation	Not affected.								
Indicators	EtherNet/IP NET	RUN	EtherNet/IP NET	ERR	EtherNet/IP LINK	(/ACT						
System-de-	Variable		Data type		Name							
fined variables	None											
Cause and cor-	Assumed cause		Correction		Prevention							
rection	The EtherNet/IP ped.	oort was restart-										
Attached infor-	None											
mation												
Precautions/	None											
Remarks	NV : FII											

^{*1.} This applies to an NX-series EtherNet/IP Unit.

3-7-3 Other Troubles and Corrections

Problem	Correction
Tag data is not concurrent.	 Check the following items and correct the user program. Data concurrency is maintained for each connection between the CPU Unit and the built-in EtherNet/IP port. To maintain data concurrency for tag data links, set a refreshing task for the network variables that are assigned to tags. Refer to information on the Concurrency of Tag Data Link Data in the NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual (Cat. No. W506) for details. Refer to the product manuals for products from other manufacturers.
At startup, some of the receive data is FALSE when it should be TRUE.	 If the user program uses receive data, make sure that the All Tag Data Link Communications Status in communications status 1 or the Controller Operating Mode for the target node is TRUE before you use the receive data. To use operation information from the Controller, use Controller status in the tag sets on both the sending and receiving nodes. If the Fault Action setting of the output (produce) tag is enabled, The output (produce) data changes to FALSE when a fatal error occurs in the CPU Unit. Check the error status at the output (producing) Controller.
Tag data link communications are not stable.	 For an NX701 CPU Unit, use a 1,000 Mbps Ethernet switch if 10 or 100 Mbps is set or if you are using a 10 Mbps repeater hub, a 100 Mbps repeater hub, or a 1,000 Mbps repeater hub. The performance of the tag data links assumes that an Ethernet switch is used to achieve a 40,000 pps bandwidth for full-duplex, 1,000 Mbps auto-negotiation communications. For an NX102 CPU Unit, use a 100 Mbps Ethernet switch if 10 Mbps is set or if you are using a 10 Mbps or 100 Mbps repeater hub. The performance of the tag data links assumes that an Ethernet switch is used to achieve a 12000 pps bandwidth for full-duplex, 100 Mbps auto-negotiation communications. For an NJ-series CPU Unit and an NX1P2 CPU Unit, use a 100 Mbps Ethernet switch if 100 Mbps is set or if you are using a 10 Mbps or 100 Mbps repeater hub. For unit version 1.03 or later, the performance of the tag data links assumes that an Ethernet switch is used to achieve a 3,000 pps bandwidth for full-duplex, 100 Mbps auto-negotiation communications. For unit version 1.00 to 1.02, a 1,000 pps bandwidth is assumed. Refer to NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual (Cat. No. W506) to access the error counters and discarded packed counters on the Ethernet Information Tab Page. Use the information to check for noise on the communications path, non-standard cables, damaged cables/connectors, unexpectedly high communications traffic, and incorrect loops in connections between Ethernet switches. Contact the Ethernet switch menufacturer if there are problems with the transfer capacity of the Ethernet switches in the communications path. If Ethernet switches are cascaded, the load may be concentrated on the middle Ethernet switches. Change the network configuration so that the load is not concentrated. Also, refer to NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual (Cat. No. W506) and use the connection status on the Connections Tab Page to remove the cause of the err

3-8 Errors in the EtherCAT Master Function Module

3-8-1 Error Tables

EtherCAT Master

					L	_eve	el			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference	
04400000 hex	Communica- tions Con- troller Error	A Communications Controller Error was detected at startup.	The Communications Control- ler failed.		0				page 3-734	
14400000 hex (Project Unit Ver. earlier than 1.40)	MAC Ad- dress Error	The MAC address is incorrect.	The CPU Unit has failed.		0				page 3-734	
34420000 hex (Ver. 1.40 or later)	Parameters Not Trans- ferred	Slave or Unit parameter is not transferred.	Slave or Unit parameter is not downloaded.		0				page 3-735	
44010000 hex	EtherCAT Fault	A fatal error was detected in the Ether- CAT Master Function Module.	An error occurred in the soft- ware.		0				page 3-736	
84200000 hex	Link OFF Error	A Link OFF state occurred in the master.	 The Ethernet cable is not connected between the master and the first slave. The power supply to the first slave is not turned ON. The Ethernet cable connector is disconnected between the master and the first slave. A non-recommended Ethernet cable is used between the master and first slave. The Ethernet cable is broken between the master and the first slave. The contact of the connector on the Ethernet cable between the master and the first slave is faulty, or parts are faulty. Hardware failure of the first slave An EtherCAT Frame Not Received (842E0000 hex) occurred. A general-purpose Ethernet hub or repeater hub is connected. 		0				page 3-737	

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
842E0000 hex (Ver. 1.11 or later)	EtherCAT Frame Not Received	The sent EtherCAT frame was not received.	 A Unit other than an EtherCAT slave is connected. Output ports are connected to each other between EtherCAT slaves or between the Ether-CAT master and EtherCAT slaves. The Ethernet cable connector is connected uncertainly between the EtherCAT master and EtherCAT slaves. The contact of the Ethernet cable between the EtherCAT master and an EtherCAT slave is faulty, or the connector is faulty. The transmission delay time calculated based on the set value of the total cable length is shorter than the actual transmission delay time. An EtherCAT slave manufactured by a company other than OMRON is included in the network configuration, or a nonrecommended Ethernet cable is intentionally used. The network configuration has been changed from the network configuration when the transmission delay time was set, causing increase in transmission delay time. Hardware failure of EtherCAT slave Hardware failure of EtherCAT master An Incorrect Wiring Detected (843C0000 hex) occurred. 		0				page 3-739
24200000 hex	Slave Node Address Du- plicated	The same slave address is used for two nodes.	The same node address is set for more than one slave.			0			page 3-742
34400000 hex	Network Configura- tion Informa- tion Error	There is an error in the network configuration information.	The power supply to the Controller was interrupted or communications with the Sysmac Studio were disconnected while downloading or restoring the network configuration information is in progress.			0			page 3-743

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
34410000 hex (Ver. 1.10 or later and Project Unit Ver. earlier than 1.40) [NX701, NX1P2]	EtherCAT Communica- tions Cycle Exceeded	Process data communications could not be performed with the specified communications cycle.	The transmission delay time in the actually connected configuration is longer than the transmission delay time calculated for the user-set cable length. The set task period or communications cycle is too short.			0			page 3-744
84210000 hex (Project Unit Ver. earlier than 1.40)	Network Configura- tion Error	The EtherCAT network configuration is incorrect.	 Slave output ports are connected to each other. The master and slave are connected with the slave output port. The number of connected slaves exceeded the maximum number of slaves for the Ether-CAT master. 			0			page 3-745
84220000 hex (Project Unit Ver. earlier than 1.40)	Network Configura- tion Verifica- tion Error	A slave that is in the network configuration information is not connected. Or, a slave that is not in the network configuration information is connected.	 A slave that is in the network configuration information is not connected. There is a node address mismatch. A different slave from the one that is specified in the network configuration information is connected. A slave that is not in the network configuration information is connected. The hardware switches for the slave node address were changed to a value other than 0 after the Write Slave Node Address operation was performed from the Sysmac Studio. The Ethernet cable is broken between two slaves. 			0			page 3-748

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
84230000 hex (Project Unit Ver. earlier than 1.40)	Slave Initialization Error	Slave initialization failed.	 An error occurred in EtherCAT master processing. An initialization error occurred in the EtherCAT slave. An initialization error occurred in the EtherCAT Coupler Unit. A major fault level Controller error occurred. The Ethernet cable is broken or the specified cable is not being used. A connector on the Ethernet cable is disconnected, the contact is faulty, or parts are faulty. A general-purpose Ethernet hub is connected. The master failed. The slave failed. Noise 			0			page 3-750
84280000 hex (Project Unit Ver. earlier than 1.40)	Slave Application Error	An error occurred in the slave application.	An error was detected in the slave's application layer status register.			0			page 3-752
84290000 hex	Process Da- ta Transmis- sion Error	Sending process data failed.	It was not possible to send the EtherCAT frame during the EtherCAT communications period. The frame transmission jitter exceeded the limit.			0			page 3-753

					L	_eve	l			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference	
842B0000 hex	Process Data Reception Timeout	Process data reception timed out.	 Noise A general-purpose Ethernet hub is connected. A non-recommended cable was used. The Ethernet cable connector is disconnected. The Ethernet cable is broken. The contact of the Ethernet cable connector is faulty, or parts are faulty. The transmission delay time calculated based on the set value of the total cable length is shorter than the actual transmission delay time. An EtherCAT slave manufactured by a company other than OMRON is included in the network configuration, or a nonrecommended Ethernet cable is intentionally used. The network configuration has been changed from the network configuration when the transmission delay time was set, causing increase in transmission delay time. The CPU Unit task period is too short. A ring disconnection occurred in the ring topology for which a slave that does not support the ring topology is included. 			0			page 3-754	
842C0000 hex (Project Unit Ver. earlier than 1.40)	Process Da- ta Communi- cations Error	An error occurred in process data communications.	 A slave left the network even though the disconnection oper- ation or disable operation was not performed. Slave failure 			0			page 3-757	
842F0000 hex (Ver. 1.13 or later)	Input Proc- ess Data In- valid Error	Because the Ether-CAT master could not perform process data communications normally when it was in the Operational state, the Input Data Invalid state continued for a certain period.	 The Ethernet cable connector is connected uncertainly. The Ethernet cable is almost broken. The contact of the Ethernet cable connector is faulty, or parts are faulty. Hardware failure of EtherCAT slave Noise 			0			page 3-759	

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
8430001 hex (Project Unit Ver. 1.40 or later)	Slave State Transition Failed	Slave state transition failed.	 An error occurred in a slave during the EtherCAT slave state transition. A non-recommended cable was used. The Ethernet cable connector is disconnected. The Ethernet cable is broken. The contact of the Ethernet cable connector is faulty, or parts are faulty. A general-purpose Ethernet hub is connected. Noise The EtherCAT master or an EtherCAT slave failed. A slave returned an error response in the message communications that the EtherCAT master sent during EtherCAT slave state transition. The transition from Pre-Operational state failed when the Module config send method parameter was set to Send for MDP-compatible slave. 			0			page 3-761
84310002 hex (Project Unit Ver. 1.40 or later)	Illegal Slave Disconnec- tion Detect- ed	The slave was disconnected incorrectly.	 The power supply to the slave is turned OFF, or an Ethernet cable is disconnected. The Ethernet cable connector is disconnected. A non-recommended cable was used. The Ethernet cable is broken. The contact of the Ethernet cable connector is faulty, or parts are faulty. The wiring of slaves in the ring topology is incorrect. The slave node address was changed during operation. 			0			page 3-765
84320003 hex (Project Unit Ver. 1.40 or later)	Network Configuration Verification Error (Unnecessary Slave Connected)	A slave that is not in the network configuration information is connected.	 A slave that is not in the network configuration information is connected. The maximum number of connected slaves was exceeded. The wiring of slaves in the ring topology is incorrect. 			0			page 3-767

					ı	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
84330004 hex (Project Unit Ver. 1.40 or later)	Network Configura- tion Verifica- tion Error (Mismatched Slave)	Slaves in the network configuration information and in the actual network configuration do not match.	 There is a node address mismatch. A slave that is not in the network configuration information is connected. The wiring of slaves in the ring topology is incorrect. 			0			page 3-769
84340000 hex (Project Unit Ver. 1.40 or later)	Slave PDI WDT Error Detected	A slave PDI WDT error was detected.	EtherCAT slave power supply voltage dropped EtherCAT slave failure No reply from the slave (For slaves that are manufactured by other companies only)			0			page 3-771
84360000 hex (Project Unit Ver. 1.40 or later)	Slave AL Status Error Detected	An AL status error was detected from an EtherCAT slave.	An error occurred on the EtherCAT slave side and the AL status code was reported by the EtherCAT slaves to the EtherCAT master.			0			page 3-772
84370000 hex (Project Unit Ver. 1.40 or later)	Clock Syn- chronization Compensa- tion Failed	Clock synchronization with slaves failed.	The network configuration was changed during state transition. EtherCAT slave failure Noise			0			page 3-773
84380000 hex (Project Unit Ver. 1.40 or later)	Network Configura- tion Verifica- tion Error (Slave Un- connected)	A slave that is in the network configuration information is not connected.	 The power supply to the slave is not turned ON. The Ethernet cable connector is disconnected between the slaves. The wait time for slave startup was exceeded because the link establishment was too slow or the power supply startup of the slaves was too long. A non-recommended Ethernet cable is used to connect slaves. The Ethernet cable is broken between slaves. The contact of the connector on the Ethernet cable that connects slaves is faulty, or parts are faulty. The wiring of slaves in the ring topology is incorrect. Hardware failure of a slave 			0			page 3-774

						_eve	ı		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
843A0000 hex (Project Unit Ver. 1.40 or later)	Network Configura- tion Verifica- tion Error (Incorrect Ring Wiring)	The ring topology that is not set in the network configuration information, is configured on the actual network.	 The ring topology configured on the actual network is not defined in the network configuration information. The ring topology is configured in a different position from one that is defined in the network configuration information. 			0			page 3-776
843C0000 hex (Project Unit Ver. 1.40 or later)	Incorrect Wiring De- tected	The wiring of an EtherCAT network is incorrect.	 Input ports or output ports are connected to each other. Two or more ring topologies are configured. The start port of the ring and the end port of the ring are not combined correctly. The wiring for the start port of the ring and one for the end port of the ring are reversed. The wiring of a Junction Slave in the ring topology is incorrect. A ring topology that is not in the network configuration information is on the actual network. 			0			page 3-778
94520000 hex (Project Unit Ver. 1.40 or later)	Wait for Cy- cling Power Supply	It is necessary to cycle the power supply to the Controller or reset the Controller for the recovery from an error.	An event, which is necessary to cycle the power supply or reset the Controller for the re- covery, occurred.			0			page 3-780

					L	_eve	l		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
102F0000 hex (Ver. 1.03 or later and Project Unit Ver. earlier than 1.40)	EtherCAT Slave Back- up Failed	The backup operation for an EtherCAT slave ended in an error.	 There is no connection between the EtherCAT master and the slave (Link OFF). An error caused an incorrect EtherCAT master status. The EtherCAT network configuration information does not agree with the physical network configuration. The request to the EtherCAT slave failed. The EtherCAT master was temporarily unable to perform the processing because it was executing other processing. Initialization of the EtherCAT slave failed. It was not possible to read the backup parameters from the EtherCAT slave. Communications with an OM-RON Communications Coupler Unit or NX Unit failed. 				0		page 3-781

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
10300000 hex (Ver. 1.03 or later and Project Unit Ver. earlier than 1.40)	EtherCAT Slave Re- store Opera- tion Failed	The restore operation for an EtherCAT slave ended in an error.	 There is no connection between the EtherCAT master and the slave (Link OFF). Wire the EtherCAT master and slave securely, and make sure that a connection is established before you attempt to restore the data. The EtherCAT network configuration information does not agree with the physical network configuration. The request to the EtherCAT slave failed. The EtherCAT master was temporarily unable to perform the processing because it was executing other processing. Initialization of the EtherCAT slave failed. It was not possible to write the backup parameters to the MX2/RX Series Inverter. (This applies only for unit version 1.10 or earlier of the CPU Unit.) It was not possible to write the backup parameters to the EtherCAT slave. Incorrect backup data was detected. The EtherCAT network configuration in the backup data does not agree with the physical network configuration. An error occurred at an OM-RON Communications Coupler Unit. 				0		page 3-783
10460001 hex (Project Unit Ver. 1.40 or later)	EtherCAT Slave Back- up Failed	The backup operation for an EtherCAT slave ended in an error.	The EtherCAT master cannot start backup. It was not possible to read the backup parameters to the EtherCAT slave. The request to the EtherCAT slave failed. Communications with an OM-RON Communications Coupler Unit or NX Unit failed. Backup was executed for a disconnected slave.				0		page 3-786

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
10470002 hex (Project Unit Ver. 1.40 or later)	EtherCAT Slave Re- store Opera- tion Failed	The restore operation for an EtherCAT slave ended in an error.	The EtherCAT master cannot start restore operation. The EtherCAT network configuration in the backup data does not agree with the physical network configuration. It was not possible to write the backup parameters to the EtherCAT slave. The request to the EtherCAT slave failed. Incorrect backup data was detected. An error occurred at an OM-RON Communications Coupler Unit.				0		page 3-788
64200000 hex	Emergency Message Detected	An emergency message was detected.	An emergency message was received from a slave.				0		page 3-791
842D0000 hex (Project Unit Ver. earlier than 1.40)	EtherCAT Message Er- ror	An error occurred in a message communications with the slave.	Refer to the attached information to check the error.				0		page 3-792
84350000 hex (Project Unit Ver. 1.40 or later)	Illegal Mail- box Re- ceived	An illegal mailbox was received from a slave.	A message with illegal destination address was received from a slave.				0		page 3-793
84390000 hex (Project Unit Ver. 1.40 or later)	Ring Disconnection Detected	A ring disconnection status was detected.	 An Ethernet cable was disconnected. An Ethernet cable connector is disconnected between the slaves. A non-recommended cable was used. The Ethernet cable is broken between slaves. The contact of the Ethernet cable connector is faulty, or parts are faulty. 				0		page 3-794
94400000 hex	Slave Disconnected	A slave was disconnected for a disconnection command.	 An operation to disconnect the slave was executed from the Sysmac Studio. The EC_DisconnectSlave in- struction was executed. 					0	page 3-795
94410000 hex	Slave Connected	A slave was reconnected for a reconnection command.	An operation to reconnect the slave was executed from the Sysmac Studio. The EC_ConnectSlave instruction was executed.					0	page 3-796

					L	_eve	el .		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
94430000 hex	Error Reset	A command was received to reset errors.	 An error reset operation was performed from the Sysmac Studio. The ResetECError instruction was executed. 					0	page 3-797
94440000 hex (Ver. 1.04 or later)	Slave Disa- bled	The EtherCAT Slave was disabled.	The EC_ChangeEnableSetting instruction was executed.					0	page 3-798
94450000 hex (Ver. 1.04 or later)	Slave Ena- bled	The EtherCAT Slave was enabled.	The EC_ChangeEnableSetting instruction was executed.					0	page 3-799
94500000 hex (Ver. 1.11 or later)	EtherCAT Diagnosis/ Statistics Log Started	EtherCAT diagnosis/ statistics log is start- ed.	The value of the _EC_StatisticsLogEnable system-defined variable changed from FALSE to TRUE.					0	page 3-800
94510000 hex (Ver. 1.11 or later)	EtherCAT Diagnosis/ Statistics Log Ended	EtherCAT diagnosis/ statistics log is ended.	An error that causes EtherCAT diagnosis/statistics log to end occurred.					0	page 3-801

3-8-2 Error Descriptions

Built-in EtherCAT Port

Event name	Communications	Controller Error		Event code	04400000 hex				
Meaning	A Communication	s Controller Error	was detected at sta	rtup.					
Source	EtherCAT Master	Function Module	Source details	Communica- tions port	Detection tim- ing At power ON or Controller reset				
Error attributes	Level	Partial fault	Recovery	Cycle the power supply or reset the Controller.	Log category System				
Effects	User program	Continues.	Operation	Master: The master waits Slave: Message communications are not	nications and process data commu-				
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT			
			Lights.						
System-de-	Variable		Data type		Name				
fined variables	_EC_LanHwErr		BOOL		Communications	Controller Error			
Cause and cor-	Assumed cause		Correction		Prevention				
rection	The Communicati failed.	ions Controller	Reset the Control persists, replace		None				
Attached infor-	None				•				
mation									
Precautions/	None								
Remarks									

Event name	MAC Address Error Event code 14400000 hex*1								
Meaning	The MAC address	s is incorrect.							
Source	EtherCAT Master	Function Module	Source details	Communica- tions port	Detection tim- ing At power ON of Controller rese				
Error attributes	Level	Partial fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System			
Effects	User program	Continues.	Operation	Master: The master waits Slave: Message commu nications are not	nications and process data commu-				
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT			
			Lights.						
System-de-	Variable		Data type		Name				
fined variables	_EC_MacAdrErr		BOOL		MAC Address Er	ror			
Cause and cor-	Assumed cause		Correction		Prevention				
rection	The CPU Unit has	s failed.	Replace the CPU	Unit.	None				
Attached infor- mation	None								
Precautions/ Remarks	None								

^{*1.} This event code occurs for project unit version earlier than 1.40.

	1				İ				
Event name	Parameters Not Transferred Event code 34420000 hex*1								
Meaning	Slave or Unit para	Clave or Unit parameter is not transferred.							
Source	EtherCAT Master	Function Module	Source details	Master	Detection timing At power ON, Controller res or operating mode change				
Error attributes	Level	Partial fault	Recovery	Cycle the power supply or reset the Controller.	Log category System				
Effects	User program	Continues.	Operation	Slave:	in the Pre-operation in the Pre-operation are possion are not possible.				
Indicators	EtherCAT NET R	RUN	EtherCAT NET E	RR	EtherCAT LINK/	ACT			
			Flashes at 1-s into	ervals.					
			5 4 4		Name				
System-de-	Variable		Data type		Name				
System-de- fined variables	Variable None								
-	1411414		Correction		 Prevention				
fined variables	None		 Correction		 Prevention	nload according			
fined variables Cause and cor-	None Assumed cause Slave or Unit para		Correction Cycle the power s Controller after yc slave or Unit para	ou download	Prevention If you execute the required to reset complete the dow to the message d	the Controller, nload according			
fined variables Cause and correction Attached infor-	None Assumed cause Slave or Unit para downloaded.		Correction Cycle the power s Controller after yc slave or Unit para	ou download	Prevention If you execute the required to reset complete the dow to the message d	the Controller, nload according			

^{*1.} This event code occurs for unit version 1.40 or later of the CPU Unit.

Event name	EtherCAT Fault			Event code	44010000 hex			
Meaning	A fatal error was	tal error was detected in the EtherCAT Master Func erCAT Master Function Module Source details						
Source	EtherCAT Master	Function Module	Source details	Master	Detection timing At power ON, Controller rese or during communications			
Error attributes	Level	Partial fault	Recovery	Cycle the power supply or reset the Controller.	Log category System			
Effects	User program	Continues.	Operation	Slave: Message communications stop. Dutions error occurs settings in the sla	The error is processed according to			
					EtherCAT LINK/ACT			
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT		
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT		
Indicators System-de-	EtherCAT NET R Variable	UN		RR	EtherCAT LINK//	ACT		
		UN	Lights.	RR		ACT		
System-de-	 Variable	UN	Lights.	RR		ACT		
System-de- fined variables	Variable None		Lights. Data type Correction Obtain the Sysmac Stransfor the Sysmac Stransfor to the Sysmac Stransfor Manual	ac Controller log tudio and contact resentative. Refer	Name	ACT		
System-de- fined variables Cause and cor-	Variable None Assumed cause An error occurred		Lights. Data type Correction Obtain the Sysmac Structure OMRON represent to the Sysmac Structure Operation Manual for how to obtain troller logs.	ac Controller log tudio and contact presentative. Refer udio Version 1 I (Cat. No. W504)	Name Prevention	ACT		
System-de- fined variables Cause and cor- rection	Variable None Assumed cause An error occurred Attached informat Attached informat	in the software.	Lights. Data type Correction Obtain the Sysmac Strain your OMRON repto the Sysmac Strain Manual for how to obtain troller logs.	ac Controller log tudio and contact presentative. Refer udio Version 1 I (Cat. No. W504)	Name Prevention	ACT		
System-de- fined variables Cause and cor- rection	Variable None Assumed cause An error occurred Attached informat Attached informat Attached informat	in the software.	Lights. Data type Correction Obtain the Sysmac Structure of the Sysmac	ac Controller log tudio and contact presentative. Refer udio Version 1 I (Cat. No. W504)	Name Prevention	ACT		
System-de- fined variables Cause and cor- rection	Variable None Assumed cause An error occurred Attached informat Attached informat Attached informat	in the software. ion 1: System inforion 2: System inforion 3: System 3	Lights. Data type Correction Obtain the Sysmac Structure of the Sysmac	ac Controller log tudio and contact presentative. Refer udio Version 1 I (Cat. No. W504)	Name Prevention	ACT		

Event name	Link OFF Error			Event code	84200000 hex				
			.1	Event code	04200000 Nex				
Meaning	A Link OFF state	occurred in the ma	ster.			Data sting time At many ON at			
Source	EtherCAT Master	Function Module	Source details	Communica-	Detection tim-	At power ON, at			
				tions port	ing Controller rese or during com-				
					munications				
Error attributes	Level	Partial fault	Recovery	Error reset	Log category System				
Effects	User program	Continues.	Operation	Master:					
				The master waits	in the Init state. If t	he master is not			
				in the Init state, it	changes to the Init	state. Other com-			
				munications error	s caused by this er	ror are not detect-			
				ed as an error.					
				Slave:					
				Message commu	nications and proce	ess data commu-			
				nications stop. Dเ	uring communicatio	ns, a communica-			
				tions error occurs	. The error is proce	essed according to			
				settings in the sla	ve.				
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT			
	Not lit		Flashes at 1-s into	ervals.					
System-de-	Variable		Data type		Name				
fined variables	_EC_LinkOffErr		BOOL		Link OFF Error				
	_EC_LinkStatus		BOOL		Link Status				

Cause and cor-	Assumed cause	Correction	Prevention
rection	The Ethernet cable is not connected between the master and the first slave.	Connect the Ethernet cable between the master and the first slave.	Confirm that the Ethernet cable is connected.
	The power supply to the first slave is not turned ON.	Turn ON the supply power to the first slave.	Confirm that the power supply to the first slave is turned ON.
	The Ethernet cable connector is disconnected between the master and the first slave.	Connect the Ethernet cable connector.	Firmly connect the Ethernet cable connector until it clicks into place. Confirm that the Ethernet cable connector is mated securely.
	A non-recommended Ethernet cable is used between the master and first slave.	Replace the Ethernet cable with a recommended one.	Use the recommended Ethernet cables.
	The Ethernet cable is broken between the master and the first slave.	Replace the Ethernet cable.	Before you start wiring Ethernet cables, use the cable tester or other devices to confirm that there is no broken cable. Refer to the Ether-CAT Network Wiring in NJ/NX-series CPU Unit Built-in EtherCAT Port User's Manual (Cat. No. W505) for precautions on wiring.
	The contact of the connector on the Ethernet cable between the master and the first slave is faulty, or parts are faulty.	Replace the Ethernet cable.	None
	Hardware failure of the first slave	If this error persists even after you cycle the power supply to the first slave, replace the slave.	None
	An EtherCAT Frame Not Received (842E0000 hex) occurred.*1	Make the corrections for an Ether-CAT Frame Not Received (842E0000 hex).	Implement preventive measures for an EtherCAT Frame Not Received (842E0000 hex).
	A general-purpose Ethernet hub or repeater hub is connected.	Remove the general-purpose Ethernet hub or repeater hub, and connect an EtherCAT Junction Slave.	Do not connect the general-purpose Ethernet hub and repeater hub. Use an EtherCAT Junction Slave when you want to configure a topology with branching or a ring topology.
Attached information	None		
Precautions/ Remarks		hub or repeater hub is connected, the malfunctions, and this error may occu	

^{*1.} Use the troubleshooting functions of the Sysmac Studio or the Troubleshooter of an HMI to check the error.

Event name	EtherCAT Frame	Not Received		Event code	842E0000 hex*1		
Meaning	The sent EtherCA	T frame was not re	aceived		042E0000 NCX		
	_			Mastar/Clave	Detection time	At newer ON et	
Source	EtherCAT Master	Function Module	Source details	Master/Slave	Detection tim- ing	At power ON, at Controller reset, during commu-	
						nications*2, or when a cable is connected to EtherCAT mas- ter	
Error attributes	Level	Partial fault	Recovery	Error reset*3	Log category	System	
Effects	User program	Continues.	Operation Master: If the master waits state, it changes a Slave: Message commun nications stop. Dur tions error occurs.		s in the Init state or is not in the Init all slaves to the Init state. nications and process data communications communications, a communication of the Error is processed according to		
Indicators	EtherCAT NET R	IIN	EtherCAT NET E	settings in the sla	EtherCAT LINK//	ACT	
maioatoro			Flashes at 1-s into		Flashes	401	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction	orrection		Prevention	
rection	One of the followi	ng 1) to 10) oc-	Identify the error location and		1 TOVOILLOIT		
	curred.		make the correcti the attached infor ror occurred in tw ring topology, mal for the location th of the ring. If the e not be identified b formation due to t setting not being causes, check that for each slave and	ke the correction according to attached information. If this eroccurred in two locations in the propology, make the corrections the location that is not end port the ring. If the error location canbe identified by the attached innation due to the node address ting not being made or other uses, check that there is no error each slave and cable.			
	A device other than an Ether-CAT slave is connected.		Remove the device other than an EtherCAT slave.		Confirm that device EtherCAT slaves ed to the EtherCA	are not connect-	
	2) Output ports are connected to each other between EtherCAT slaves or between the EtherCAT master and EtherCAT slaves.		Correct the connection of the Ethernet cable that is connected to the relevant port of the slave or master which is shown in the attached information 3.		Confirm that there Ethernet cable co		
	3) The Ethernet cable connector is connected uncertainly between the EtherCAT master and EtherCAT slaves.		Connect the Ethernet cable connector.		Firmly connect ble connector uplace. Confirm that the connector is meaning the connector of the con	until it clicks into	
	4) The contact of the Ethernet ca- ble between the EtherCAT master and an EtherCAT slave is faulty, or the connector is faulty.		Replace the Ethernet cable.		None		

5) The transmission delay time cal-	Set a larger value in Total Cable	Same as the Correction.
culated based on the set value of	Length and transfer the setting to	
the total cable length is shorter	the Controller.	
than the actual transmission delay	Or, change the set value in	
time.	Transmission Delay Time with	
6) An EtherCAT slave manufactured by a company other than OMRON is included in the network configuration, or a non-recommended Ethernet cable is intentionally used. 7) The network configuration has been changed from the network configuration when the transmission delay time was a stronger.	the measured value, and transfer the setting to the Controller. For the procedure to update the Transmission Delay Time with the measured value, refer to Setting Transmission Delay Time by Actual Measurement in the NJ/NX-series CPU Unit Built-in EtherCAT Port User's Manual (Cat. No. W505).	
sion delay time was set, causing increase in transmission delay time.		
8) Hardware failure of EtherCAT slave	If this error persists even after you cycle the power supply to the relevant slave, replace the slave.	None
9) Hardware failure of EtherCAT master	If this error persists even after you cycle the power supply to the CPU Unit, replace the CPU Unit.	None
10) An Incorrect Wiring Detected (843C0000 hex) occurred.*4	Make the corrections for an Incorrect Wiring Detected (843C0000 hex).	Implement preventive measures for an Incorrect Wiring Detected (843C0000 hex).
		-

Attached information

Attached information 1: Error location diagnostic result

- 0: Error location is not identified Note 1
- 1: Error location is identified Note 1
- 2: Error location is being identified Note 1 Note 2

Note 1. The EtherCAT related functions in the Sysmac Studio and EtherCAT communications instructions cannot be executed.

Note 2. The Clear All Memory operation of the CPU Unit and project download cannot be executed until this event in which the attached information 1 is 0 or 1 is registered.

Attached Information 2: Error Location (only when the value of attached information 1 is 1). Note 3

- 0: Master
- · Not 0: Slave node address

Attached Information 3: Error Location Details (only when the value of attached information 1 is 1). Note 3

- If the attached information 2 is the master, 0 is output as the port name.
- If the attached information 2 is the slave node address, the port name that is displayed on the Support Software is output. However, if the network configuration information does not agree with the physical network configuration of the relevant slave, any of PortA, PortB, PortC, and PortD is output as the default as the port name
- If the value of attached information 1 is not 1, 0 is output as the port name.

Note 3. If there is a ring topology in the actual network, the error location may not be displayed correctly. If there is no problem on the error location displayed in the attached information 2, and 3, temporarily remove the cable on the end port of the ring, cycle the power supply to the Controller or reset the Controller, and then make the corrections for the event occurred.

Attached information 4: System information

Precautions/ Remarks

- For project unit version earlier than 1.42, the error location cannot be identified if there is a ring topology in the actual network configuration. Remove the cable on the end port of the ring, cycle the power supply to the Controller or reset the Controller, and then make an occurrence of this error again to identify the error location.
- For project unit version 1.42 or later, when this error occurred in two locations in the ring topology, make the corrections for the location that is not end port of the ring.
- The attached information 1 becomes 2 only for the project unit version 1.40 or later.
- *1. This event code occurs for unit version 1.11 or later of the CPU Unit.
- *2. This is detected for project unit version 1.40 or later.
- *3. For project unit version 1.40 or later, it may be necessary to cycle the power supply.
- *4. Use the troubleshooting functions of the Sysmac Studio or the Troubleshooter of an HMI to check the error.

Event name	Slave Node Addre	ess Duplicated		Event code	24200000 hex		
Meaning	The same slave a	address is used for	two nodes.				
Source	EtherCAT Master	Function Module	Source details	Slave Detection timing At power Of Controller resonant or during communications			
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Communications state. When the Fail-so the Error Is Determined.	er: Error Is Detected When the Master Is Startmunications stop. The master waits in the Inthe Fail-soft Operation Is Set to Fail-soft arror Is Detected during Operation es that were normal continue to operate.		
						· ·	
				When the Fail-so Error Is Detected For project unit v The master chan the Pre-Operation that caused the color in the state. For project unit v The master chan the Safe-Operation that caused the color in the Safe-Operation that caused the color is state. Slave: No error occurred	remain in the Init state. Il-soft Operation Is Set to Stop and the cted during Operation nit version earlier than 1.40: hanges the slaves that were normal to ational state. Slaves after the new slave the duplicated address error remain in the nit version 1.40 or later: hanges the slaves that were normal to trational state. Slaves after the new slave the duplicated address error remain in the duplicated address error remain in the		
	0 N				nmunications are n	-	
Indicators	EtherCAT NET R	UN	EtherCAT NET E		EtherCAT LINK/	ACI	
System-de-	 Variable		Flashes at 1-s int Data type	ervais.	Name		
fined variables	_EC_SlavAdrDup	Err	BOOL		Slave Node Addr	ress Duplicated	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The same node address is set for more than one slave. Check the node address is set for address.		Check the node a node address set slave, and change dress duplication.	value of the e it to prevent ad-	Set the node add to prevent duplicate		
Attached infor- mation	None						
Precautions/ Remarks	The slave cannot	be used unless the	e slave node addre	ss is set.			

Event name	Network Configuration Information Error			Event code	34400000 hex		
Meaning	There is an error in the network configuration information.						
Source	EtherCAT Master	Function Module	Source details	Master Detection till ing		At power ON or Controller reset	
Error attributes	Level	Minor fault	Recovery	Automatic re- covery	Log category System		
Effects	User program	Continues.	Operation	Slave:	ster waits in the Init state. e communications and process data commu-		
Indicators	EtherCAT NET R	RUN	EtherCAT NET E	RR	EtherCAT LINK/ACT		
			Flashes at 1-s int	ervals.			
System-de-	Variable		Data type		Name		
fined variables	_EC_NetCfgErr		BOOL		Network Configuration Information Error		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	was interrupted or communications with the Sysmac Studio were disstore		eration and then store the network	Perform the Clear All Memory operation and then download or restore the network configuration information to the master again.		Do not turn OFF the power supply to the Controller and disconnect communications with the Sysmac Studio while downloading or restoring the network configuration information.	
Attached infor- mation	Attached Informa	tion 1: Error Details	6 (0001 hex: Illegal	parameter, 0014 h	ex: Error opening fi	le)	
Precautions/ Remarks	None						

Event name	EtherCAT Commi	unications Cycle Ex	kceeded	Event code 34410000 hex*1		
Meaning	Process data con	nmunications could	not be performed	with the specified c	ommunications cyc	le.
Source	EtherCAT Master	Function Module	Source details	Master	Detection tim-	At start of com- munications
Error attributes	Level	Minor fault	Recovery	Automatic re- covery	Log category	System
Effects	User program	Continues.	Operation	Master: The master waits Slave: Message commu nications are not	nications and process data commu-	
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/ACT	
			Flashes at 1-s intervals.			
System-de-	Variable		Data type		Name	
fined variables	_EC_CycleExcee	eded	BOOL		EtherCAT Communications Cycle Exceeded	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The transmission delay time in the actually connected configuration is longer than the transmission delay time calculated for the user-set cable length.		Set the cable length so that it agrees with the actual configuration.		Set the cable leng agrees with the a tion.	
	The set task period or communications cycle is too short.		Use the Simulator and set a task period (communications cycle) that enables communications.		Use the Simulato period (communic enables commun	cations cycle) that
Attached infor- mation	None					
Precautions/ Remarks	None					

^{*1.} This event code occurs for a CPU Unit with unit version 1.10 or later and project unit version earlier than 1.40.

Event name	Network Configuration Error			Event code	84210000 hex*1	
Meaning	The EtherCAT ne	twork configuration	is incorrect.			
Source	EtherCAT Master Function Module		Source details	Master	Detection tim- ing	At power ON, at Controller reset, or during com- munications
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Refer to Precaution	ons/Remarks.	
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/ACT	
			Flashes at 1-s into	ervals.		
System-de-	Variable		Data type		Name	
fined variables	_EC_NetTopolog	yErr	BOOL		Network Configuration Error	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Slave output ports are connected to each other.		Correct the Ethernet cable connections.		Confirm that there are no incorrect Ethernet cable connections.	
	The master and slave are connected with the slave output port.					
	The number of connected slaves exceeded the maximum number of slaves for the EtherCAT master.		Disconnect unnecessary slaves and keep the number below the maximum number.		Confirm that no more than the maximum number of slaves are connected to the EtherCAT network.	
Attached infor- mation	Error Details: 000	0 hex: Too many sl	laves, 0001 hex: O	utput ports connect	ed to each other	

Precautions/ Remarks

Operation

Master:

- The following applies if fail-soft operation is set to Fail-soft, the event was detected when the power supply
 was turned ON or the Controller was reset, and the error details in the attached information is 0000 hex:
 The master will change the maximum number of slaves from the beginning to the Operational state and continues to operate. The slaves past the maximum number of slaves will remain in the Init state and communications will stop.
- The following applies if fail-soft operation is set to Stop, the event was detected when the power supply was
 turned ON or the Controller was reset, and the error details in the attached information is 0000 hex:
 The master will change the maximum number of slaves from the beginning to the Pre-Operational state and
 only message communications will continue. The slaves past the maximum number of slaves will remain in
 the Init state and communications will stop.
- The following applies if the event was detected when the power supply was turned ON or the Controller was
 reset, and the error details in the attached information is 0001 hex:
 All slaves will remain in the Init state and communications will stop.
- The following applies if fail-soft operation is set to Fail-soft, the event was detected during communications, and the error details in the attached information is 0000 hex:
 The master will change the maximum number of slaves from the beginning to the Operational state and continues to operate. The slaves past the maximum number of slaves will remain in the Init state and communications will stop.
- The following applies if fail-soft operation is set to Stop, the event was detected during communications, and
 the error details in the attached information is 0000 hex:
 The master will change the maximum number of slaves from the beginning to the Pre-Operational state and
 communications will stop. The slaves past the maximum number of slaves will remain in the Init state and
 communications will stop.
- The following applies if fail-soft operation is set to Fail-soft, the event was detected during communications, and the error details in the attached information is 0001 hex:
 The slaves that are normal continue to operate. If you are using distributed clocks to synchronize the slaves, a Synchronization Error may occur between the slaves.

 Slave:

No error occurred.

- The following applies if fail-soft operation is set to Fail-soft, the event was detected when the power supply
 was turned ON or the Controller was reset, and the error details in the attached information is 0000 hex:
 The maximum number of slaves from the beginning are in the Operational state and both message communications and process data communications will continue. The slaves past the maximum number of slaves
 will remain in the Init state and both message communications and process communications will stop.
- The following applies if fail-soft operation is set to Stop, the event was detected when the power supply was turned ON or the Controller was reset, and the error details in the attached information is 0000 hex:
 The maximum number of slaves from the beginning are in the Pre-Operational state and message communications will continue, but process data communications will stop. The slaves past the maximum number of slaves will remain in the Init state and both message communications and process communications will stop.
- The following applies if the event was detected when the power supply was turned ON or the Controller was
 reset, and the error details in the attached information is 0001 hex:
 All slaves will remain in the Init state and both message communications and process data communications
 will stop.

- The following applies if fail-soft operation is set to *Fail-soft*, the event was detected during communications, and the error details in the attached information is 0000 hex:
 - The slaves before the node where the error occurred are in the Operational state and both message communications and process data communications will continue. The slave where the error occurred and all slaves after it will remain in the Init state and both message communications and process data communications will stop.
- The following applies if fail-soft operation is set to *Stop*, the event was detected during communications, and the error details in the attached information is 0000 hex:
 - Message communications will be possible, but process data communications will not, for all slaves in the Pre-Operational state. Both message communications and process data communications will not be possible for all slaves in the Init state.
- The following applies if fail-soft operation is set to *Fail-soft*, the event was detected during communications, and the error details in the attached information is 0001 hex:
 - Process data communications will be possible for all slaves that are operating normally. If you are using distributed clocks to synchronize the slaves and a Synchronization Error is detected, only input refreshing is enabled. Message communications will be possible.

There are restrictions on the number of slave node addresses, and not on the number of slaves. This is because there are slaves, such as Junction Slaves, that use more than one node.

Also, if the maximum number of slaves are connected and an attempt is made to make a ring connection, a Too Many Slaves error (0000 hex) occurs.

^{1.} This event code occurs for project unit version earlier than 1.40.

Event name	Network Configur	ation Verification E	rror	Event code	84220000 hex*1	
Meaning		the network configure	uration information i	is not connected. C	or, a slave that is no	ot in the network
Source	EtherCAT Master	Function Module	Source details	ource details Master/Slave Detection tim- ing Controlle or during municati		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	When Fail-soft Operation Is Set to Fail-soft Master: The master changes slaves that are consistent with the network configuration information to the Opera- tional state. Slaves that are not consistent with the network configuration information and all subsequent slaves remain in the Init state. Slave: Depends on the slave communications status. When Fail-soft Operation Is Set to Stop Master: The master changes slaves that are consistent with the network configuration information to the Pre-Op- erational state. Slaves that are not consistent with the network configuration information and all subsequent slaves remain in the Init state. Slave:		
Indicators	EtherCAT NET R	UN	EtherCAT NET E		EtherCAT LINK/	ACT
			Flashes at 1-s int	ervals.		
System-de-	Variable		Data type		Name	
fined variables	_EC_NetCfgCmp	Err	BOOL		Network Configuration Verification Error	
	in Verification	When Inconsistencies Are Found in Verification _EC_CommErrTbl		ARRAY [1n] OF BOOL *2		Error Slave Table

Cause and cor-	Assumed cause	Correction	Prevention
rection	A slave that is in the network configuration information is not connected. There is a node address mismatch.	Connect the slave that is specified in the network configuration information. Or, connect the Sysmac Studio and set and save the network configuration information with the slave deleted in the master. Make the slave node address set-	Set and save the network configuration information for the configuration actually connected in the master.
		tings consistent with the network configuration information.	
	A different slave from the one that is specified in the network configuration information is connected.	Connect the slave that is specified in the network configuration information. Or, connect the Sysmac Studio and set and save the network configuration information with the correct slaves in the master.	
	A slave that is not in the network configuration information is connected.	Disconnect the slave that is not in the network configuration information from the network. Or, connect the Sysmac Studio and set and save the network configuration information with the slave added in the master.	
	The hardware switches for the slave node address were changed to a value other than 0 after the Write Slave Node Address operation was performed from the Sysmac Studio.	To use the value that is set on the hardware switches, reset the error. When the error is reset, there will be a disagreement between the hardware switches and the value that was written from the Sysmac Studio. A Slave Application Error (84280000 hex) will occur and you must then reset the error again. If this error occurs when the slave is disconnected or disabled, reset the error first and then connect or enable the slave. When you do, a Slave Application Error (84280000 hex) will occur. Reset the error again and then connect or enable the slave. To use the node address that was set in the Write Slave Node Address from the Sysmac Studio, set the hardware switches to a node address of 0 and cycle the power supply to the slave.	To use the value that is set on the hardware switches, reset the error. When the error is reset, there will be a disagreement between the hardware switches and the value that was written from the Sysmac Studio. A Slave Application Error (84280000 hex) will occur and you must then reset the error again. If this error occurs when the slave is disconnected or disabled, reset the error first and then connect or enable the slave. When you do, a Slave Application Error (84280000 hex) will occur. Reset the error again and then connect or enable the slave. To use the node address that was set in the Write Slave Node Address from the Sysmac Studio, set the hardware switches to a node address of 0 and cycle the power supply to the slave.
	The Ethernet cable is broken between two slaves.	In cases not caused by the above causes, confirm the location of the break in the Ethernet cable and replace the cable.	None
Attached information	None		
Precautions/ Remarks *1 This event or	If you add check items in the options	s for network configuration verification,	check whether the items match.

^{*1.} This event code occurs for project unit version earlier than 1.40.

^{*2. &}quot;n" is 512 for an NX-series CPU Unit and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	Slave Initialization	n Error		Event code	84230000 hex*1	
Meaning	Slave initialization	n failed.				
Source	EtherCAT Master	Function Module	Source details	Master/Slave Detection tim- ing Controller reservor reset, o major fault le Controller err		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Error reset Log category System		e from the Init tate at the slave in topology up to d change to the operate. states after Pre- stop state transi- te to the Opera- te. cations status. top e from the Init the Init state and states after Pre-
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT
			Flashes at 1-s int	ervals.		
System-de-	Variable		Data type		Name	
fined variables	_EC_SlavInitErr		BOOL		Slave Initialization	
	_EC_CommErrTt	ol	ARRAY [1n] OF	BOOL *2	Communications	Error Slave Table
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An error occurred in EtherCAT master processing.		Connect the Sysmac Studio and reconfigure and save the network configuration information in the master again. If this error occurs again, check that there are no errors in the slave synchronization settings and the PDO mapping information, and correct any errors that are found.		Correctly set the slave synchronization settings, PDO mapping information, and configure and save network configuration information in the master.	

	An initialization error occurred in the EtherCAT slave. An initialization error occurred in the EtherCAT Coupler Unit.	The Module config send method parameter is sometimes displayed for a slave in the EtherCAT network configuration on the Sysmac Studio even if a send method cannot be set. If that occurs, set the Module config send method parameter to Do not send and perform synchronization again. Or, cycle the power supply to the EtherCAT slave. If this error persists, replace the EtherCAT slave. Connect the Sysmac Studio to the USB port on the EtherCAT Coupler Unit, check the error details, and take suitable measures for the	None
	A major fault level Controller error occurred.	ror. If a major fault level Controller error occurs, process data communications stop. If a Slave Application Error (84280000 hex) occurs at this time, this event also occurs. Perform corrections for the major fault level Controller error.	Perform preventive measures for major fault level Controller errors.
	The transmission delay time calculated based on the set value of the total cable length is shorter than the actual transmission delay time.	Set a larger value in Total Cable Length and transfer the setting to the Controller. If the total length of the cables is 1000m or less, set the initial value (1000m) for the Total Cable Length .	Same as the Correction.
	The Ethernet cable is broken or the specified cable is not being used. A connector on the Ethernet cable is disconnected, the contact is faulty, or parts are faulty.	The causes given on the left are possible if the error occurs from when the system starts operation or if it always occurs after a specific time after the system starts oper-	Make sure that the cable is not broken and use the specified cable. Confirm that the Ethernet cable connector is mated securely.
	A general-purpose Ethernet hub is connected.	ation. Use the diagnostic and statistical information from the Sysmac Studio and check the EtherCAT communications status.	When branching an EtherCAT network, use an EtherCAT Junction Slave.
	The master failed. The slave failed.	If the Ethernet cable between the master and slave is broken or if the specified cable was not used, replace the cable. Or, reconnect the connector and make sure it is mated correctly. If a general-purpose Ethernet hub is connected, replace it with an EtherCAT Junction Slave. If the CPU Unit or an EtherCAT slave fails, replace it.	None
	Noise	If this error occurs irregularly, implement noise countermeasures.	Implement noise countermeasures.
Attached information	Attached information 1: System infor Attached information 2: System infor Attached information 3: System infor Attached information 4: System information	mation 2 mation 3	

Precautions/	None
Remarks	

- 1. This event code occurs for project unit version earlier than 1.40.
- *2. "n" is 512 for an NX-series CPU Unit and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	Slave Application	Error		Event code	84280000 hex*1		
Meaning		in the slave applic	ation.		04200000 Nex		
Source	EtherCAT Master		Source details	Slave	Detection tim- ing	During commu- nications	
Error attributes	Level	Minor fault	Recovery	Recovery Error reset Log category			
Effects	User program	Continues.	Operation	When Fail-soft Operation Is Set to Fail-soft Master: The slave communications status is not manipulated, but operation continues. The status of slaves with an application layer status error is also not manipulated. Slave: An error occurred. Operation is according to the state transition behavior of the slave where the error occurred. When Fail-soft Operation Is Set to Stop Master: The master changes all slaves to the Pre-Operational state when an application layer status error occurs. Slave: An error occurred. All slaves change to the Pre-Operational state.			
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT	
			Flashes at 1-s int	ervals.			
System-de-	Variable		Data type		Name		
fined variables	_EC_SlavAppErr		BOOL		Slave Application	Error	
	_EC_CommErrTb	ol	ARRAY [1n] OF	BOOL *2	Communications	Error Slave Table	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An error was dete slave's application ister.		Reset the error from slave where the an occurred. Use the in the slave docur	application error procedure given	None		
Attached infor- mation	Attached informat	ion 1: AL status co	de for the slave wh	ere the error was d	letected.		
Precautions/ Remarks	None						

^{*1.} This event code occurs for project unit version earlier than 1.40.

^{*2. &}quot;n" is 512 for an NX-series CPU Unit and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	Process Data Tra	nsmission Error		Event code	84290000 hex	
Meaning	Sending process	data failed.		1		
Source	EtherCAT Master	Function Module	Source details	Master	Detection tim- ing	During commu- nications
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Master: Operation contin Slave: An error may occ processed accor When Fail-soft C For project unit v Master: The master char state. Slave: An error may occ processed accor For project unit v Master: The master char al state. Slave: An error may occ processed accor For project unit v Master: The master char al state. Slave: An error may occ	peration Is Set to F	s. The error is he slave. Stop 1.40: e Pre-Operationals. The error is he slave. : e Safe-Operation
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT
			Flashes at 1-s int	ervals.		
System-de-	Variable		Data type		Name	
fined variables	_EC_PDSendErr		BOOL		Process Data Tra	ansmission Error
Cause and cor-	Assumed cause		Correction		Prevention	
rection	It was not possible to send the EtherCAT frame during the EtherCAT communications cycle. (When attached information 1 is 0000 hex) The frame transmission jitter exceeded the limit. (When attached information 1 is 0001 hex)		crease the task period setting of the primary periodic task or priority-5 periodic task, and set and save the network configuration information in the EtherCAT master. periodic task or prioritask to a value cient processin Use the Simula necessary Ether		Set the task periodic task or periodic task or periodic task or periodic task or periodic task to a value the cient processing. Use the Simulator necessary Etherotions period.	oriority-5 periodic nat provides suffi- time. or to check the
Attached infer		,			dono ponou.	
Attached infor- mation	Attached Information 1: Error Details 0000 hex: Frame generation was 0001 hex: The transmission jitter Attached information 2: System information 2: System information 2: System information 3: System inf		late for the transmi			
Precautions/ Remarks	None	<u>,</u>				

Event name	Process Data Red	ception Timeout		Event code	842B0000 hex	
Meaning	Process data rece	eption timed out.				
Source	EtherCAT Master	Function Module	Source details	Master	Detection tim- ing	During commu- nications
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Master: Operation continuity Slave: An error may occuto settings in the state. When Fail-soft Operation of the state. Slave: Process data comprocessed according to the state. The master changes according to the state. For project unit we master: The master changes all state. Slave: Process data comprocessed according to the state. Slave: Process data comprocessed according to the state. Slave: Process data comprocessed according to the state.	ur. The error is pro	cessed according top 1.40: Pre-Operational The output is ne slave. Pre-Operation- Atput stop. The
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT
			Flashes at 1-s into	ervals.		
System-de-	Variable		Data type		Name	
fined variables	_EC_PDTimeout	Err	BOOL		Process Data Re-	ception Timeout

Cause and cor-	Assumed cause	Correction	Prevention
Cause and correction	One of the following 1) to 11) occurred. Check the following items in the diagnostic and statistical information. The CRC error frames received in the master diagnostic and statistical information The frame reception timeout count in the master diagnostic and statistical information The number of error frames in the slave diagnostic and statistical information When the following is true, the factor may be 1). The count of CRC error frames received in the master diagnostic and statistical information increases. In the following case, you can find the assumed causes of 2) to 6). The count of CRC error frames received in the master diagnostic and statistical information does not increase. The frame reception timeout count in the master diagnostic and statistical information increases. Acquisition of the number of error frames in the slave diagnostic and statistical information failed.		
	1) Noise	Implement countermeasures that are appropriate for the source of the noise. Then, make sure that CRC error frames received are no longer counted in the master diagnostic and statistical information. Refer to the user's manuals for the Units for how to implement noise countermeasures.	If CRC error frames received are still counted in the master diagnostic and statistical information, remove the noise source or implement noise countermeasures while checking the slave diagnostic and statistical information. Even if you cannot remove the effect of noise completely, increase the Process Data Reception Timeout value when you want that an event is not reported.
	2) A general-purpose Ethernet hub is connected.	Replace it with an EtherCAT Junction Slave.	When branching an EtherCAT network, use an EtherCAT Junction Slave.
	3) A non-recommended cable was used.	Replace the Ethernet cable with a recommended one.	Use the recommended Ethernet cables.
	4) The Ethernet cable connector is disconnected.	Connect the Ethernet cable connector.	 Firmly connect the Ethernet cable connector until it clicks into place. Confirm that the Ethernet cable connector is mated securely.

	5) The Ethernet cable is broken.	Replace the Ethernet cable.	Before you start wiring Ethernet cables, use the cable tester or other devices to confirm that there is no broken cable. Refer to the Ether-CAT Network Wiring in NJ/NX-series CPU Unit Built-in EtherCAT Port User's Manual (Cat. No. W505) for precautions on wiring.
	6) The contact of the Ethernet ca- ble connector is faulty, or parts are faulty.	Replace the Ethernet cable.	None
	7) The transmission delay time calculated based on the set value of the total cable length is shorter than the actual transmission delay time. 8) An EtherCAT slave manufactured by a company other than OMRON is included in the network configuration, or a non-recommended cable is intentionally used. 9) The network configuration has been changed from the network configuration when the transmission delay time was set, causing increase in transmission delay time.	Set a larger value in Total Cable Length and transfer the setting to the Controller. Or, change the set value in Transmission Delay Time with the measured value, and transfer the setting to the Controller. For the procedure to update the Transmission Delay Time with the measured value, refer to Setting Transmission Delay Time by Actual Measurement in the NJ/NX-series CPU Unit Built-in EtherCAT Port User's Manual (Cat. No. W505).	Same as the Correction.
	10) The CPU Unit task period is too short.	Connect the Sysmac Studio, increase the task periods of the primary periodic task or priority-5 periodic task, and set and save the network configuration information in the EtherCAT master.	Set the task period of the primary periodic task or priority-5 periodic task to a value that provides sufficient processing time. Use the Simulator to check the necessary EtherCAT communications cycle.
	11) A ring disconnection occurred in the ring topology for which a slave that does not support the ring topology is included.	In a ring topology, use slaves that support the ring topology.	Same as Correction
Attached information	Attached Information 1: Error Details 0001 hex: Occurred in the primary 0002 hex: Occurred in the priority-	periodic task.	
Precautions/ Remarks	_	me reception timeout for process data communications timeout detection co	

Event name	Process Data Communications Error Event code 842C0000 hav*1					
				Lveiit code	842C0000 hex*1	
Meaning		in process data co		01	Bataatian tin	D
Source	EtherCAT Master	Function Module	Source details	Slave	Detection tim- ing	During commu- nications
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Master: Operation continu Slave: An error occurred PDI watchdog err the Init state. When Fail-soft Op Master: The master chang state. Slave: An error occurred changes all slave:	. Operational state or occurs in a slave peration Is Set to Set to Set all slaves to the . When operation set to the Pre-Operator occurs in a slave	continues. If a e, the slave enters stop
Indicators	EtherCAT NET R	UN	EtherCAT NET ERR		EtherCAT LINK/	ACT
aroutoro			Flashes at 1-s intervals.			
System-de-	Variable		Data type		Name	
fined variables	_EC_PDCommEr	r	BOOL		Process Data Communications Error	
	_EC_CommErrTb	ol	ARRAY [1n] OF BOOL *2		Communications	Error Slave Table
	_EC_PDActive		BOOL		Process Data Communications Status	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	A slave left the network even though the disconnection operation or disable operation was not performed. The power supply of the slave is turned OFF. The Ethernet cable is removed.		turning OFF the the slave. • Perform the dis	e operation before e power supply of econnection oper- e operation before	Same as the Cor	rection.
	A slave left the network even though the disconnection operation or disable operation was not performed. • A connector on the Ethernet cable is disconnected, the contact is faulty, or parts are faulty. • The Ethernet cable is broken. • The specified cable is not being used.		The causes given possible if the errowhen the system or if it always occilic time after the station. Use the dialistical information Studio and check communications of the Ethernet call the specified cable replace the cable the connector and mated correctly.	or occurs from starts operation urs after a specif- ystem starts oper- gnostic and stat- from the Sysmac the EtherCAT status. tole is broken or if e was not used, Or, reconnect the make sure it is	ble is not broke	nated securely. It the Ethernet ca- en. It the specified ca-
	The state idinod.		the above correct slave.	-		

Attached infor-	Attached Information 1: Error Details
mation	0001 hex: Slave WDT error (Slave failure)
	0002 hex: Slave disconnected (A slave left the network even though the disconnection operation or disable
	operation was not performed.)
Precautions/	None
Remarks	

^{1.} This event code occurs for project unit version earlier than 1.40.

^{*2. &}quot;n" is 512 for an NX-series CPU Unit and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	Input Process Da	ta Invalid Error		Event code	842F0000 hex*1	
Meaning				ss data communica	•	en it was in the
	Operational state	, the Input Data Inv	alid state continued	d for a certain perio	d.	
Source	EtherCAT Master	EtherCAT Master Function Module		Master	Detection tim- ing	During commu- nications
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Master: Operation continu Slave: Process data con When Fail-soft Operation For project unit ver Master: The master changestate. Slave: Process data con processed accord For project unit ver Master: The master changestate. Slave: The master changestate. Slave: Process data con processed accord	peration Is Set to Falses. Inmunications continuous services and services to the services all slaves to the services and services all slaves to the services all slaves all slaves to the services all slaves all slaves all slaves to the slaves all	nue. Stop 1.40: e Pre-Operational The output is he slave. :
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT
			Flashes at 1-s into	ervals.		
System-de-	Variable		Data type		Name	
fined variables	_EC_IndataInvali	dErr	BOOL		Input Process Da	ata Invalid Error
	_EC_InDataInvali	d	BOOL		Input Data Invalid	b
	_EC_InData1Inva	ılid	BOOL		Input Data1 Inval	lid
	_EC_InData2Invalid		BOOL		Input Data2 Inval	lid

Cause and cor-	Assumed cause	Correction	Prevention
rection	One of the following 1) to 5) occurred.		
	The Ethernet cable connector is connected uncertainly.	Firmly connect the Ethernet cable connector until it clicks into place.	 Firmly connect the Ethernet cable connector until it clicks into place. Confirm that the Ethernet cable connector is mated securely.
	2) The Ethernet cable is almost broken.	Replace the Ethernet cable.	Before you start wiring Ethernet cables, use the cable tester or other devices to confirm that there is no broken cable. Refer to EtherCAT Network Wiring in the NJ/NX-series CPU Unit Built-in EtherCAT Port User's Manual (Cat. No. W505) for precautions on wiring.
	3) The contact of the Ethernet ca- ble connector is faulty, or parts are faulty.	Replace the Ethernet cable.	None
	4) Hardware failure of EtherCAT slave	To identify EtherCAT slaves failed, while disconnecting the slaves from the network one by one, correct the error until the _EC_InDataInvalid (Input Data Invalid), _EC_InData1Invalid (Input Data1 Invalid), and _EC_InData2Invalid (Input Data2 Invalid) system-defined variables change to FALSE. When any of these variables change from TRUE to FALSE, the slave disconnected at that time is considered as failed. Replace the slave.	None
	5) Noise	Check the number of error frames in the slave diagnostic and statistical information. It is considered that the slave was affected by noise in each location where an error frame was counted. Implement appropriate noise countermeasures for all locations considered to be affected by noise. Then, make sure that error frames are no longer counted in the slave diagnostic and statistical information.	If error frames are still counted in the master diagnostic and statistical information, remove the noise source or implement noise countermeasures while checking the slave diagnostic and statistical information.
Attached information	Attached information 1: Error Details 0001 hex: The error occurred in the occ	ne primary periodic task.	
Precautions/ Remarks	None		

^{*1.} This event code occurs for unit version 1.13 or later of the CPU Unit.

Event name	Slave State Trans	sition Failed		Event code	84300001 hex*1	
Meaning	Slave state transi	tion failed.				
Source	EtherCAT Master	Function Module	Source details	Slave	Detection timing	At power ON, Controller reset, error reset, or during commu- nications
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	Master: Only the slave with The master changes state and continue slave: This depends on When Fail-soft Of Master: • When the masses state to the Presentate to the Same state state to the Same state state state. • When the masses operational state. Slave:	th the error will stop ges normal slaves a es to operate. the slave communi- peration Is Set to Set ter failed to change expoperational state anges all slaves to extransition from the fe-Operational state anges all slaves to ter failed to change at to the Operational state anges all slaves to	cations status. top from the Init the Init state. Pre-Operational e failed: the Pre-Opera- from the Safe- nal state: the Safe-Opera-
Indicators	EtherCAT NET R	UN	EtherCAT NET E		EtherCAT LINK/	ACT
			Flashes at 1-s into	ervals.		
System-de-	Variable		Data type		Name	_
fined variables	_EC_SlavInitErr		BOOL		Slave Initialization	
	_EC_CommErrTbl		ARRAY [1n] OF	BOOL *2	Communications	Error Slave Table
Cause and cor-	Assumed cause		Correction		Prevention	
rection	One of the following 1) to 4) occurred. Identify the cause of the error according to the attached information 1 or 4.					

1) An error occurred in a slave during the EtherCAT slave state transition. (When attached information 1 is 0002 hex or 0003 hex)	State transition may have failed due to the following errors. Eliminate the causes of any events that occurred. • Illegal Slave Disconnection Detected • Slave PDI WDT Error Detected • Slave AL Status Error Detected • Link OFF Error If a major fault level Controller error occurs, process data communications stop, and this error may occur along with Slave AL Status Error Detected. Perform corrections for the major fault level Controller error. When there are no above current errors, obtain the Sysmac Controller log on the Sysmac Studio and contact your OMRON representative. Refer to Sysmac Studio Version 1 Operation Manual (Cat. No. W504) for how to obtain the Sysmac Controller logs. State transition may have failed due to a slave failure. If the error persists even after you make the above corrections, replace the	Refer to the information on the Illegal Slave Disconnection Detected or Slave PDI WDT Error Detected event, and implement preventive measures. Do not disconnect a slave while the following processing is performed. Error reset Disconnection command Reconnection command Disabling command Restart Until the _EC_MBXSlavTbl (Message Communications Enabled Slave Table) system-defined variable changes to TRUE after disconnected or disabled slaves were connected. Perform preventive measures for major fault level Controller errors.
2) A state transition timeout occurred due to one of the following causes. (When attached information 1 is 0001 hex)	slave.	
2-1) A non-recommended cable	Replace the Ethernet cable with a	Use the recommended Ethernet
was used.	recommended one.	cables.
2-2) The Ethernet cable connector is disconnected.	Connect the Ethernet cable connector.	 Firmly connect the Ethernet cable connector until it clicks into place. Confirm that the Ethernet cable connector is mated securely.
2-3) The Ethernet cable is broken.	Replace the Ethernet cable.	Before you start wiring Ethernet cables, use the cable tester or other devices to confirm that there is no broken cable. Refer to the Ether-CAT Network Wiring in the NJ/NX-series CPU Unit Built-in EtherCAT Port User's Manual (Cat. No. W505) for precautions on wiring.
2-4) The contact of the Ethernet cable connector is faulty, or parts are faulty.	Replace the Ethernet cable.	None
2-5) A general-purpose Ethernet hub is connected.	Replace it with a specified Ether-CAT Junction Slave.	When branching an EtherCAT network, use an EtherCAT Junction Slave.

2-6) Noise 2-7) The EtherCAT master or an	Implement countermeasures that are appropriate for the source of the noise. Then, make sure that the number of CRC error frames received is no longer counted in the slave diagnostic and statistical information. Refer to the user's manuals for the Units for how to implement noise countermeasures. A state transition timeout may have	Before you start operation, identify the noise source with the slave diagnostic and statistical information. Implement appropriate noise countermeasures.
EtherCAT slave failed.	occurred due to a failure of the CPU unit or slave. If the error persists even after you make the above corrections, replace the CPU unit or slave.	
3) A slave returned an error response in the message communications that the EtherCAT master sent during EtherCAT slave state transition. (When attached information 1 is 0004 hex)	Check the abort code in attached information 3. Refer to the operation manual for the slave that returns an error response to check the abort code and make corrections. The following is an example correction for common abort code. Connect the Sysmac Studio, and configure and save the network configuration information in the master again. If this error occurs again, check that there are no errors in the slave synchronization settings and the PDO mapping information, and correct any errors that are found. If the error persists even after you make the corrections for assumed causes 1), 2) and 4), obtain the Sysmac Controller log and contact your OMRON representative. Refer to the Sysmac Studio Version 1 Operation Manual (Cat. No. W504) for how to obtain the Sysmac Controller logs.	Refer to the operation manual for the slave that returns an error response to take preventive measures. If you performed the example correction, set the slave synchronization settings and the PDO mapping information correctly, and configure and save the network configuration information in the master.
4) When the Module config send method parameter is set to Send for MDP-compatible slave, the transition from Pre-Operational state to Safe-Operational state failed. (When attached information 4 is any of the following: 00010004 hex 00020004 hex 00020008 hex)	The Module config send method parameter is sometimes displayed for a slave in the EtherCAT network configuration on the Sysmac Studio even if a send method cannot be set. If this occurs, set the Module config send method to Do not send and perform synchronization again. If this error occurs even after the synchronization, check attached information 1 and make corrections.	None

Attached infor-	Attached information 1: Error Details			
mation	0001 hex: State transition timeout			
	0002 hex: No reply from the slave			
	0003 hex: Slave state transition rejected			
	0004 hex: SDO communications response error			
	Attached information 2: Object accessed through SDO communications (Valid only when attached information			
	1 is 0004 hex.)			
	Upper 16 bits: Index of CoE			
	Lower 16 bits: Subindex of CoE			
	Attached information 3: Abort code (Valid only when Attached information 1 is 0004 hex)			
	Attached information 4: States before and after transition			
	Upper 16 bits: State before transition			
	Lower 16 bits: State after transition			
	States displayed in 16 bits			
	0001: Init state			
	0002: Pre-Operational state			
	0004: Safe-Operational state			
	0008: Operational state			
Precautions/	None			
Remarks				

^{*1.} This event code occurs for project unit version 1.40 or later.

^{*2. &}quot;n" is 512 for an NX701 CPU Unit, 256 for an NX502 CPU Unit, and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	Illegal Slave Disc	onnection Detected	<u> </u>	Event code 84310002 hex*1			
Meaning	_	sconnected incorre					
Source	EtherCAT Master		Source details	Slave	Detection tim-	During commu-	
				ing nications			
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	When Fail-soft Operation Is Set to Fail-soft Master: Operation continues. Slave: An error occurred in the disconnected slave and all slaves connected to it with a daisy chain. The error is processed according to settings in the slave. For other slaves, process data communications continue. When Fail-soft Operation Is Set to Stop Master: The master changes all slaves to the Safe-Operational state. Slave: For all slaves, process data communications for output stop. The output is processed according to settings in the slave. A communication error occurred in the disconnected slave and all slaves with daisy-chain connection after it. The error is processed according			
In dia ataus	Eth a CAT NET D	LINI	Eth a rOAT NET E	to settings in the		ACT	
Indicators	EtherCAT NET R	UN		EtherCAT NET ERR Flashes at 1-s intervals.		EtherCAT LINK/ACT	
System-de-	Variable		Data type		Name		
fined variables	_EC_PDCommErr		BOOL		Process Data Communications Er-		
					ror		
	_EC_CommErrTb	ol .	ARRAY [1n] OF	BOOL *2	Communications	Error Slave Table	
	_EC_PDActive		BOOL		Process Data Co	mmunications	
0	1		Correction		Status		
Cause and cor- rection	Assumed cause	ng 1) to 7) coour	Correction		Prevention		
rection	One of the following red. Note that these far ply to the following Disconnected so Disabled slave:	nctors do not ap- g slaves. slaves s	Confirm that all F	Ab	Defens discourse	Air and a law from	
	The power supply to the slave is turned OFF, or an Ethernet cable is disconnected.			er is supplied to ycle the power		rning OFF the pply or unplugging e, first specify that sconnected, or ad the slaves con-	
	2) An Ethernet cable connector between slaves is disconnected.		Connect the Ethernet cable connector.		 Firmly connect the Ethernet cable connector until it clicks into place. Confirm that the Ethernet cable connector is mated securely. 		
	3) A non-recomm used.	ended cable was	Replace the Ethe recommended on		Use the recomme cables.	ended Ethernet	

	4) The Ethernet cable is broken.	Replace the Ethernet cable.	Before you start wiring Ethernet cables, use the cable tester or other devices to confirm that there is no broken cable. Refer to the Ether-CAT Network Wiring in the NJ/NX-series CPU Unit Built-in EtherCAT Port User's Manual (Cat. No. W505) for precautions on wiring.			
	5) The contact of the connector on the Ethernet cable is faulty, or parts are faulty.	Replace the Ethernet cable.	None			
	6) The wiring of slaves in the ring topology is incorrect.	Slaves cannot be recognized from a master due to an incorrect wiring in the ring topology. Correct the wiring of the slave shown in the Source details. If the error remains, temporarily remove the cable on the end port of the ring on the actual network configuration, reset the error, and then make the corrections for the event occurred. In addition, you can perform the compare and merge operation in the Sysmac Studio to more efficiently make the corrections.	Confirm that there are no incorrect Ethernet cable connections.			
	7) The slave node address was changed during operation.	Make the node address of the actual slave consistent with the node address in the network configuration information. When the physical configuration is correct and the network configuration information is wrong, then correct the node address in the network configuration information.	Do not change the slave node addresses during operation.			
Attached infor-	None					
mation Precautions/ Remarks	 After you connect the slave where this error occurred to the network, if you reset the error before the value of _EC_EntrySlavTbl[] (Network Connected Slave Table) changes to TRUE of the connected slave, a Network Configuration Verification Error (Slave Unconnected) event occurs. If the assumed cause 1) to 5) occurred in the ring topology when the cable redundancy status was reset temporarily, also this error occurs. 					

^{*1.} This event code occurs for project unit version 1.40 or later.

^{*2. &}quot;n" is 512 for an NX701 CPU Unit, 256 for an NX502 CPU Unit, and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	Network Configur Slave Connected	ation Verification E)	rror (Unnecessary	Event code	84320003 hex*1			
Meaning	A slave that is no	A slave that is not in the network configuration information is connected.						
Source	EtherCAT Master	Function Module	Source details	Master/Slave	Detection timing	At power ON, at Controller reset, or during com- munications		
Error attributes	Level	Minor fault	Recovery	Error reset*2	Log category	System		
Effects	User program	Continues.	Operation	At power ON or O Master: Operation continu Slave: For slaves that ar uration informatio process data com For slaves that ar configuration info and process data During communio Master: Operation continu Slave: For slaves that ar uration informatio process data com For slaves that ar uration informatio process data com For slaves that ar configuration info and process data When Fail-soft Op At power ON or O Master: The master waits Slave: Message commu nications are not During communio Master: The master chang al state. Slave: For slaves that ar uration informatio output stop. The tings in the slave. For slaves that ar configuration info	re consistent with the numerications start. The not consistent with the remaining communications start. The numerications is reactions: The consistent with the numerications continue not consistent with the numerications successful to the controller reset: The linit state. The linit state. The linit state. The consistent with the numerications and processible. The consistent with the numerications and processible. The consistent with the numerications and processible. The consistent with the numerications and processible and processible. The consistent with the numerications and processible	ne network configunications and the network communications top. The network configunications and nue. The network communications and nue. The network communications top. The network configunications for displayed according to setting the network communications for displayed according to setting the network communications for displayed according to setting the network communications and the network		
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT		
			Flashes at 1-s into	ervals.				
			1					

System-de-	Variable	Data type	Name
fined variables	_EC_NetCfgCmpErr (When attached information 1 is 0001 hex)	BOOL	Network Configuration Verification Error
	_EC_NetTopologyErr (When attached information 1 is 0002 hex)	BOOL	Network Configuration Error
Cause and cor-	Assumed cause	Correction	Prevention
rection	A slave that is not in the network configuration information is connected. (When attached information 1 is 0001 hex)	Remove the slave that is not in the network configuration information, with focus on slaves connected to the slave shown in Source details.	Perform the compare and merge operation or use the network configuration information to confirm that the network configuration information on the Sysmac Studio is consistent with the actual network configuration.
	2) The maximum number of connected slaves was exceeded. (When attached information 1 is 0002 hex)	Remove EtherCAT slaves that are not in the network configuration information.	Use the network configuration information to confirm that the network configuration information on the Sysmac Studio is consistent with the actual network configuration.
	3) The wiring of slaves in the ring topology is incorrect.	Check the wiring of the slave shown in the Source details. If the error remains, temporarily remove the cable on the end port of the ring, and then make the corrections for the event occurred. In addition, you can perform the compare and merge operation in the Sysmac Studio to more efficiently make the corrections.	Confirm that there are no incorrect Ethernet cable connections.
Attached infor-	Attached information 1: Error Details		
mation	0001 hex: A slave that is not in the	e network configuration information is	connected.
	0002 hex: The maximum number		
		f the port to which the slave that is not	in the network configuration infor-
	mation is connected (When attached Attached information 3: System information 3:	· ·	
Precautions/	None		
Remarks			

^{*1.} This event code occurs for project unit version 1.40 or later.

^{*2.} It may be necessary to cycle the power supply.

Event name	Network Configur Slave)	ation Verification E	rror (Mismatched	Event code	84330004 hex*1		
Meaning	Slaves in the net	work configuration i	nformation and in t	he actual network	configuration do no	t match.	
Source	EtherCAT Master	Function Module	Source details	ing Controller rese		At power ON, at Controller reset, or during com- munications	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	When Fail-soft O At power ON or O Master: Operation starts. Slave: For slaves that an uration information process data come for slaves that an configuration information process data come for slaves that an uration information process data come for slaves that an uration information process data come for slaves that an uration information process data come for slaves that an uration information process data come for slaves that an uration information process data come for slaves that an uration stop. During communications stop. The master changal state. Slave: For slaves that an uration information output stop. The starting in the slave. For slaves that an configuration information information information information output stop. The starting in the slave. For slaves that an configuration information informa	peration Is Set to Fontroller reset: The consistent with the cons	re network configurations and the network communications top. The network configurations and nue. The network communications and nue. The network communications top. The network communications top. The network configurations for dispersions for disp	
				1	communications s		
Indicators	EtherCAT NET R	RUN	EtherCAT NET E		EtherCAT LINK/	ACT	
			Flashes at 1-s int	ervals.			
System-de-	Variable		Data type		Name		
fined variables	_EC_NetCfgCmp	Err	BOOL		Network Configur	ration Verification	
	_EC_CommErrTt	ol	ARRAY [1n] OF	BOOL *2	Communications	Error Slave Table	

Cause and cor-	Assumed cause	Correction	Prevention
rection	There is a node address mismatch. (When the attached information 1 is 0004 hex)	Change the node address of the EtherCAT slave so that it is consistent with the network configuration information.	Perform the compare and merge operation or use the network configuration information to confirm that the network configuration information on the Sysmac Studio is consistent with the actual network configuration.
	2) A slave that is different from the network configuration information is connected. (When the attached information 1 is not 0004 hex)	Check any mismatched items and change them so that the network configuration information is consistent with the physical slaves. When verification of the revision or serial number is not necessary or consistency is not required, review the values of Revision Check Method and Serial Number Check Method.	Perform the compare and merge operation or use the network configuration information to confirm that the network configuration information on the Sysmac Studio is consistent with the actual network configuration.
	3) The wiring of slaves in the ring topology is incorrect.	Check the wiring of the slave shown in the Source details. If the error remains, temporarily remove the cable on the end port of the ring, and then make the corrections for the event occurred. In addition, you can perform the compare and merge operation in the Sysmac Studio to more efficiently make the corrections.	Confirm that there are no incorrect Ethernet cable connections.
Attached information	Attached information 1: Item that is v 0000 hex: Vendor ID 0001 hex: Product code 0002 hex: Revision 0003 hex: Serial number 0004 hex: Slave node address	verified the mismatch.	
Precautions/ Remarks	None		

^{*1.} This event code occurs for project unit version 1.40 or later.

^{*2. &}quot;n" is 512 for an NX701 CPU Unit, 256 for an NX502 CPU Unit, and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	Slave PDI WDT E	Error Detected		Event code	84340000 hex*1		
Meaning	A slave PDI WDT	error was detected	d.				
Source	EtherCAT Master	Function Module	Source details	Slave	Detection timing Ing Controlle or during municati		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Master: Operation continuity Slave: For slaves with a cations and proced When Fail-soft Of Master: The master channal state. Slave: For slaves with a cations and proced For slaves without communications	n Fail-soft Operation Is Set to Fail-soft er: ation continues. : aves with a PDI WDT error, message communions and process data communications stop. In Fail-soft Operation Is Set to Stop er: Inaster changes all slaves to the Safe-Operation te.		
Indicators	EtherCAT NET R	UN	EtherCAT NET E		EtherCAT LINK/		
			Flashes at 1-s int				
System-de-	Variable		Data type		Name		
fined variables	_EC_PDCommErr		BOOL		Process Data Co	mmunications Er-	
	_EC_CommErrTbl		ARRAY [1n] OF BOOL *2		Communications Error Slave Table		
	_EC_PDActive		BOOL		Process Data Co Status	mmunications	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	One of the following.	ng 1) to 3) occur-					
	EtherCAT slave power supply voltage dropped		Check if the power of the slave device ped.		_	cified power with and frequency is s where the power	
	2) EtherCAT slave	e failure	Cycle the power supply to the slave. If this error persists, replace the slave.		None		
	No reply from the slave (For slaves that are manufactured by other companies only)		Cycle the power s slave. If this error the manufacturer	persists, contact	None		
Attached infor- mation	None						
Precautions/ Remarks	None						

^{*1.} This event code occurs for project unit version 1.40 or later.

^{*2. &}quot;n" is 512 for an NX701 CPU Unit, 256 for an NX502 CPU Unit, and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	Slave AL Status I	Error Detected		Event code	84360000 hex*1		
Meaning	An AL status erro	r was detected fror	n an EtherCAT slav	/e.			
Source	EtherCAT Master	Function Module	Source details	ing Controller or during of		At power ON, at Controller reset, or during com- munications	
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	When Fail-soft Operation Is Set to Fail-soft Master: Operation continues. Slave: For slaves with an application layer status error, status transition occurs depending on the application layer status. When Fail-soft Operation Is Set to Stop Master: The master changes all slaves to the Safe-Operational state. Slave: For slaves with an application layer status error, status transition occurs depending on the application layer status. For slaves without an application layer status error, process data communications for output stop. The output is processed according to settings in the slave.			
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT	
			Flashes at 1-s int	ervals.			
System-de-	Variable		Data type		Name		
fined variables	_EC_SlavAppErr		BOOL		Slave Application	Error	
	_EC_CommErrTt	ol	ARRAY [1n] OF	BOOL *2	Communications	Error Slave Table	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An error occurred on the EtherCAT slave side and the AL status code was reported by the EtherCAT slaves to the EtherCAT master.		Refer to the attached information 1 to check the AL status code of the slave where the error occurred. Refer to the manual for the slave to remove the cause of the error of the code and then reset the error.				
Attached information	Attached informa	tion 1: AL status co tion 2: System infor tion 3: System infor tion 4: System infor	ode rmation rmation				
Precautions/ Remarks	None	at writ version 4.40					

^{*1.} This event code occurs for project unit version 1.40 or later.

^{*2. &}quot;n" is 512 for an NX701 CPU Unit, 256 for an NX502 CPU Unit, and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	Clock Synchroniz	ation Compensatio	n Failed	Event code	84370000 hex*1		
Meaning	Clock synchroniza	ation with slaves fa	iled.				
Source	EtherCAT Master	Function Module	Source details	Master	Detection timing At power ON Controller resorduring communications		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	Master: Operation continu Slave: An error may occ	Operation continues. Slave: An error may occur in slaves. The error is processe according to settings in the slave.		
				Master: The master changal state. Slave: Process data con	ges all slaves to the nmunications for ou ed according to set	e Safe-Operation- atput stop. The	
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/ACT		
			Flashes at 1-s into	ervals.			
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The network configuration was changed during state transition.		Implement counter against the Illegal nection Detected	Slave Discon-	None		
	EtherCAT slave fa	ailure	Cycle the power s slave. If this error the slave.		None		
in the slave diagnostic and statistical information. It is considered that the slave was affected by noise in each location where an error frame was counted. Implement diagnostic and statistical the call that the slave was affected by noise in each location where an error frame was counted. Implement		If error frames are the master diagnocal information, re source or implem measures while of diagnostic and station.	ostic and statisti- emove the noise ent noise counter- hecking the slave				
Attached infor- mation	None				I.		
Precautions/ Remarks	None						

^{*1.} This event code occurs for project unit version 1.40 or later.

Event name	Network Configur connected)	ration Verification E	rror (Slave Un-	Event code	84380000 hex*1	
Meaning	A slave that is in	the network configu	uration information	is not connected.		
Source	EtherCAT Master	Function Module	Source details	Slave Detection tim- ing At power ON, at Controller reset, or during com- munications		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System
Effects	User program	Continues.	Operation	When Fail-soft O At power ON or O Master: Operation starts. Slave: For slaves that an uration information process data come for slaves that an configuration information process data come for slaves that an uration information process data come for slaves that an uration information process data come for slaves that an uration information process data come for slaves that an uration information and process data come for slaves that an uration information and process data come for slaves that an uration information are not During communications are not During communicatio	peration Is Set to Fontroller reset: The consistent with the one message communications start. The not consistent with the one message communications stations: The consistent with the one message communications continue not consistent with the one message communication station in the line state. The consistent with the one message communication is set to Secontroller reset: The line in the line state. The consistent with the one consistent with the consistent with the consistent with the consistent with the consistent with	ne network configunications and the network communications top. The network configunications and the network communications and the network communications top. The network configunications top. The network configunications for a coording to setting the network communications for a coording to setting the network communications.
Indicators	EtherCAT NET R	RUN	EtherCAT NET E		EtherCAT LINK/	-
			Flashes at 1-s int	ervals.		
System-de-	Variable		Data type		Name	
fined variables	_EC_NetCfgCmp		BOOL		Network Configur Error	
	_EC_CommErrTt	ol	ARRAY [1n] OF	BOOL *2	Communications	Error Slave Table
Cause and cor- rection	Assumed cause		Correction		Prevention	

1) The power supply to the slave is not turned ON. 2) The Ethernet cable connector is disconnected between the slaves. 3) The wait time for slave startup was exceeded because the link establishment was too slow or the power supply startup of the slaves was too long. 4) A non-recommended Ethernet cable is used to connect slaves. 5) The Ethernet cable is broken between slaves. 6) The contact of the connector on the Ethernet cable is used to connect slaves. 6) The contact of the connector on the Ethernet cable is have salve is slave is surrived from a master due to an incorrect wiring in the ring of slave sin the ring of the slave shown in the Source details. 8) Slaves cannot be recognized from a master due to an incorrect wiring in the ring topology. Correct the wiring of the slave shown in the Source details. 8) If the error remains, temporarily remove the cable connections. If this error orealize neter on former and merge operation in the Sysmac Studio to more efficiently make the corrections for the relevant slave. 8) Hardware failure of a slave Attached information After you connect the slave where this error occurred to the network, if you reset the error before the value of Precautions/ Precautions/ Remarks — (C. Entry/Slav/Tb/l] (Network Connected Slave Table) changes to TRUE of the connected slave, a Network Connected Slave Table) changes to TRUE of the connected slave, a Network Connected Slave Table) changes to TRUE of the connected Slave, a Network Connected Slave Table) changes to TRUE of the connected Slave, a Ne			
disconnected between the slaves. Set the wait time for slave startup was exceeded because the link establishment was too slow or the power supply startup of the slaves was too long. 4) A non-recommended Ethernet cable is used to connect slaves. 5) The Ethernet cable is broken between slaves. 5) The Ethernet cable is broken between slaves. 6) The contact of the connector on the Ethernet cable that connects slaves is faulty, or parts are faulty. 7) The wing of slaves in the ring topology is incorrect. 8	1		
was exceeded because the link establishment was too slow or the power supply startup of the slaves was too long. 4) A non-recommended Ethernet cable is used to connect slaves. 5) The Ethernet cable is broken between slaves. 6) The contact of the connector on the Ethernet cable that connects slaves is faulty, or parts are faulty. 7) The wiring of slaves in the ring topology is incorrect. 8 Slaves cannot be recognized from a master due to an incorrect wiring in the ring topology. Correct the wiring of the slave shown in the Source details. If the error remains, temporarily remove the cable not he end port of the ring on the actual network configuration, reset the error, and then make the corrections for the event occurred. 8) Hardware failure of a slave Attached information Precautions/ After you connect the slave where this error occurred to the network, if you reset the error before the value of	'		ble connector until it clicks into place. • Confirm that the Ethernet cable
cable is used to connect slaves. 5) The Ethernet cable is broken between slaves. 6) The contact of the connector on the Ethernet cable that connects slaves is faulty, or parts are faulty. 7) The wiring of slaves in the ring topology is incorrect. Slaves cannot be recognized from a master due to an incorrect wiring in the viring of the slave shown in the Source details. If the error remains, temporarily remove the cable on the end port of the ring on the actual network configuration, reset the error, and then make the corrections for the event occurred. In addition, you can perform the compare and merge operation in the Sysmac Studio to more efficiently make the corrections. 8) Hardware failure of a slave Attached information Precautions/ After you connect the slave where this error occurred to the network, if you reset the error before the value of	was exceeded because the link establishment was too slow or the power supply startup of the slaves		Same as the Correction.
between slaves. Detween slaves. Detween slaves. Detween slaves De	'		
the Ethernet cable that connects slaves is faulty, or parts are faulty. 7) The wiring of slaves in the ring topology is incorrect. Slaves cannot be recognized from a master due to an incorrect wiring in the ring topology. Correct the wiring of the slave shown in the Source details. If the error remains, temporarily remove the cable on the end port of the ring on the actual network configuration, reset the error, and then make the corrections for the event occurred. In addition, you can perform the compare and merge operation in the Sysmac Studio to more efficiently make the corrections. 8) Hardware failure of a slave Attached information None Atter you connect the slave where this error occurred to the network, if you reset the error before the value of	l '	Replace the Ethernet cable.	bles, use the cable tester or other devices to confirm that there is no broken cable. Refer to the Ether-CAT Network Wiring in the NJ/NX-series CPU Unit Built-in EtherCAT Port User's Manual (Cat. No.
7) The wiring of slaves in the ring topology is incorrect. Slaves cannot be recognized from a master due to an incorrect wiring in the ring topology. Correct the wiring of the slave shown in the Source details. If the error remains, temporarily remove the cable on the end port of the ring on the actual network configuration, reset the error, and then make the corrections for the event occurred. In addition, you can perform the compare and merge operation in the Sysmac Studio to more efficiently make the corrections. 8) Hardware failure of a slave If this error persists even after you cycle the power supply to the relevant slave, replace the slave. Attached information Precautions/ After you connect the slave where this error occurred to the network, if you reset the error before the value of	the Ethernet cable that connects	Replace the Ethernet cable.	None
cycle the power supply to the relevant slave, replace the slave. Attached information Precautions/ After you connect the slave where this error occurred to the network, if you reset the error before the value of	7) The wiring of slaves in the ring	a master due to an incorrect wiring in the ring topology. Correct the wiring of the slave shown in the Source details. If the error remains, temporarily remove the cable on the end port of the ring on the actual network configuration, reset the error, and then make the corrections for the event occurred. In addition, you can perform the compare and merge operation in the Sysmac Studio to more effi-	
Attached information Precautions/ After you connect the slave where this error occurred to the network, if you reset the error before the value of	8) Hardware failure of a slave	cycle the power supply to the rele-	None
	None		1
Configuration Verification Error (Slave Unconnected) event occurs.	_ <i>EC_EntrySlavTbl[</i>] (Network Conne	ected Slave Table) changes to TRUE o	

^{*1.} This event code occurs for project unit version 1.40 or later.

^{*2. &}quot;n" is 512 for an NX701 CPU Unit, 256 for an NX502 CPU Unit, and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	Network Configur Ring Wiring)	ation Verification E	rror (Incorrect	Event code	843A0000 hex*1		
Meaning	The ring topology	that is not set in th	e network configur	ation information, is	s configured on the	actual network.	
Source	EtherCAT Master	Function Module	Source details	Master	Master Detection tim- ing At power ON, Controller res or during com munications		
Error attributes	Level	Minor fault	Recovery	Error reset	Log category	System	
Effects	User program	Continues.	Operation	When Fail-soft Of At power ON or Of Master: Operation starts. Slave: For slaves that an uration information process data come For slaves that an configuration information process data come for slaves that an uration information process data come For slaves that an uration information process data come For slaves that an uration information process data come For slaves that an uration information process data come For slaves that an uration information and process data come Master: The master waits Slave: Message communications stop. During communications stop. During communications stop. During communications stop. For slave: Process data come For slaves that an uration information output stop. The composition information information output stop. The configuration information information information output stop. The configuration information info	peration Is Set to Facontroller reset: The consistent with the co	the network config- nunications and ith the network communications stop. the network config- nunications and nue. ith the network communications stop. Stop ess data commu- the network config- mmunications for d according to set- ith the network communications for d according to set- ith the network communications	
Indicators	EthorCAT NET D	l III	EthorCAT NET E		communications s		
Indicators	EtherCAT NET R	UN	EtherCAT NET E		EtherCAT LINK/	ACI	
System de	Variable		Flashes at 1-s int	ervais.	Namo		
System-de-	Variable		Data type		Name		
fined variables	None						

Cause and cor-	Assumed cause	Correction	Prevention		
Cause and correction	One of the following 1) to 2) occurred. 1) The ring topology configured on the actual network is not defined in the network configuration information. (When attached information 1 is 0)	Make corrections as described below: For how to correct errors for events related to the ring topology, refer to A-8 Correction of Wiring for the EtherCAT Ring Topology Based on Event on page A-300 in the appendices of the NJ/NX-series Troubleshooting Manual (Cat. No. W503). Temporarily remove the cable on the end port of the ring to efficiently make the corrections for the event occurred. You can also perform the compare and merge operation in the Sysmac Studio to more efficiently make the corrections. In the network configuration information, define the ring topology in the position where the ring topology in the actual network configuration is located.	Perform the compare and merge operation or use the network configuration information to confirm that the network configuration information on the Sysmac Studio is		
	2) The ring topology is configured in a different position from one that is defined in the network configuration information. (When attached information 1 is not 0)	Cancel the ring topology on the actual network and configure a ring topology in the position where it is defined in the network configuration information.	consistent with the actual network configuration. Same as the above		
Attached infor-	Attached information 1: Error Location		<u> </u>		
mation	 0: No ring topology is defined in the network configuration information Not 0: Node address of the originating slave of the ring in the network configuration information Attached information 2: Names of the start port and end port of the ring in the network configuration information (When attached information 1 is not 0) 				
Precautions/ Remarks	None				

^{*1.} This event code occurs for project unit version 1.40 or later.

Event name	Incorrect Wiring Detected		Event code	843C0000 hex*1		
Meaning	The wiring of an E	therCAT network is	s incorrect.	,		
Source	EtherCAT Master Function Module		Source details	Master	Detection timing	At power ON, at Controller reset, or during com- munications
Error attributes	Level	Minor fault	Recovery	Error reset*2	Log category	System
Effects	User program	Continues.	Operation	At power ON or O Master: The master waits Slave: Message commu nications stop. During communion Master: Operation continu Slave: Message commu nications may sto When Fail-soft O At power ON or O Master: The master waits Slave: Message commu nications stop. During communion Master: The master chang al state. Slave: Process data con output is process Message commu	in the Init state. nications and processations: ues. nications and processp. peration Is Set to Secontroller reset: in the Init state.	ess data commu- ettop. The tings in the slave. ess data commu-
Indicators	EtherCAT NET R	UN	EtherCAT NET E		EtherCAT LINK/	
			Flashes at 1-s into	ervals.		
System-de-	Variable		Data type		Name	
fined variables	_EC_NetTopology	/Err	BOOL		Network Configur	ation Error

Cause and cor-	Assumed cause	Correction	Prevention		
rection	Input ports or output ports are connected to each other.	Confirm that input ports and output ports are not connected to each other.	Confirm that there are no incorrect Ethernet cable connections.		
	Two or more ring topologies are configured.	Confirm that the wiring of the ring topology is not connected other than the attached information 1 and 2.			
	The start port of the ring and the end port of the ring are not combined correctly.	Confirm that the wiring of the ring topology is connected according to the attached information 1 and 2.			
	4) The wiring for the start port of the ring and one for the end port of the ring are reversed.	Confirm that the wiring of the ring topology is connected according to the attached information 1 and 2.			
	5) The wiring of a Junction Slave in the ring topology is incorrect.	For a Junction Slave in the ring topology, confirm that the input port and the last port are used for the wiring which is the trunk line in the ring topology.			
	6) A ring topology that is not in the network configuration information is on the actual network.	Correct the actual network configuration to agree with the network configuration information.			
Attached information					
	Node address of the slave whose wiring is not correct Note 1 It is 0 when the slave whose wiring is not correct cannot be identified. Note 1. If there is a ring topology in the actual network configuration, the node address of the slave whose wiring is not correct may not be displayed correctly. If the error location cannot be identified by the attached information 3 or the wiring for the slave shown in the attached Information 3 is correct, check that there is no error for each slave and cable. If you cannot identify the error location yet, temporarily remove the cable on the end port of the ring, and then make the corrections for the event occurred.				
Precautions/	None None	and orong south of the control of th			
Remarks					

^{*1.} This event code occurs for project unit version 1.40 or later.

^{*2.} It may be necessary to cycle the power supply.

Event name	Wait for Cycling Power Supply		Event code	94520000 hex*1		
Meaning	It is necessary to	cycle the power su	pply to the Control	er or reset the Con	troller for the recov	ery from an error.
Source	EtherCAT Master Function Module		Source details	Master	Detection tim- ing	*2
Error attributes	Level	Minor fault	Recovery	Cycle the power supply or reset the Controller.	Log category	System
Effects	User program	Continues.	Operation	*2		
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/ACT	
			Flashes at 1-s intervals.			
System-de-	Variable		Data type		Name	
fined variable	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An event, which is necessary to cycle the power supply or reset the Controller for the recovery, occurred.		Make the correcti	ons for the event		ntive measures for
	Controller for the			oply or reset the urrent errors in the Function Module luring the occur-	the event caused	by this event.
Attached infor-	Controller for the red.		cle the power sup Controller. The cu EtherCAT Master cannot be reset d rence of this ever	oply or reset the urrent errors in the Function Module luring the occur- nt.	the event caused	by this event.
Attached information	Controller for the red.	recovery, occur-	cle the power sup Controller. The cu EtherCAT Master cannot be reset d rence of this ever	oply or reset the urrent errors in the Function Module luring the occur- nt.	the event caused	by this event.
	Controller for the red.	recovery, occur-	cle the power sup Controller. The cu EtherCAT Master cannot be reset d rence of this ever	oply or reset the urrent errors in the Function Module luring the occur- nt.	the event caused	by this event.

^{*1.} This event code occurs for project unit version 1.40 or later.

^{*2.} According to the event caused by this event.

Event name	EtherCAT Slave B	•		Event code	102F0000 hex*1	
	(Ver. 1.03 or later	and project unit ve	rsion earlier than			
	1.40)*1					
Meaning	The backup opera	ation for an EtherC/	AT slave ended in a	an error.		
Source	EtherCAT Master	Function Module	Source details	Master	Detection tim-	During backup
					ing	operation
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
Indicators	EtherCAT NET R	RUN	EtherCAT NET E	RR	EtherCAT LINK/	ACT
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	There is no conne	ection between	Wire the EtherCA	T master and	Wire the EtherCA	AT master and
	the EtherCAT ma	ster and the slave	slave securely.		slave securely ar	nd make sure that
	(Link OFF).				a connection is e	stablished before
					you attempt to ba	ack up the data.
		an incorrect Ether-	Use the Sysmac		Back up the data	
	CAT master status.		Troubleshooter of an HMI to check		no EtherCAT errors.	
			for errors and eliminate any Ether- CAT errors.			
	The EtherCAT network configure		Make sure that network configura-		Pools up the data only when the	
	The EtherCAT network configuration information does not agree		tion information agrees with the		Back up the data only when the network configuration information	
	with the physical	•	physical network configuration. Connect the cable securely. Implement noise countermeasures if there is excessive ambient noise. If the situation does not improve, replace the EtherCAT slave.		agrees with the physical network configuration.	
	ration.	o o				
	The request to the	e EtherCAT slave			Connect the cable securely. Imple-	
	failed.				ment noise countermeasures if there is excessive ambient noise.	
	The Ether CAT was	antan wan taman	•		None	
	The EtherCAT master was temporarily unable to perform the processing because it was executing other processing.		Try backing up the data again.		None	
	Initialization of the EtherCAT slave		Connect any slaves that are dis-		Back up the data when the Ether-	
	failed.		connected. Use the Sysmac Studio or the Troubleshooter of an HMI to		CAT slave is part	icipating in the
					network and there	
			check for the follo	· ·		ected from the net-
			Slave Initialization plication Error, an		there is no Proce	up the data when
			Communications		nications Error.	ss Data Commu-
			any errors that yo		Thousand Error.	
	It was not possibl	e to read the	The ESI file may		None	
		ers from the Ether-	_ ·	of the slave if you		
	CAT slave.		can read all of the	=		
			1	parameters. If all		
			of the backup par			
			read, the EtherCAT slave is faulty.			
			Replace the EtherCAT slave.			

	Communications with an OMRON	Connect the cable securely. Mount	Connect the cable securely. Mount			
	Communications Coupler Unit or	the NX Unit securely. Implement	the NX Unit securely. Implement			
	NX Unit failed.	noise countermeasures if there is	noise countermeasures if there is			
		excessive ambient noise. If the	excessive ambient noise.			
		problem still exists, replace the				
		Communications Coupler Unit or				
		the NX Unit.				
Attached infor-	Attached Information 1: Error Details (The following values are in the order of the causes of the error.)					
mation	0001 hex: Link OFF					
	0002 hex: Incorrect master status					
	0003 hex: Configuration information	on does not agree with network config	uration.			
	0004 hex: The request to the Ethe	erCAT slave failed.				
	0005 hex: Master status temporar	rily prevented processing.				
	0006 hex: An error occurred in sla	ave initialization or a slave is disconne	cted from the network.			
	0007 hex: Reading the backup da	ita failed.				
	000B hex: Error at OMRON Comr	munications Coupler Unit				
	Attached Information 2: Error Location	on				
	0: Master					
	1 or higher: Slave node address					
	Attached Information 3: Error Location	on Details (only when attached information	ation 1 is 000B hex).			
	0: Communications Coupler Unit					
	1 to 63: Unit number of NX Unit					
	Attached Information 4: Cause of Err	ror at OMRON Communications Coup	ler Unit (only when attached infor-			
	mation 1 is 000B hex).					
	2: Communications with the Communications	munications Coupler Unit or NX Unit fa	ailed.			
Precautions/	None					
Remarks						

^{1.} This event code occurs for a CPU Unit with unit version 1.03 or later and project unit version earlier than 1.40. For project unit version 1.40 or later, refer to the description of the event code 10460001 hex.

^{*2. &}quot;n" is 512 for an NX701 CPU Unit, 256 for an NX502 CPU Unit, and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	EtherCAT Slave Restore Operation Failed (Ver. 1.03 or later and project unit version earlier than 1.40)*1			Event code	10300000 hex*1		
Meaning	The restore opera	ation for an EtherC	AT slave ended in a	an error.			
Source	EtherCAT Master Function Module		Source details	Master	Detection tim- ing	During restore operation	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Not affected.			
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/A	ACT	
System-de-	Variable		Data type		Name		
fined variables	None						
Cause and cor-	Assumed cause		Correction		Prevention		
rection	There is no conne	ection between	Wire the EtherCA	T master and	Wire the EtherCA	T master and	
	the EtherCAT ma	ster and the slave	slave securely.		slave securely, ar	nd make sure that	
	(Link OFF).				a connection is established before		
					you attempt to restore the data.		
	Wire the EtherCA		Use the Sysmac Studio or the		Restore the data when there are		
		nd make sure that	Troubleshooter of an HMI to check for errors and eliminate any Ether-CAT errors. Make sure that network configura-		no EtherCAT errors.		
	a connection is es						
	The EtherCAT ne				Restore the data only when the		
	tion information d	•	tion information agrees with the		network configuration information		
	with the physical	-	physical network configuration. Al-		agrees with the physical network		
	ration.		ways use a slave revision that is		configuration.		
			the same or higher than the slave				
			revision that was used when the				
			No check for the	p even if you set			
			Method for backu)-		
				nber Check Meth-			
			od and then back	up the data. If			
			you replace a sla	ve with the Serial			
			Number Check M				
			_	device, do not use			
			the restore function change the network	,			
			_	Studio, download			
			-	guration, and then			
			transfer the slave	-			
			the node address	is set on the			
			hardware switche				
			setting as when t	he data was			
			backed up.				

	The request to the EtherCAT slave failed. (When attached information 1 is 0004 hex)	Connect the cable securely. Implement noise countermeasures if there is excessive ambient noise. If the situation does not improve, execute the restore operation with restore function on the Sysmac Studio except for the EtherCAT slave. In this case, backup parameters are not restored to the EtherCAT slave. After the execution of the restore operation, transfer parameters to the EtherCAT slave with synchronization function on the Sysmac Studio. If the situation does not improve yet, replace the EtherCAT slave.	Connect the cable securely. Implement noise countermeasures if there is excessive ambient noise.
	The EtherCAT master was temporarily unable to perform the processing because it was executing other processing.	Try restoring the data again.	None
	Initialization of the EtherCAT slave failed.	Use the Sysmac Studio or the Troubleshooter of an HMI to check for the following errors: Slave Initialization Error, Slave Application Error, and Process Data Communications Error. Eliminate any errors that you find.	Restore the data when there is no Process Data Communications Error.
	It was not possible to write the backup parameters to the MX2/RX Series Inverter. (This applies only for unit version 1.10 or earlier of the CPU Unit.)	Download the parameters to the Inverter using the "To Drive" menu of the Sysmac Studio.	Data is sometimes not restored due to Inverter restrictions. If that occurs, download the parameters to the Inverter using the "To Drive" menu of the Sysmac Studio.
	It was not possible to write the backup parameters to the Ether-CAT slave.	The ESI file may be incorrect. Ask the manufacturer of the slave if you can write all of the parameters that are set as backup parameters. If all of the backup parameters can be written, the slave is faulty. Replace the slave.	None
	Incorrect backup data was detected.	Format the SD Memory Card with the Sysmac Studio and then place the backup files on it.	Do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit. Or, replace the SD Memory Card periodically according to the write life of the SD Memory Card.
	The EtherCAT network configuration in the backup data does not agree with the physical network configuration.	Make sure that the EtherCAT network configuration in the backup data agrees with the physical network configuration.	Make sure that the EtherCAT network configuration in the backup data agrees with the physical network configuration before you try to restore the data.

An error occurred at an OMRON Communications Coupler Unit. The following causes are possible.

- Reading a backup file failed at the Communications Coupler Unit (when attached information 4 is 1).
- Communications with the Communications Coupler Unit or NX
 Unit failed (when attached information 4 is 2).
- The Unit Configuration of the NX Units in the Communications Coupler Unit when data was backed up did not agree with the actual configuration of NX Units (when attached information 4 is 3).

- Try backing up the data again (when attached information 4 is 1).
- Connect the cable securely.
 Mount the NX Unit securely. Implement noise countermeasures if there is excessive ambient noise. If the problem still exists, replace the Communications Coupler Unit or the NX Unit (when attached information 4 is 2).
- Make the Unit Configuration of the NX Units in the Communications Coupler Unit when data was backed up agree with the actual configuration of NX Units (when attached information 4 is 2 or 3).
- Correct the hardware switches on the Communications Coupler Unit so that they are the same as when the data was backed up (when attached information 4 is 3).

- Format an SD Memory Card with the Sysmac Studio and then place the backup file on it. Also, do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit (when attached information 4 is 1).
- Connect the cable securely.
 Mount the NX Unit securely. Implement noise countermeasures if there is excessive ambient noise (when attached information 4 is 2).
- Restore the data while the Unit Configuration of the NX Units in the Communications Coupler Unit agrees with the actual configuration of NX Units (when attached information 4 is 2 or 3).
- Restore the data while the hardware switches on the Communications Coupler Unit are the same as when the data was backed up (when attached information 4 is 3).

Attached information

Attached Information 1: Error Details (The following values are in the order of the causes of the error.)

- 0001 hex: Link OFF
- 0002 hex: Incorrect master status
- 0003 hex: Configuration information does not agree with network configuration.
- 0004 hex: The request to the EtherCAT slave failed.
- · 0005 hex: Master status temporarily prevented processing.
- 0006 hex: An error occurred in slave initialization.
- 0007 hex: Writing the backup data failed.
- 0008 hex: The backup data is not correct.
- · 0009 hex: The network configuration does not agree with the network configuration in the backup data.
- 000A hex: The service is not supported
- 000B hex: Error at OMRON Communications Coupler Unit

Attached Information 2: Error Location

- 0: Master
- 1 or higher: Slave node address

Attached Information 3: Error Location Details (only when attached information 1 is 000B hex).

- 0: Communications Coupler Unit
- 1 to 63: Unit number of NX Unit

Attached Information 4: Cause of Error at OMRON Communications Coupler Unit (only when attached information 1 is 000B hex).

- 1: Reading the backup file failed.
- 2: Communications with the Communications Coupler Unit or NX Unit failed.
- 3: The Unit Configuration does not agree with the Unit Configuration in the backup data.

Precautions/ Remarks

None

^{*1.} This event code occurs for a CPU Unit with unit version 1.03 or later and project unit version earlier than 1.40. For project unit version 1.40 or later, refer to the description of the event code 10460001 hex.

Event name	EtherCAT Slave I	Backup Failed		Event code	10460001 hex*1	
		ion 1.40 or later)*1			104000011102	
Meaning	· · ·		AT slave ended in a	an error.		
Source	EtherCAT Master Function Module		Source details	Master	Detection tim- ing	During backup operation
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
Indicators	EtherCAT NET R	RUN	EtherCAT NET E	RR	EtherCAT LINK/	ACT
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection	One of the following 1) to 5) occurred. Identify the cause of the error according to the attached information 1. 1) The EtherCAT master cannot start backup. (When the attached information 1 is 0002 hex)					
			you cannot perfortion. Identify the emake the correction the information or occurred in the co	ons port or master, rm backup opera- error cause and on according to n the event that	Refer to the information event that occurrent preventive measures.	ed, and implement
2) It was not possible to read the backup parameters to the Ether-CAT slave. (When the attached information 1 is 0007 hex)		you can read all of that are set as ba	ackup parameters ayed on the Back- it Pane for the arameter Edit parameters that specific order	Same as the Cor	rection.	

	(When the attached information 1 is 0004 hex) 4) Communications with an OM-RON Communications Coupler Unit or NX Unit failed. (When the attached information 1 is 000B hex) 5) Backup was executed for a disconnected slave. (When the attached information 1 is 0006 hex)	occurred in the master, slave, OMRON Communications Coupler Unit, or NX Unit. Identify the error cause and make the correction according to the information on the event that occurred. b. There is a possibility that read- ing the backup parameters failed due to a contact failure of the connector, connection failure of the cable, or noise. Check the number of error frames in the slave diagnostic and statistical information. If the error frame is counted, the contact failure of the connec- tor, connection failure of the cable, or noise may be occur- red in the location where an er- ror frame was counted. Imple- ment countermeasures such as reconnect the connector or cable, or remove the noise source while checking the slave diagnostic and statistical information. Connect any slaves that are dis- connected.	b. Make sure that error frames are no longer counted in the slave diagnostic and statistical information. If the error frame is counted, implement countermeasures such as reconnecting the connector or cable or removing the noise source while checking the slave diagnostic and statistical information. Back up the data when there are no disconnected slaves.
Attached information	Attached Information 1: Error Details 0002 hex: Incorrect master status 0004 hex: The request to the Ethe 0006 hex: A slave is disconnected 0007 hex: Reading the backup da 0008 hex: Error at OMRON Commattached Information 2: Error Location 0: Master Not 0: Slave node address Attached information 3: Error Location When the attached information 1 in 0: OMRON Communications Cound Not 0: Unit number of NX Unit Index or subindex of CoE, when the Attached information 4: Cause of the When the attached information 1 in 2: Communications with the Communications with the Communications with the Communication 4 in Abort code, when the attached information 1 in 2: Communications with the attached information 1 in 2: Communications with the attached information 1 in Abort code, when the attached information 1 in Abort code information 2 in Abort code information 1 in Abort code information 2 in Abort code information 1 in Abort code information 2 in Abort code information 1 in Abort code information 2 in Abort code in Abort		
Precautions/ Remarks	None		

- *1. This event code occurs for project unit version 1.40 or later. For a CPU Unit with unit version 1.03 or later and project unit version earlier than 1.40, refer to the description of the event code 102F0000 hex.
- *2. "n" is 512 for an NX701 CPU Unit, 256 for an NX502 CPU Unit, and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	EtherCAT Slave I	Restore Operation I	Eailed	Event code	40.4700001 *1	
Lvent name		ion 1.40 or later)*1	alled	Lveiit code	10470002 hex*1	
Mooning		ation for an EtherC	AT clave anded in a	n orror		
Meaning Source	EtherCAT Master		Source details		Detection tim-	During rooters
Source	EtherCAT Master	Function Module	Source details	Master	ing	During restore operation
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Not affected.		
Indicators	EtherCAT NET R	RUN	EtherCAT NET E	RR	EtherCAT LINK/	ACT
System-de-	Variable		Data type		Name	
fined variables	None					
Cause and cor-	Assumed cause		Correction		Prevention	
rection						
			The restore operation cannot be started due to the other event that is being occurred in the EtherCAT Function Module. Check the event that is being occurred, identify the error cause and make the correction.		Refer to the information on the event that occurred, implement preventive measures for the error cause, and then execute the restore operation.	
			If any of the followidentify the error of the correction according to the correction according to the correction on the correction on the correction of the	cording to the in- event that occur. guration Verifica- re Unconnected) guration Verifica- matched Slave) guration Verifica- rrect Wiring) guration Verifica- rrect Ring Wiring) sconnection De-	Make sure that the work configuration data agrees with work configuration store the data.	n in the backup the physical net-
	3) It was not possible to write the backup parameters to the Ether-CAT slave. (When the attached information 1 is 0007 hex)		Ask the manufacturer of the slave if you can write all of the parameters that are set as backup parameters in the order displayed on the Backup Parameter Edit Pane for the slave. On the Backup Parameter Edit Pane, sort the parameters if they must be written in a certain order and delete any parameters that cannot be written.		None	

1	_			
4) The request to the EtherCAT slave failed. (When the attached information 1 is 0004 hex)	b.	Identify the error cause and make the correction according to the information on the event that occurred in the EtherCAT slave. Check the number of error frames in the slave diagnostic and statistical information. Check whether the contact failure of the connector, connection failure of the cable, or noise occurred in the location where an error frame was counted and implement countermeasures.	a.	Refer to the information on the event occurred, and implement preventive measures for the error cause. Make sure that error frames are no longer counted in the diagnostic and statistical information for the master and slaves. If the error frame is counted, check whether the connection failure of the cable, contact failure of the connector, or noise occurred and implement countermeasures.
5) Incorrect backup data was detected. (When the attached information 1 is 0008 hex)	If y aga wit	eate the backup files again. You fail to create the backup files ain, format the SD Memory Card the Sysmac Studio and then the backup files on it.	Ca wh Or, per	not remove the SD Memory rd or turn OFF the power supply ile the SD BUSY indicator is lit. replace the SD Memory Card riodically according to the write of the SD Memory Card.

6) An error occurred at an OMRON Communications Coupler Unit. (When attached information 1 is 000B hex)

The following causes are possible.

- Reading a backup file failed at the Communications Coupler Unit (when attached information 4 is 1).
- Communications with the Communications Coupler Unit or NX
 Unit failed (when attached information 4 is 2).
- The Unit Configuration of the NX Units in the Communications Coupler Unit when data was backed up did not agree with the actual configuration of NX Units (when attached information 4 is 3).

 (When attached information 4 is 1)

Try backing up the data again.

- When attached information 4 is
 2
 - A communication is not possible with the Communications Coupler Unit due to an event that occurred in the master or the Communications Coupler Unit. Identify the cause and make the correction according to the information on the event that occurred.
 - b) Mount the NX Unit securely.
 - c) Check the number of error frames in the slave diagnostic and statistical information. Check whether the contact failure of the connector, connection failure of the cable, or noise occurred in the location where an error frame was counted and implement countermeasures.
 - d) If the above situation a) to
 d) does not improve, replace the Communications
 Coupler Unit or the NX Unit.

If the problem still exists after you make the corrections a) to d), replace the Communications Coupler Unit or the NX Unit.

- When attached information 4 is
 3
 - a) Make the Unit Configuration of the NX Units in the Communications Coupler Unit when data was backed up agree with the actual configuration of NX Units.
 - b) Correct the hardware switches on the Communications Coupler Unit so that they are the same as when the data was backed up.

- When attached information 4 is
 - a) Do not edit the backup files.
 - b) Format an SD Memory Card with the Sysmac Studio and then place the backup file on it. Also, do not remove the SD Memory Card or turn OFF the power supply while the SD BUSY indicator is lit.
- When attached information 4 is
 2
 - a) Take preventive measures for the cause of the event that occurred in the master or the Communications Coupler Unit.
 - b) Mount the NX Unit securely.
 - c) Refer to (b) in 4) above.
- (When attached information 4 is 3)

Restore the data while the hardware switches on the Communications Coupler Unit are the same as when the data was backed up.

Attached infor-	Attached Information 1: Error Details
mation	0002 hex: The restore operation failed to start.
	0004 hex: The request to the EtherCAT slave failed.
	0007 hex: Writing the backup data failed.
	0008 hex: The backup data is not correct.
	0009 hex: The network configuration does not agree with the network configuration in the backup data.
	000B hex: Error at OMRON Communications Coupler Unit
	Attached Information 2: Error Location
	0: Master
	Not 0: Slave node address
	Attached information 3: Error Location Details
	When the attached information 1 is 000B hex
	0: OMRON Communications Coupler Unit
	Not 0: Unit number of NX Unit
	Index or subindex of CoE, when the attached information 1 is 0007 hex
	Attached information 4: Cause of the error
	When the attached information 1 is 000B hex
	1: Reading the backup file failed.
	2: Communications with the Communications Coupler Unit or NX Unit failed.
	3: The Unit Configuration does not agree with the Unit Configuration in the backup data.
	Abort code, when the attached information 1 is 0007 hex
Precautions/	None
Remarks	

^{*1.} This event code occurs for project unit version 1.40 or later. For a CPU Unit with unit version 1.03 or later and project unit version earlier than 1.40, refer to the description of the event code 10300000 hex.

Event name	Emergency Mess	age Detected		Event code	64200000 hex		
Meaning	An emergency m	essage was detect	ed.				
Source	EtherCAT Master	Function Module	Source details	Slave	Detection tim- ing	During commu- nications	
Error attributes	Level	Observation	Recovery		Log category	System	
Effects	User program	Continues.	Operation	Slave: An error occurred	. Other operation is	. Other operation is not affected.	
Indicators	EtherCAT NET F	RUN	EtherCAT NET E	RR	EtherCAT LINK/	ACT	
System-de-	Variable		Data type	Data type		Name	
fined variables	_EC_SlavEmergl	Err	BOOL		Emergency Message Detected		
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An emergency m ceived from a sla	J	Refer to the attact to check the eme the slave where the Refer to the manuremove the cause the code and there.	rgency code of the error occurred. Lead for the slave to the of the error of	Refer to the mani take preventive n	ual for the slave to neasures.	
Attached infor- mation	Attached informa		gency code register object value gency data. Only the lower five bytes are valid.				
Precautions/ Remarks	None			·			

Event name	EtherCAT Messa	ge Error		Event code	842D0000 hex*1	
Meaning	An error occurred	l in a message com	nmunications with th	ne slave.		
Source	EtherCAT Master	Function Module	Source details	Master	Detection tim- ing	During commu- nications
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation	Operation Slave: An error occurred.		s not affected.
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/ACT	
System-de-	Variable		Data type		Name	
fined variables	_EC_MsgErr		BOOL		EtherCAT Messa	ge Error
Cause and cor-	Assumed cause		Correction		Prevention	
rection	Refer to the attacto check the error		send messages of support the mess Identify the error error details that a attached informat the message.	message with the are given in the	Use messages that match the slave specifications. Also check to make sure that messages are addressed to the correct node.	
Attached infor-	Attached Informa	tion 1: Error Details	3			
mation	sage with illegate sage with illegate 2nd byte: For Transmissi 0F hex: VoE For Reception: hex: VoE Attached informate	al destination addression: 00 hex: Error, (80 hex: Error, 81 h tion 2: Source node tion 3: Transmissio	ess discarded O1 hex: VoE (AoE), nex: VoE (AoE), 82 e address. If the dean destination node	legal or unsupporte 02 hex: EoE, 03 he hex: EoE, 83 hex: 0 stination is the mas address. If the dest valid only when byt	ex: CoE, 04 hex: Fo CoE, 84 hex: FoE, ter: 0 ination is the mast	oE, 05 hex: SoE, 85 hex: SoE, 8F er: 0
Precautions/	None					
Remarks						

^{*1.} This event code occurs for project unit version earlier than 1.40.

Event name	Illegal Mailbox Re	eceived		Event code	84350000 hex*1		
Meaning	An illegal mailbox	was received from	ı a slave.				
Source	EtherCAT Master	Function Module			Detection tim- ing	During commu- nications	
Error attributes	Level	Observation	Recovery Error reset L		Log category	System	
Effects	User program	Continues.	Operation	Operation is not a	affected.		
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT	
System-de-	Variable		Data type		Name		
fined variables	_EC_MsgErr		BOOL		EtherCAT Message Error		
Cause and cor-	Assumed cause	Assumed cause C		Correction		Prevention	
rection	A message with illegal destination		Confirm that the destination of the		Confirm that the destination of the		
	address was received from a slave.		message is an EtherCAT slave that				
	(When attached i	nformation 1 is	is in the network of	configuration in-	is in the network configuration in-		
	0002 hex)			he message to an	formation.		
			EtherCAT slave the				
			work configuration	n information.			
Attached infor-	Attached Informa	tion 1: Error Details	3				
mation		0	estination address r	eceived			
		System information					
	Attached informat	tion 2: Source slave	e node address				
	Attached informat	tion 3: Destination s	slave node address	(If the source is th	e master: 0)		
	Attached informat	tion 4: System infor	mation				
Precautions/	None						
Remarks							

^{*1.} This event code occurs for project unit version 1.40 or later.

Event name	Ring Disconnection	on Detected		Event code	84390000 hex*1	
Meaning	A ring disconnect	ion status was dete	ected.			
Source	EtherCAT Master	Function Module	Source details	Master	Detection timing	At power ON, a Controller reset or during com- munications
Error attributes	Level	Observation	Recovery		Log category	System
Effects	User program	Continues.	Operation Master: Operation continue Slave: Process data com		ues.	nue.
Indicators	EtherCAT NET R	RUN	EtherCAT NET E	RR	EtherCAT LINK/	ACT
System-de-	Variable		Data type		Name	
fined variables	_EC_RingBreakir		BOOL		Ring Disconnecti	
	_EC_RingBreakN	lodeAdr	UINT		Slave Node Addr Disconnection	ess Before Ring
Cause and cor-	Assumed cause		Correction		Prevention	
rection One of the following 1) to 5) occurred in the ring topology.		topology. For how to correct related to the ring A-8 Correction of EtherCAT Ring T Event on page A pendices of the N	between the ttached informa- xt slave in the ring ct errors for events g topology, refer to f Wiring for the copology Based on -300 in the ap-			
	An Ethernet can nected.	ıble was discon-	Connect the cabl	e.	None	
	2) An Ethernet cable connector between slaves is disconnected.		Connect the connector.		 Firmly connect the Ethernet connector until it clicks into place. Confirm that the Ethernet connector is mated securely. 	
	3) A non-recommused.	ended cable was	Replace the Ethe recommended or	ernet cable with a ne.	Use recommended cables.	
	4) The Ethernet cable is broken between slaves.		Replace the Ethe	ernet cable.	bles, use the cab devices to confirr broken cable. Ch Network Wiring in CPU Unit Built-in	m that there is no leck the EtherCAT in the NJ/NX-serie. EtherCAT Port Cat. No. W505) for
	5) The contact of ble connector is faulty.		Replace the Ethernet cable.		None	
Attached infor- mation	Attached informa	tion 1: Slave node	address before poi	nt of break		
Precautions/ Remarks	None					

^{*1.} This event code occurs for project unit version 1.40 or later.

Event name	Slave Disconnect	ed		Event code	94400000 hex	
Meaning	A slave was disco	nnected for a disc	onnection comman	d.		
Source	EtherCAT Master	Function Module	Source details	ing connecti specified		When slave disconnection is specified during communications
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation	For project unit version earlier than 1.40: Master: The master changes the slave to the Init state. Slave: Message communications and process data comm nications are not possible. For project unit version 1.40 or later: Master: The master changes the slave to the Pre-Operation state. Slave: Message communications are possible. Process data communications are not possible.		
Indicators	EtherCAT NET R	UN	EtherCAT NET ERR		EtherCAT LINK/	ACT
System-de-	Variable		Data type		Name	
fined variables	_EC_DisconnSlav	/Tbl	ARRAY [1n] OF BOOL *1		Disconnected Slave Table	
	_EC_PDSlavTbl	_EC_PDSlavTbl		.n] OF BOOL *1 Process Data Communical Slave Table		mmunicating
	_EC_MBXSlavTb	I	ARRAY [1n] OF	BOOL *1 Message Communications I		ınications Ena-
	_EC_PDActive		BOOL		Process Data Co Status	mmunications
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An operation to di slave was execute mac Studio.					
	The EC_Disconne					
Attached infor- mation	None					
Precautions/ Remarks	None					

^{*1. &}quot;n" is 512 for an NX701 CPU Unit, 256 for an NX502 CPU Unit, and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	Slave Connected			Event code	94410000 hex	
Meaning	A slave was reco	nnected for a recor	nection command.			
Source	EtherCAT Master	Function Module	Source details	Slave	Detection timing	When slave re- connection is specified during communications
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	state. Slave:		ges the slave to the Operational nications and process data commupossible.	
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT
System-de-	Variable		Data type		Name	
fined variables	_EC_DisconnSla	vTbl	ARRAY [1n] OF BOOL *1		Disconnected Sla	ave Table
	_EC_PDSlavTbl		ARRAY [1n] OF BOOL *1		Process Data Communicating Slave Table	
	_EC_MBXSlavTbl		ARRAY [1n] OF BOOL *1		Message Communications Ena- bled Slave Table	
	_EC_PDActive		BOOL		Process Data Communications Status	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An operation to re slave was execut mac Studio.					
	The EC_Connect was executed.	Slave instruction				
Attached information	None					
Precautions/ Remarks	None					

^{*1. &}quot;n" is 512 for an NX701 CPU Unit, 256 for an NX502 CPU Unit, and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	Error Reset			Event code	94430000 hex		
Meaning	A command was	received to reset e	rrors.		•		
Source	EtherCAT Master	Function Module	Source details	Master	Detection tim- ing	When errors are reset	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	fied again. If the ofter changes the stopped to the Op Slave:	error is not detected slave for which com- perational state. he error occured, man	are reset and the network is veri- rror is not detected again, the mas- ave for which communications were erational state. e error occured, message communi- ss data communications are possi-	
Indicators	EtherCAT NET R	UN	EtherCAT NET ERR		EtherCAT LINK/ACT		
System-de-	Variable		Data type		Name		
fined variables	_EC_PDSlavTbl		ARRAY [1n] OF BOOL *1		Process Data Communicating Slave Table		
	_EC_MBXSlavTbl		ARRAY [1n] OF BOOL *1		Message Communications Ena- bled Slave Table		
	_EC_CommErrTb	ol	ARRAY [1n] OF BOOL *1		Communications Error Slave Table		
	_EC_PDActive		BOOL		Process Data Co Status	mmunications	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	An error reset operation formed from the S	-					
	The ResetECErro	or instruction was					
Attached information	- None						
Precautions/ Remarks	None						

^{*1. &}quot;n" is 512 for an NX701 CPU Unit, 256 for an NX502 CPU Unit, and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	Slave Disabled			Event code	94440000 hex*1		
Meaning	The EtherCAT Sla	ave was disabled.					
Source	EtherCAT Master	Function Module	Source details	Slave	Detection tim- ing	At execution of setting instruction	
Error attributes	Level	Information	Recovery		Log category	Access	
Effects	User program	Continues.	Operation	Master:			
				The master changes the relevent slave to the Pre-Operational state. Slave: Message communications are possible. Process data			
				communications are not possible.			
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/ACT		
System-de-	Variable		Data type		Name		
fined variables	_EC_PDSlavTbl		ARRAY [1n] OF	BOOL *2	Process Data Communicating Slave Table		
	_EC_DisableSlav	Tbl	ARRAY [1n] OF	BOOL *2	Disabled Slave Ta	able	
Cause and cor-	Assumed cause		Correction		Prevention		
rection	The EC_Changel struction was exe	•					
Attached infor- mation	None		•		•		
Precautions/	None						
Remarks							

^{*1.} This event code occurs for unit version 1.04 or later of the CPU Unit.

^{*2. &}quot;n" is 512 for an NX701 CPU Unit, 256 for an NX502 CPU Unit, and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	Slave Enabled			Event code	94450000 hex*1	
Meaning	The EtherCAT sla	ive was enabled.				
Source	EtherCAT Master	Function Module	Source details Slave		Detection tim- ing	At execution of setting instruction
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation	Master: The master changes the relevent slave to the Opera tional state again. Slave: Message communications and process data commu		
				nications are pos		
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT
System-de-	Variable		Data type		Name	
fined variables	_EC_PDSlavTbl		ARRAY [1n] OF	BOOL *2	Process Data Communicating Slave Table	
	_EC_DisableSlav	Tbl	ARRAY [1n] OF	BOOL *2	Disabled Slave Ta	able
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The EC_Changel struction was exe	•				
Attached infor- mation	None					
Precautions/ Remarks	None					

^{*1.} This event code occurs for unit version 1.04 or later of the CPU Unit.

^{*2. &}quot;n" is 512 for an NX701 CPU Unit, 256 for an NX502 CPU Unit, and 192 for the NX102, NX1P2, and NJ-series CPU Units.

Event name	EtherCAT Diagno	sis/Statistics Log S	Started	Event code	94500000 hex*1	
Meaning	EtherCAT diagno	sis/statistics log is	started.			
Source	EtherCAT Master Function Module Source details		Master	Detection timing	When EtherCAT diagnosis/statistics log is started	
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation	The response times slaves will be ext	ne to non-synchron ended.	ous EtherCAT
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/ACT	
System-de-	System-de- Variable		Data type		Name	
fined variables	_EC_StatisticsLogEnable		BOOL		Diagnosis/Statistics Log Enable	
	_EC_StatisticsLo	gBusy	BOOL		Diagnosis/Statistics Log Busy	
Cause and cor-	Assumed cause		Correction		Prevention	
rection	The value of the _EC_StatisticsLog defined variable of FALSE to TRUE.	•				
Attached infor-	Attached information	tion 1: Automatic sa	aving interval to the	SD Memory Card	for the diagnosis/s	tatistics log
mation	0: One-shot Mo	ode				
	Not 0: Interval (sec)					
Precautions/	None					
Remarks						

^{*1.} This event code occurs for unit version 1.11 or later of the CPU Unit.

Event name	EtherCAT Diagno	sis/Statistics Log E	nded	Event code	94510000 hex*1	
	_				943 10000 flex	
Source Source	EtherCAT Master	sis/statistics log is of Function Module	Source details	Master	Detection timing	When EtherCAT diagnosis/statistics log is ended
Error attributes	Level	Information	Recovery		Log category	Access
Effects	User program	Continues.	Operation	Not affected.		
Indicators	EtherCAT NET R	UN	EtherCAT NET E	RR	EtherCAT LINK/	ACT
System-de-	Variable		Data type		Name	
fined variables	_EC_StatisticsLo	gEnable	BOOL		Diagnosis/Statisti	cs Log Enable
	_EC_StatisticsLo	gBusy	BOOL		Diagnosis/Statisti	cs Log Busy
	_EC_StatisticsLo	gErr	BOOL		Diagnosis/Statisti	cs Log Error
Cause and cor-	Assumed cause		Correction		Prevention	
rection	An error that caus agnosis/statistics red.					
Attached information	O: One-shot Mo Not 0: Interval Attached informat 1: The value of 2: The 1000th 3: The SD Men 4: The SD Men 5: The SD Men 6: Synchroniza 7: An invalid vastatistics log. 8: The diagnostion instruction	ode (sec) (ion 2: Causes to e the _EC_Statistics record was saved i mory Card does not mory Card is write p mory Card cannot b tion (download) or alue was specified is/statistics log was (EC_GetMasterSta	t have sufficient ava- protected. be recognized. Clear All Memory of to the automatic sa s executed during e atistics or EC_Clea	osis/statistics log adefined variable of ailable space to save operation is execute ving interval to the execution of a mast rMasterStatistics),	hanged from TRUE ve another records ed. SD Memory Card f er diagnostic and s or a slave diagnost	E to FALSE. in the log file. for the diagnosis/
Drescutions/		truction (EC_GetSl	aveStatistics or EC	ClearSlaveStatist	ics).	
Precautions/ Remarks	None					

^{*1.} This event code occurs for unit version 1.11 or later of the CPU Unit.

3-9 Errors in the OPC UA Function

This section provides tables of the errors (events) that can occur with the OPC UA function. Refer to *NJ/NX-series CPU Unit OPC UA User's Manual (Cat. No. W588)* for information on the unit versions of CPU Units with which you can use the OPC UA function and corresponding Sysmac Studio versions.

3-9-1 Error Tables

OPC UA Server Function

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
15000000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□□, NX701-1□□□]	Execution Log Save Failed	Failed to save the Execution Log to the SD Memory Card.	 An SD Memory Card is not inserted. The SD Memory Card type is not correct. The format of the SD Memory Card is not correct. The SD Memory Card is write protected. The SD Memory Card does not have sufficient available space. The SD Memory Card is damaged. 			0	•		page 3-812
35D00000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□□, NX701-1□□□]	OPC UA Server Set- ting Error	The OPC UA Server Settings are incorrect.	 The power supply to the Controller was interrupted while the OPC UA Server Settings were being transferred. The power supply to the Controller was interrupted during a Clear All Memory operation. The OPC UA Server settings are not correct because the Controller was interrupted during a restore operation. TCP port number is duplicated. 			0			page 3-813
35D10000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□□, NX701-1□□□]	Server Cer- tificate Ex- pired	The server certificate expired.	The period that is set in the server certificate expired.			0	•		page 3-814

					- 1	_eve	ıl.		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
44180000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□□, NX701-1□□□]	OPC UA System Processing Error	A fatal error was detected in the OPC UA Server.	A soft error occurred.			0			page 3-814
44190000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□□, NX701-1□□□]	OPC UA Server Insuf- ficient Mem- ory Capacity	The amount of variable data to be published has exceeded the amount of OPC UA server specification.	The amount of variable data to be published has exceeded the amount of OPC UA server specification.			0			page 3-819
15020000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□, NX701-1□□□]	Server Certificate Mismatch	The IP address of the server certificate in the CPU Unit is not the same as that of the built-in EtherNet/IP port on the CPU Unit.	The IP address of the built-in EtherNet/IP port of the CPU Unit was changed when the OPC Server Use Option is set to Use. • The IP address was changed by the ChangeIPAdr (Change IP Address) instruction. • If the IP address setting method was Obtain from BOOTP server, the IP address was changed when the power is turned ON. • A project containing a different IP address for the built-in EtherNet/IP port of the CPU Unit was downloaded to the CPU Unit.				0		page 3-815
35D20000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□□, NX701-1□□□]	Server Cer- tificate Expi- ration Notice	The server certificate is close to expiring.	The period that is set in the server certificate is close to ex- piring.			•	0		page 3-816
35D30000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□, NX701-1□□□]	Too Many Public Varia- bles	The number of variables that can be published to the OPC UA client exceeded the upper limit when the OPC UA Server was prepared.	When the OPC UA Server pre- pared the address space, the number of OPC UA variables exceeded the upper limit.				0		page 3-816

			Level			el .			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
35D40000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□□, NX701-1□□□]	Unsupported Data Type/ Invalid Data	When the OPC UA server was built, variables or nodes with a data type that cannot be published to the OPC UA client were included.	Variables to be published had data types not yet supported by the OPC UA server. Or, reserved words for node names that cannot be published in the OPC UA address space were used for nodes corresponding to global variables, program names, and user-defined data type names. Unsupported data types and invalid data are as follows. Multidimensional array specified structure Structure containing multidimensional array(s) as member(s) Structure whose nesting number exceeds the limit value Union Array whose start number is not 0; e.g., Array[25] Variable whose size exceeds the limit value Array whose number of elements exceeds the limit value Structure whose number of members exceeds the limit value Registered variable IDs are used. Unable to create namespace nodes				0		page 3-817
35D50000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□, NX701-1□□□]	Too Many Public Value Attributes	The number of value attributes to be published to the OPC UA client exceeded the upper limit when the OPC UA Server was prepared.	When the OPC UA Server pre- pared the address space, the number of OPC UA value at- tributes has exceeded the up- per limit.				0		page 3-818

					ı	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
35D60000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□□, NX701-1□□□]	Too Many Structure Definitions	The number of structure definitions to be published to the OPC UA client exceeded the upper limit when the OPC UA Server was prepared.	When the OPC UA Server pre- pared the address space, the number of structure definitions has exceeded the upper limit.				0		page 3-819
85600000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□□, NX701-1□□□]	OPC UA Cli- ent Connec- tion Reject- ed	A connection request from an OPC UA client was rejected.	 User authentication information was incorrect. The client certificate was incorrect. The client certificate was registered in the Rejected Certificate List. The CA certificate is not registered in the Trusted Certificate List for Client authentication or Issuer authentication. The number of sessions has exceeded the maximum number of connectable sessions. 				0		page 3-820
95D00000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□□, NX701-1□□□]	OPC UA Server Start- ed	The OPC UA Server started.	The OPC UA Server started.					0	page 3-821
95D10000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□□, NX701-1□□□]	OPC UA Server Stop- ped	The OPC UA Server stopped.	The OPC UA Server stopped.					0	page 3-821

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
95D20000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□, NX701-1□□□]	Server Cer- tificate Gen- erated	A server certificate was generated. The server certificate is automatically generated when there is no server certificate. The server private key and server certificate are automatically generated when Regenerate certificate is performed. *1	A server certificate was generated.					0	page 3-822
95D30000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□□, NX701-1□□□]	Client Certificate Discarded	Received client certificates were discarded.	The maximum number of client certificates that can be regis- tered in the Rejected Certifi- cate List has been exceeded.					0	page 3-822
95D40000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□□, NX701-1□□□]	OPC UA Server Cer- tificate and Security Pro- file Cleared	The OPC UA server certificate and security profile were deleted.	 Restore was executed using a backup file created on a CPU Unit with unit version that does not have the OPC UA server function. A project was downloaded from a CPU Unit without the OPC UA Server. Checked Clearing the OPC UA server certificate and security profile. and performed Clear All Memory operation. 					0	page 3-823
95D60000 hex (Ver.1.43 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.43 or later) [NX102-□□00] (Ver. 1.36 or later) [NX102-□□20] (Ver. 1.24 or later) [NX701-1□□□]	Client Certificate Added	A client certificate was added.	A client certificate was added.					0	page 3-824

					Level				
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
95D70000 hex (Ver. 1.43 or later) [NJ501-1□00] (Ver. 1.60 or later)	Client Certifi- cate Deleted	A client certificate was deleted.	A client certificate was deleted.						page 3-824
[NX502-1□00] (Ver. 1.43 or later)								0	
[NX102-□□00] (Ver. 1.36 or later) [NX102-□□20]									
(Ver. 1.24 or later)									
95D80000 hex (Ver. 1.43 or later) [NJ501-1□00]	Client Certificate Moved	A client certificate was moved to the Trusted Certificate.	A client certificate was moved to the Trusted Certificate.						page 3-825
(Ver. 1.60 or later) [NX502-1□00]									
(Ver. 1.43 or later) [NX102-□□00]								0	
(Ver. 1.36 or later) [NX102-□□20]									
(Ver. 1.24 or later) [NX701-1□□□]									
95D90000 hex (Ver. 1.43 or later) [NJ501-1□00]	Client Certifi- cate Revo- cation List	The client certificate revocation list was added.	The client certificate revocation list was added.						page 3-825
(Ver. 1.60 or later) [NX502-1□00]	Added								
(Ver. 1.43 or later) [NX102-□□00] (Ver. 1.36 or later) [NX102-□□20]								0	
(Ver. 1.24 or later) [NX701-1□□□]									
95DA0000 hex (Ver. 1.43 or later) [NJ501-1□00]	Client Certifi- cate Revo- cation List	The client certificate revocation list was deleted.	The client certificate revocation list was deleted.						page 3-826
(Ver. 1.60 or later) [NX502-1□00]	Deleted								
(Ver. 1.43 or later) [NX102-□□00]								0	
(Ver. 1.36 or later) [NX102-□□20]									
(Ver. 1.24 or later) [NX701-1□□□]									

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
95DB0000 hex (Ver. 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.29 or later) [NX701]	Server Cer- tificate Re- generated	The server certificate was regenerated. • The server private key and server certificate are automatically generated when Regenerate certificate is performed.	The server certificate was regenerated.					0	page 3-827
96200000 hex (Ver. 1.43 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.43 or later) [NX102-□□00] (Ver. 1.36 or later) [NX102-□□20] (Ver. 1.24 or later) [NX701-1□□□]	Security Settings Transferred	The security settings were transferred.	The security settings were transferred.					0	page 3-828
96210000 hex (Ver. 1.43 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.43 or later) [NX102-□□00] (Ver. 1.36 or later) [NX102-□□20] (Ver. 1.24 or later) [NX701-1□□□]	Execution Log Cleared	The Execution Log was cleared.	The Execution Log was cleared.					0	page 3-829
96220000 hex (Ver. 1.43 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.43 or later) [NX102-□□00] (Ver. 1.36 or later) [NX102-□□20] (Ver. 1.24 or later) [NX701-1□□□]	CA Certificate Added	A CA certificate was added.	A CA certificate was added.					0	page 3-830

					L	eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
96230000 hex (Ver. 1.43 or later) [NJ501-1□00] (Ver. 1.60 or later)	CA Certificate Deleted	A CA certificate was deleted.	A CA certificate was deleted.						page 3-830
[NX502-1□00] (Ver. 1.43 or later) [NX102-□□00]								0	
(Ver. 1.36 or later) [NX102-□□20]									
(Ver. 1.24 or later) [NX701-1□□□]									
96240000 hex (Ver. 1.43 or later) [NJ501-1□00]	CA Certifi- cate Revo- cation List	The CA certificate revocation list was added.	The CA certificate revocation list was added.						page 3-831
(Ver. 1.60 or later) [NX502-1□00]	Added								
(Ver. 1.43 or later) [NX102-□□00]								0	
(Ver. 1.36 or later) [NX102-□□20]									
(Ver. 1.24 or later) [NX701-1□□□]									
96250000 hex (Ver. 1.43 or later) [NJ501-1□00]	CA Certifi- cate Revo- cation List	The CA certificate revocation list was deleted.	The CA certificate revocation list was deleted.						page 3-832
(Ver. 1.60 or later) [NX502-1□00]	Deleted								
(Ver. 1.43 or later) [NX102-□□00]								0	
(Ver. 1.36 or later) [NX102-□□20]									
(Ver. 1.24 or later) [NX701-1□□□]									

					L	_eve	ı		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
96260000 hex (Ver. 1.49 or later) [NJ-series, NX102, NX1P2] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.29 or later) [NX701]	Client Certificate or CA Certificate Changed	One of the following changes to the certificate has been made. The client certificate was added, deleted, or moved. The client certificate revocation list was added or deleted. The CA certificate was added, deleted, or moved. The CA certificate revocation list was added or deleted.	One of the following changes to the certificate has been made. The client certificate was added, deleted, or moved. The client certificate revocation list was added or deleted. The CA certificate was added, deleted, or moved. The CA certificate revocation list was added or deleted.					0	page 3-833

^{*1.} This applies to the following CPU Unit only.

[•] NJ501, NX102 CPU Unit: Version 1.48 or earlier

[•] NX701 CPU Unit: Version 1.28 or earlier

OPC UA Instructions

The lower four digits of an event code give the error code for the instruction. For details of error codes, refer to the description of the corresponding event code. For example, for an error code, 16#5000, refer to the description for event code 54015000 hex.

				Level					
Event code	Event name	Meaning	Assumed cause		P rt	M i n	O b s	I n f o	Reference
54015000 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□, NX701-1□□□]	OPC UA Server Shut- down or Shutting Down	The OPC UA Server was already shutdown or was being shut down.	The OPCUA_Shutdown (Shutdown OPC UA Function) instruction was executed while the OPC UA Server was already shut down. The OPCUA_Shutdown (Shutdown OPC UA Function) instruction was executed while the OPC UA Server was being shut down.				0		page 3-835
54015001 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□□, NX701-1□□□]	OPC UA Server Being Initialized	The OPCUA_Shut- down (Shutdown OPC UA Function) in- struction could not be executed because the OPC UA Server was being initialized.	The OPCUA_Shutdown (Shutdown OPC UA Function) instruction was executed while the OPC UA Server was being initialized.				0		page 3-836
54015002 hex (Ver. 1.17 or later) [NJ501-1□00] (Ver. 1.60 or later) [NX502-1□00] (Ver. 1.24 or later) [NX102-□□□□, NX701-1□□□]	OPC UA Server Not Started	The relevant instruction could not be executed because the OPC UA Server had not been started.	When the Server Use Option is set to <i>Do not use</i> , the relevant instruction was executed.				0		page 3-837

3-9-2 Error Descriptions

OPC UA Server Function

Event name	Execution Log S	ave Failed		Event code	15000000 hex						
Meaning	Failed to save th	e Execution Log t	o the SD Memory	Card.							
Source	PLC Function M	odule	Source details	OPC UA Serv- er	Detection tim- ing	Continuously					
Error attrib-	Level	Minor fault		Log category	System						
utes	Recovery	Automatic recov	ery								
Effects	User program	Continues.	Operation	Not affected.							
System-de-	Variable		Data type		Name						
fined varia- bles	None										
Cause and	Assumed cause	•	Correction		Prevention						
correction	An SD Memory (serted.	Card is not in-	Insert an SD Me	mory Card.	Insert an SD Me	mory Card.					
	The SD Memory correct.	Card type is not	Replace the SD with an SD or SI	•	Use an SD or SI	DHC card.					
	The format of the Card is not corre		Format the SD N with the Sysmac	•	Use a formatted Card. Also, do not rem Memory Card or power supply wh indicator is lit.	ove the SD					
	The SD Memory protected.	Card is write	Remove write pr SD Memory Car	otection from the d.	Make sure that t Card is not write	•					
	The capacity of t	-	Replace the SD one with sufficient pacity.	Memory Card for nt available ca-	Replace the SD one with sufficient pacity.	Memory Card for nt available ca-					
	The SD Memory aged.	Card is dam-	Replace the SD	Memory Card.	ply while the SD is lit. Replace the SD periodically accounties of the SD MeDo not remove to	The power sup- BUSY indicator Memory Card ording to the write emory Card.					
Attached in- formation	0001 hex: An 0002 hex: The Memory Card	type is not correc	is not inserted d is faulty, the forn t.			orrect, or the SD					
	• 0005 hex: The	 0003 hex: The SD Memory Card is write protected. 0005 hex: There is not sufficient space available on the SD Memory Card. 0302 hex: A file was not successfully saved to the SD Memory Card due to other factors, or the SD Memory Card is damaged. 									
Precautions/ Remarks	None										

Event name	OPC UA Server	Setting Error		Event code	35D00000 hex	
				Event code	33D00000 flex	
Source Source	PLC Function M	rver Settings are i odule	Source details OPC UA Server O		At Download, at CPU Unit power ON, at Controller reset	
Error attrib-	Level	Minor fault	Log category		System	
utes	Recovery	Automatic recov	ery		,	
Effects	User program	Continues.	Operation	The operating	Server cannot be status of the OP0 alt error state.	
System-de-	Variable		Data type		Name	
fined varia- bles	None					
Cause and	Assumed cause	9	Correction		Prevention	
correction	 were being tra The power sultroller was interested to the color of the color o	errupted while Server Settings ansfered. pply to the Con- errupted during a iory operation. Server settings t because the s interrupted dur-	Transfer the OPC tings again with the dio.	C UA Server Set- the Sysmac Stu-	None	
	TCP port numbe	r is duplicated.	Do not set the same port number as that of the socket communications instructions or FTP server settings.		•	
Attached in- formation	None					
Precautions/ Remarks	None					

Event name	Server certificate	Expired		Event code	35D10000 hex	
Meaning	The server certif	icate expired.				
Source	PLC Function Module		Source details	OPC UA Server	Detection timing	At Download, at CPU Unit power ON, at Controller re- set, or Periodically (every 24 hours)
Error attrib-	Level	Minor fault	-	Log category	System	
utes	Recovery Automatic recovery					
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined varia- bles	None					
Cause and	Assumed cause	9	Correction		Prevention	
correction	The period that is set in the server certificate expired.		Regenerate the server certificate.		Consider the expiration date of the server certificate.	
Attached in- formation		Attached Information 1: The expiration date of the server certificate "YYYY-MM-DD HH:MM:SS"				
Precautions/ Remarks		ot be registered in the Server certific	-		the Controller is cy	cled or the Con-
Event name	OPC UA System	Processing Error		Event code	44180000 hex	
Meaning	A fatal error was	detected in the O	PC UA Server.			
Source	PLC Function M	odule	Source details	OPC UA Serv- er	Detection tim- ing	
Error attrib-	Level	Minor fault		Log category	System	
utes	Recovery				•	
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined varia-	None					
Cause and	Accumed course		Correction		Prevention	
cause and correction	Assumed cause Correction A soft error occurred. Cycle the power supply to the					
30110001011	A SOIL GILOL OCCU	meu.		supply to the set the Controller.		
Attached in- formation	None					
Precautions/ Remarks	None					

Event name	Server Certificate	e Mismatch		Event code	15020000 hex	
Meaning	The IP address of port on the CPU		icate in the CPU L	Jnit is not the sam	ne as that of the bu	uilt-in EtherNet/IP
Source	PLC Function Module		Source details	OPC UA Server	Detection timing	At CPU Unit power ON, at Controller re- set, at Download, or Periodically (every 24 hours)
Error attrib- utes	Level	Observation		Log category	System	
Effects	Recovery User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined varia- bles	None					
Cause and	Assumed cause	•	Correction	Correction		
correction	IP Address) in If the IP addre od was Obtair server, the IP changed when turned ON.	of the CPU Unit ten the OPC UA on is set to Use. Is was changed bell PAdr (Change struction. It is set ting method from BOOTP address was in the power is at a different of the built-in ort of the CPU	Restore the IP a built-in EtherNet CPU Unit, or reg server certificate	/IP port on the penerate the	Regenerate the after changing the built-in Ether the CPU Unit.	
Attached in- formation		ation 1: The IP add	dress of the serve	r certificate	1	
Precautions/		-	-		the Controller is c	ycled or the Con-
Remarks	troller is reset or	oller is reset or the Server certificate is regenerated.				

Event name	Server Certificate Expiration Notice			Event code	35D20000 hex		
Meaning	The server certif	icate is close to ex	piring.				
Source	PLC Function Module		Source details	OPC UA Server	Detection timing	At CPU Unit power ON, at Controller re- set, or Periodi- cally (every 24 hours)	
Error attrib-	Level	Observation		Log category	System		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause	•	Correction	Correction		Prevention	
correction	The period that is er certificate is c		Regenerate the server certificate.		Consider the expiration date of the server certificate.		
Attached in- formation	Attached Information 1: The expiration date of the server certificate • "YYYY-MM-DD HH:MM:SS"						
Precautions/ Remarks	This event will not be registered in duplicate until the power supply to the Controller is cycled or the Controller is reset or the Server certificate is regenerated.						

Event name	Too Many Public	Variables		Event code	35D30000 hex	
Meaning	The number of v OPC UA Server		pe published to the	e OPC UA client e	xceeded the uppe	er limit when the
Source	PLC Function Module		Source details	OPC UA Server	Detection timing	At CPU Unit power ON, at Controller re- set, restore op- eration, at download, or online editing
Error attrib-	Level Observation			Log category	System	
utes	Recovery					
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined varia- bles	None					
Cause and	Assumed cause	e	Correction		Prevention	
correction	When the OPC I	JA Server pre-	Reduce the num	ber of variables	Reduce the num	ber of variables
	pared the addres	ss space, the	to be published t	o the OPC UA	to be published t	to the OPC UA
	number of OPC exceeded the up	UA variables has per limit.	client to below the upper limit.		client to below the upper limit.	
Attached in-	None					
formation						
Precautions/	This event does	not occur if the Ol	PC UA Server Use	Option is set to [Oo not use or whe	n you use a
Remarks	project not comp	atible with the OP	C UA Server.			

Event name	Unsupported Data Type/Invalid Data		nto.	Event code	35D40000 hex	
Meaning	OPC UA client w		lt, variables or nod	ies with a data typ	e that cannot be p	oublished to the
Source	PLC Function Mo	odule	Source details	OPC UA Server	Detection timing	At CPU Unit power ON, at Controller re- set, restore op- eration, at download, or online editing
Error attrib-	Level	Observation		Log category	System	
utes	Recovery					
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable	00.11.11.10.00.1	Data type		Name	
fined varia- bles	None					
Cause and	Assumed cause)	Correction		Prevention	
correction	· ·				_	
	Assumed cause Variables to be published had data types not yet supported by the OPC UA server. Or, reserved words for node names that cannot be published in the OPC UA address space were used for nodes corresponding to global variables, program names, and userdefined data type names. Unsupported data types and invalid data are as follows. • Multidimensional array specified structure • Structure containing multidimensional array(s) as member(s) • Structure whose nesting number exceeds the limit value • Union • Array whose start number is not 0; e.g., Array[25] • Variable whose size exceeds the limit value • Array whose number of elements exceeds the limit value		Correction Change variables with the following data types to have data types that can be published. Or avoid using reserved word for node names that cannot be published in the OPC UA address space. Multidimensional array specified structure Structure containing multidimensional array(s) as member(s) Structure whose nesting number exceeds the limit value Union Array whose start number is not 0; e.g., Array[25] Variable whose size exceeds the limit value Array whose number of elements exceeds the limit value Structure whose number of members exceeds the limit value Structure whose number of members exceeds the limit value Registered variable IDs are		Change variables with the following data types to have data types that can be published. Or avoid using reserved word for node names that cannot be published in the OPC UA address space. • Multidimensional array specified structure • Structure containing multidimensional array(s) as member(s) • Structure whose nesting number exceeds the limit value • Union • Array whose start number is not 0; e.g., Array[25] • Variable whose size exceeds the limit value • Array whose number of elements exceeds the limit value • Structure whose number of members exceeds the limit value • Structure whose number of Registered variable IDs are used.	
	value No variables the ped Registered valused. Unable to creat nodes	riable IDs are	Unable to creating nodes	ис пашезрасе	Unable to creating nodes	лю пашеорасе

Attached in-	Attached information 1: Error Details
formation	Bit 00: Multidimensional array specified structure
	Bit 01: Structure containing multidimensional structure(s) as member(s)
	Bit 02: Structure whose nesting number exceeds the limit value
	Bit 03: Union
	Bit 04: Array whose start number is not 0; e.g., Array[25]
	Bit 05: Variable whose size exceeds the limit value
	Bit 06: Array whose number of elements exceeds the limit value
	Bit 07: Structure whose number of members exceeds the limit value
	Bit 08: No mapping variable
	Bit 09: Registered variable ID
	Bit 10: Incorrect namespace
	Bit 11: Reserved words for node names that cannot be published in the OPC UA address space were
	used for nodes corresponding to global variables, program names, and user-defined data type names.
Precautions/	None
Remarks	

Event name	Too Many Public	Value Attributes		Event code	35D50000 hex		
Meaning	The number of v OPC UA Server		pe published to the	e OPC UA client e	exceeded the uppe	er limit when the	
Source	PLC Function Module Level Observation		Source details	OPC UA Server	Detection timing	At CPU Unit power ON, at Controller re- set, restore op- eration, at download, or online editing	
Error attrib-	Level	Observation		Log category	System		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause)	Correction		Prevention		
correction	When the OPC l	JA Server pre-	Check the numb	er or data type	Check the numb	er or data type	
	pared the addres	ss space, the	of the network-p	ublished global	of the network-published global		
	number of OPC	UA value attrib-	variables and ma	ake it less than	variables and make it less than		
		ed the upper lim-	the maximum nu	mber of value	the maximum number of value		
	it.		attributes.		attributes.		
Attached in-	None						
formation							
Precautions/	None						
Remarks							

Event name	Too Many Struct	ure Definitions		Event code	35D60000 hex			
Meaning	The number of structure definitions to be published to the OPC UA client exceeded the upper limit when the OPC UA Server was built.							
Source	PLC Function M			Detection timing	At power ON, Controller re- set, at restora- tion, when downloading or online editing			
Error attrib-	Level	Observation		Log category	System			
utes	Recovery							
Effects	User program	Continues.	Operation	Not affected.				
System-de-	Variable		Data type		Name			
fined varia- bles	None							
Cause and	Assumed cause	•	Correction		Prevention			
correction	When the OPC UA Server pre- pared the address space, the number of structure definitions has exceeded the upper limit.		Check the data type of the variable to be published, and reduce the number of structure definitions to below the upper limit.		Check the data type of the variable to be published, and reduce the number of structure definitions to below the upper limit.			
Attached in- formation	None		,					
Precautions/ Remarks	None							

Event name	OPC IIA Server	Insufficient Memo	ny Canacity	Event code	44190000 hex	
Meaning	The amount of v	he amount of variable data to be published has exceeded the amount of OPC UA server specification				
Source	PLC Function M	odule	Source details	OPC UA Serv-	Detection tim-	During online
				er	ing	editing or
						downloading,
						or when a vari-
						able is ac-
						cessed from
						OPC UA client
Error attrib-	Level	Minor fault		Log category	System	
utes	Recovery	Automatic recove	ery			
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined varia-	None					
bles						
Cause and	Assumed cause	9	Correction		Prevention	
correction	The amount of v	ariable data to	Reduce the number of variable to			
	be published has	s exceeded the	publish.	olish.		
	amount of OPC UA server speci-					
	fication.					
Attached in-	None					
formation						
Precautions/	None					
Remarks						

Event name	OPC UA Client (Connection Reject	ed	Event code	85600000 hex	
Meaning	A connection red	quest from an OP0	C UA client was re	jected.	•	
Source	PLC Function M	odule	Source details	OPC UA Serv- er	Detection timing	When receiving a connection request from a OPC UA client
Error attrib-	Level	Observation		Log category	System	
utes	Recovery					
Effects	User program	Continues.	Operation	The OPC UA clic Server.	ent cannot connec	t to the OPC UA
System-de-	Variable		Data type		Name	
fined varia- bles	None					
Cause and	Assumed cause	9	Correction		Prevention	
correction	User authenticat was incorrect.	ion information	Use the correct upassword.	user name and	Set the correct upassword for OF	
	The client certificate was incorrect.		Check that the client certificate registered in the CPU Unit is correct.		Register the correct client certificate in the CPU Unit.	
			Make sure the client certificate used by the OPC UA client is correct.		Register the correct client certificate in the CPU Unit.	
	The client certificate was registered in the Rejected Certificate List.		Register the client certificate to the Trusted Certificate List, and then reconnect.		Register to the Trusted Client List the certificate of the client to be connected.	
	The CA certificate is not registered in the Trusted Certificate List for Client authentication or Issuer authentication.		Register the CA certificate to the Trusted Certificate List for Client authentication or Issuer authentication, and then reconnect.		Register the CA certificate to the Trusted Certificate List for Client authentication or Issuer authentication.	
	The number of sessions has exceeded the maximum number of connectable sessions.		sions is below th	lake sure the number of ses- ions is below the maximum con- ectable sessions.		configuration to he number of than the maxi- sessions that ed.
Attached in- formation	Attached information 1: Reasons for connection rejected • 01 hex: Incorrect user authentication information • 02 hex: Untrusted certificate • 04 hex: Maximum connectable sessions exceeded Attached information 2: Details • User name if the reason for connection rejected is set to 01 hex, as described above.					
Precautions/ Remarks	None	1000011101 0011		. 250 to 01 Hox, 40	220011204 42040.	

Event name	OPC UA Server Started			Event code	95D00000 hex		
Meaning	The OPC UA Se	The OPC UA Server started.					
Source	PLC Function Module		Source details	OPC UA Serv-	Detection tim-	At start of OPC	
				er	ing	UA Server	
Error attrib-	Level	Information		Log category	System		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.	1.		
System-de-	Variable		Data type		Name		
fined varia-	None						
bles							
Cause and	Assumed cause	•	Correction		Prevention		
correction	The OPC UA Se	rver started.	None		None		
Attached in-	None						
formation							
Precautions/	None	None					
Remarks							

Event name	OPC UA Server Stopped Event code 95D10000 hex						
	· · · · · · · · · · · · · · · · · · ·			Event code	95D 10000 flex		
Meaning	The OPC UA Server stopped.						
Source	PLC Function Module		Source details	OPC UA Server	Detection timing	At OPCUA_ Shutdown (Shutdown OPC UA Func- tion) instruction execution, shutdown oper- ation from the Sysmac Studio	
Error attrib-	Level Information		Log category		System		
utes	Recovery						
Effects	User program	Continues. Operation The OPC UA Server stopped.					
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause		Correction		Prevention		
correction	The OPC UA Server stopped.		None		None		
Attached in-	None						
formation							
Precautions/	This event is not registered when the OPC UA Server stops due to power OFF.						
Remarks	To start the OI	To start the OPC UA Server, cycle the power supply to the Controller or reset the Controller.					

Event name	Server Certificate Generated Event code 95D20000 hex						
Meaning	 A server certificate was generated. The server certificate is automatically generated when there is no server certificate. The server private key and server certificate are automatically generated when Regenerate certificate is performed. *1 						
Source	PLC Function Module		Source details	OPC UA Serv- er	Detection tim- ing	When server certificate is generated	
Error attrib-	Level	Information		Log category	System		
utes	Recovery						
Effects	User program Continues. Operation Not affected.						
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause	9	Correction		Prevention		
correction	The server certificate was regenerated.		None		None		
Attached in-	None						
formation							
Precautions/	None						
Remarks							

^{*1.} This applies to the following CPU Unit only.

- NJ501, NX102 CPU Unit: Version 1.48 or earlier
- NX701 CPU Unit: Version 1.28 or earlier

Event name	Client Certificate	Discarded		Event code	95D30000 hex		
Meaning	Received client certificates were discarded.						
Source	PLC Function Module		Source details	OPC UA Server	Detection timing	When receiving a connection request from a OPC UA client	
Error attrib-	Level	Information		Log category	System		
utes	Recovery						
Effects	User program	Continues.	Operation	Operation Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause	e	Correction		Prevention		
correction	The maximum number of client certificates that can be registered in the Rejected Certificate List has been exceeded.		Delete registered client certifi- cates from the Rejected Certifi- cate List. Delete unnecessary c cates from the Rejecte cate List.		•		
Attached in- formation	Attached information 1: The IP address of the discarded client certificate						
Precautions/ Remarks	None						

Event name	OPC UA Server Cleared	Certificate and Se	curity Profile	Event code	95D40000 hex			
Meaning	The OPC UA Se	The OPC UA Server certificate and Security Profile have been cleared.						
Source	PLC Function Module		Source details	OPC UA Server	Detection timing	At Download, restore opera- tion, Clear All Memory opera- tion with the relevant check- box checked		
Error attrib-	Level	Information		Log category	System			
utes	Recovery							
Effects	User program	Continues.	Operation	Not affected.	1			
System-de-	Variable		Data type		Name			
fined varia- bles	None							
Cause and	Assumed cause	9	Correction		Prevention			
correction	 A restore was executed using a backup file created by a CPU Unit whose version does not support OPC UA Server. A project was downloaded from a CPU Unit without OPC UA Server. Checked Clearing the OPC UA server certificate and security profile. and performed Clear All Memory operation. 							
Attached in- formation	None None							
Precautions/ Remarks	None							

Event name	Client Certificate Added			Event code	95D60000 hex		
Meaning	A client certificate was added.						
Source	PLC Function Module		Source details	OPC UA Serv- er	Detection tim- ing	At successful client certificate addition	
Error attrib-	Level Information			Log category	Access*1		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause		Correction		Prevention		
correction	A client certificate was added.		None		None		
Attached in- formation	Attached information 1: The thumbprint of the added client certificate						
Precautions/	None						
Remarks							
User name in	When the user authentication function is enabled: User name						
the access log	When the user a	uthentication func	tion is disabled: N	ULL			

^{*1.} This applies to the following CPU Unit only. This is System for other CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Client Certificate Deleted			Event code	95D70000 hex		
Meaning	A client certificate was deleted.						
Source	PLC Function Module		Source details	OPC UA Serv-	Detection tim-	At successful	
				er	ing	client certificate	
Error attrib-	Level Information			Log category	Access*1	1 40.000	
utes	Recovery						
Effects	User program	Continues.	Continues. Operation Not affected.				
System-de-			Data type		Name		
fined varia-							
bles			0		D		
Cause and	Assumed cause		Correction		Prevention		
correction	A client certificate was deleted.		None		None		
Attached in-	Attached information 1: The thumbprint of the deleted client certificate						
formation	Attached Informa	Attached Information 2: The store location of the certificate					
	• 0001 hex: Tru	sted Certificate					
	0002 hex: Rejected Certificate						
Precautions/	None						
Remarks							
User name in	When the user a	When the user authentication function is enabled: User name					
the access log	When the user a	uthentication func	tion is disabled: N	ULL			

^{*1.} This applies to the following CPU Unit only. This is System for other CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Client Certificate Moved			Event code	95D80000 hex	
Meaning	A client certificat	e was moved to th	ne Trusted Certific	ate.	•	
Source	PLC Function Module		Source details	OPC UA Serv- er	Detection tim- ing	At successful client certificate move
Error attrib-	Level	Information		Log category	Access*1	
utes	Recovery					
Effects	User program	Continues.	Operation	Operation Not affected.		
System-de-	Variable		Data type		Name	
fined varia-	None					
bles						
Cause and	Assumed cause	e	Correction		Prevention	
correction	A client certificat the Trusted Certi		None		None	
Attached in- formation	Attached informa	ation 1: The thumb	oprint of the moved	d client certificate		
Precautions/	None	None				
Remarks						
User name in	When the user a	uthentication func	tion is enabled: U	ser name		
the access log	When the user a	uthentication func	tion is disabled: N	ULL		

^{*1.} This applies to the following CPU Unit only. This is System for other CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Client Certificate Revocation List Added			Event code	95D90000 hex	
Meaning	The client certific	cate revocation list	t was added.			
Source	PLC Function Module		Source details	OPC UA Serv- er	Detection timing	At successful client certificate revocation list addition
Error attrib-	Level	Information		Log category	Access*1	
utes	Recovery					
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined varia- bles	None					
Cause and	Assumed cause	•	Correction		Prevention	
correction	The client certific	cate revocation	None		None	
Attached in- formation	Attached informa	ation 1: The file na	ime of the added o	client certificate re	vocation list	
Precautions/	None					
Remarks						
User name in	When the user a	uthentication func	tion is enabled: U	ser name		
the access log	When the user a	uthentication func	tion is disabled: N	ULL		

^{*1.} This applies to the following CPU Unit only. This is System for other CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Client Certificate	Revocation List [Deleted	Event code	95DA0000 hex	
Meaning	The client certific	cate revocation list	t was deleted.			
Source	PLC Function Module		Source details	OPC UA Server	Detection timing	At successful client certificate revocation list deletion
Error attrib-	Level	Information		Log category	Access*1	
utes	Recovery					
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined varia- bles	None					
Cause and	Assumed cause	9	Correction		Prevention	
correction	The client certific list was deleted.	cate revocation	None	None		
Attached in- formation	Attached information 1: The file name of the deleted client certificate revocation list					
Precautions/	None	None				
Remarks						
User name in	When the user a	uthentication func	tion is enabled: U	ser name		
the access log	When the user a	uthentication func	tion is disabled: N	ULL		

^{*1.} This applies to the following CPU Unit only. This is System for other CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Server Certificate Regenerated			Event code	95DB0000 hex*1	
Meaning		The server certificate was regenerated. • The server private key and server certificate are automatically generated when Regenerate certificate is performed.				
Source	PLC Function Module		Source details	OPC UA Server	Detection timing	When server certificate is regenerated
Error attrib-	Level	Information		Log category	Access	
utes	Recovery					
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined varia- bles	None					
Cause and	Assumed cause	9	Correction		Prevention	
correction	The server certif erated.	icate was regen-	None		None	
Attached information	Attached information 1: Connection method 1: Direct connection via USB 2: Direct connection via Ethernet 3: Remote Connection via USB or Ethernet connection via a hub Attached information 2: When attached information 1 is 2 or 3, the connection source IP address is given. When connection is made through proxy, proxy IP address is given.					
Precautions/ Remarks	None					
User name in the access log			tion is enabled: Us tion is disabled: N			

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Security Settings	s Iransferred		Event code	96200000 hex	
Meaning	The security sett	The security settings were transferred.				
Source	PLC Function M	odule	Source details	OPC UA Serv-	Detection tim-	At successful
				er	ing	security set-
						tings transfer
Error attrib-	Level	Information		Log category	Access*1	
utes	Recovery					
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined varia-	None					
bles						
Cause and	Assumed cause	е	Correction		Prevention	
correction	The security sett	tings were trans-	None		None	
	ferred.					
Attached in-	Attached informa	ation 1: Connectio	n method ^{*2}			
formation	1: Direct conn	ection via USB				
	2: Direct conn	ection via Etherne	et			
	3: Remote Co	nnection via USB	or Ethernet conne	ection via a hub		
	Attached informa	ation 2: When atta	ched information	1 is 2 or 3, the con	nection source IP	address is giv-
	en. When conne	ction is made thro	ugh proxy, proxy I	P address is giver	ı. ^{*2}	
Precautions/	None	None				
Remarks						
User name in	When the user a	uthentication func	tion is enabled: U	ser name		
the access log	When the user a	uthentication func	tion is disabled: N	ULL		

^{*1.} This applies to the following CPU Unit only. This is System for other CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later
- *2. This applies to the following CPU Unit only. No attached information is given for other CPU Units.
 - NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
 - NX502 CPU Unit: Version 1.60 or later
 - NX701 CPU Unit: Version 1.29 or later

Event name	Execution Log C	leared		Event code	96210000 hex		
Meaning	The Execution L	og was cleared.			•		
Source	PLC Function Module		Source details	OPC UA Server	Detection tim- ing	At successful Execution Log clear	
Error attrib-	Level	Information		Log category	Access*1		
utes	Recovery						
Effects	User program	Continues.	Operation	Not affected.			
System-de-	Variable		Data type		Name		
fined varia-	None						
bles							
Cause and	Assumed cause	9	Correction		Prevention		
correction	The Execution L	og was cleared.	None		None		
Attached in- formation	1: Direct conn 2: Direct conn 3: Remote Co Attached informa	Attached information 1: Connection method* ² • 1: Direct connection via USB • 2: Direct connection via Ethernet • 3: Remote Connection via USB or Ethernet connection via a hub Attached information 2: When attached information 1 is 2 or 3, the connection source IP address is given. When connection is made through proxy, proxy IP address is given.* ²					
Precautions/ Remarks	None						
User name in	When the user a	uthentication func	tion is enabled: Us	ser name			
the access log	When the user a	uthentication func	tion is disabled: N	ULL			

- *1. This applies to the following CPU Unit only. This is System for other CPU Units.
 - NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
 - NX502 CPU Unit: Version 1.60 or later
 - NX701 CPU Unit: Version 1.29 or later
- *2. This applies to the following CPU Unit only. No attached information is given for other CPU Units.
 - NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
 - NX502 CPU Unit: Version 1.60 or later
 - NX701 CPU Unit: Version 1.29 or later

Event name	CA Certificate Added		Event code	96220000 hex		
Meaning	A CA certificate	was added.				
Source	PLC Function Module		Source details	OPC UA Serv- er	Detection tim- ing	At successful CA certificate addition
Error attrib-	Level	Information		Log category	Access*1	
utes	Recovery					
Effects	User program	Continues.	Operation	Not affected.	∍d.	
System-de-	Variable		Data type		Name	
fined varia- bles	None					
Cause and	Assumed cause	9	Correction		Prevention	
correction	A CA certificate	was added.	None	None		
Attached in- formation	Attached information 1: The thumbprint of the added CA certificate					
Precautions/	None					
Remarks						
User name in	When the user a	uthentication func	tion is enabled: U	ser name		
the access log	When the user a	uthentication func	tion is disabled: N	ULL		

^{*1.} This applies to the following CPU Unit only. This is System for other CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	CA Certificate Deleted			Event code	96230000 hex	
Meaning	A CA certificate	was deleted.				
Source	PLC Function Module		Source details	OPC UA Serv- er	Detection tim- ing	At successful CA certificate deletion
Error attrib-	Level	Information		Log category	Access*1	
utes	Recovery					
Effects	User program	Continues.	Operation Not affected.			
System-de-	Variable		Data type		Name	
fined varia-	None					
bles						
Cause and	Assumed cause	Ð	Correction		Prevention	
correction	A CA certificate	was deleted.	None		None	
Attached in-	Attached informa	ation 1: The thumb	print of the delete	d CA certificate		
formation						
Precautions/	None	None				
Remarks						
User name in	When the user a	uthentication func	tion is enabled: U	ser name		
the access log	When the user a	uthentication func	tion is disabled: N	ULL		

^{*1.} This applies to the following CPU Unit only. This is System for other CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	CA Certificate Revocation List Added			Event code	96240000 hex	
Meaning	The CA certificat	te revocation list w	as added.			
Source	PLC Function Module		Source details	OPC UA Serv- er	Detection timing	At successful CA certificate revocation list addition
Error attrib-	Level	Information		Log category	Access*1	
utes	Recovery					
Effects	User program	Continues.	Operation	Not affected.		
System-de-	Variable		Data type		Name	
fined varia- bles	None					
Cause and	Assumed cause	9	Correction		Prevention	
correction	The CA certificat	te revocation list	None		None	
Attached in- formation	Attached informa	ation 1: The file na	me of the added (CA certificate revo	ocation list	
Precautions/	None					
Remarks						
User name in	When the user a	uthentication func	tion is enabled: Us	ser name		
the access log	When the user a	uthentication func	tion is disabled: N	ULL		

^{1.} This applies to the following CPU Unit only. This is System for other CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	CA Certificate Revocation List Deleted			Event code	96250000 hex	
Meaning	The CA certificat	e revocation list w	as deleted.			
Source	PLC Function Module		Source details	OPC UA Server	Detection timing	At successful CA certificate revocation list deletion
Error attrib-	Level	Information		Log category	Access*1	
utes	Recovery					
Effects	User program	Continues.	Operation Not affected.			
System-de-	Variable		Data type		Name	
fined varia- bles	None					
Cause and	Assumed cause)	Correction		Prevention	
correction	The CA certificat	e revocation list	None None			
Attached in- formation	Attached information 1: The file name of the deleted CA certificate revocation list					
Precautions/	None					
Remarks						
User name in	When the user a	uthentication func	tion is enabled: U	ser name		
the access log	When the user a	uthentication fund	tion is disabled: N	ULL		

^{*1.} This applies to the following CPU Unit only. This is System for other CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

Event name	Client Certificate	or CA Certificate	Changed	Event code	00000000 hav*1	
			e certificate has b		96260000 hex*1	
Meaning	The client cert The client cert The CA certification	tificate was added tificate revocation cate was added, d	, deleted, or move list was added or leleted, or moved. t was added or de	d. deleted.		
Source	PLC Function Mo	odule	Source details	OPC UA Server	Detection timing	When one of the following changes to the certificate is made • The client certificate was added, deleted, or moved. • The client certificate revocation list was added ed or deleted. • The CA certificate was added, deleted, or moved. • The CA certificate revocation list was added or deleted.
Error attrib-	Level	Information		Log category	Access	
utes	Recovery	Continues.	Operation	Not affected.		
Effects System-de-	User program Variable	Continues.	Operation Data type	ivot allected.	Name	
fined varia- bles	None					
Cause and	Assumed cause	e	Correction		Prevention	
correction	One of the following changes to the certificate has been made. The client certificate was added, deleted, or moved. The client certificate revocation list was added or deleted. The CA certificate was added, deleted, or moved. The CA certificate revocation list was added or deleted.		None		None	

Attached in-	Attached information 1: Connection method
formation	1: Direct connection via USB
	2: Direct connection via Ethernet
	3: Remote Connection via USB or Ethernet connection via a hub
	Attached information 2: When attached information 1 is 2 or 3, the connection source IP address is giv-
	en. When connection is made through proxy, proxy IP address is given.
Precautions/	None
Remarks	
User name in	When the user authentication function is enabled: User name
the access log	When the user authentication function is disabled: NULL

^{*1.} This event code occurs for the following CPU Units.

- NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
- NX502 CPU Unit: Version 1.60 or later
- NX701 CPU Unit: Version 1.29 or later

OPC UA Instructions

This section provides a table of errors (events) that occur for the following instruction. The lower four digits of the event code give the error code for the instruction.

OPC UA instruction	Name
OPCUA_Shutdown	Shutdown OPC UA Server

Event name	OPC UA Server	Shutdown or Shu	tting Down	Event code	54015000 hex		
Meaning	The OPC UA Server was already shut down or was being shut down.						
Source	PLC Function M	odule	Source details	OPC UA Serv- er	Detection tim- ing At instruction		
Error attrib-	Level	Observation		Log category	System		
utes	Recovery						
Effects	User program	Continues	Operation	The relevant instructions.	truction will end a	ccording to speci-	
System-de-	Variable		Data type		Name		
fined varia- bles	None						
Cause and	Assumed cause	е	Correction		Prevention		
correction	The OPCUA_Shutdown (Shutdown OPC UA Function) instruction was executed while the OPC UA Server was already shut down. The OPCUA_Shutdown (Shutdown OPC UA Function) instruction was executed while the OPC UA Server was being shut down.		Controller and st	When you write the use gram, make sure that a CUA_ Shutdown (Shut OPC UA Function) inst cannot be repeated aft same instruction is exe that the shutdown instruction is per from the Sysmac Studi		e that an OP- n (Shutdown on) instruction ted after the is executed, or on instruction ated after the is performed	
Attached information	Attached Information from the start of Attached Informations there is more that	Attached Information 1: Error Location Attached Information 2: Error Location Details (Rung Number). For a program section, the rung number from the start of the section is given. For ST, the line number is given. Attached Information 3: Names of the Instruction and Instruction Instance Where the Error Occurred. If there is more than one possible instruction, information is given on all of them. Nothing is given If the instruction cannot be identified.					
Precautions/ Remarks	If a program is c	hanged after an e	rror occurs, the at	tached information	n may not be corre	ectly displayed.	

	1					
Event name	OPC UA Server	Being Initialized		Event code	54015001 hex	
Meaning	The OPCUA_Shutdown (Shutdown OPC UA Function) instruction could not be executed because the					
	OPC UA Server	was being initializ	ed.			
Source	PLC Function M	odule	Source details	OPC UA Serv-	Detection tim-	At instruction
				er	ing	execution
Error attrib-	Level	Observation		Log category	System	
utes	Recovery					
Effects	User program	Continues	Operation	The relevant ins	truction will end a	ccording to speci-
				fications.		
System-de-	Variable		Data type		Name	
fined varia-	None					
bles						
Cause and	Assumed cause	e	Correction		Prevention	
correction	The OPCUA_Sh	•	Execute the relevant instruction		Execute the relevant instruction	
	down OPC UA F	,	again.		again.	
		ed while the OPC				
	UA Server was b					
Attached in-		ation 1: Error Loca				
formation		ation 2: Error Loca	, ,	, ,	orogram section, t	he rung number
		the section is give		•	\^// +/	O
		ation 3: Names of an one possible in:				
	instruction canno		struction, imormat	ion is given on all	or them. Nothing i	is given in the
		ation 4: Expansion	Error Code (Erro	rIDEx) is given for	instructions that h	nave Expansion
		rorIDEx). 0x00000	•	, •		•
	(ErrorIDEx).		go			
Precautions/	` ,	hanged after an e	rror occurs. the at	tached information	n may not be corre	ectly displayed
Remarks	2 2		, 110 at			,,

					I	
Event name	OPC UA Server	Not Started		Event code	54015002 hex	
Meaning	The relevant inst	truction could not	be executed becar	use the OPC UA	Server had not bee	en started.
Source	PLC Function M	odule	Source details	OPC UA Serv-	Detection tim-	At instruction
				er	ing	execution
Error attrib-	Level	Observation		Log category	System	
utes	Recovery				•	
Effects	User program	Continues	Operation	The relevant inst	truction will end ac	cording to speci-
				fications.		
System-de-	Variable		Data type		Name	
fined varia-	None					
bles						
Cause and correction	Assumed cause		Correction		Prevention	
	When the OPC UA Server Use		Set the OPC UA Server Use Op-		Set the OPC UA Server Use Op-	
	Option is set to Do not use, the		tion to Use and cycle the power		tion to Use and cycle the power	
	relevant instruction was execut-		supply to the Controller before		supply to the Controller before	
	ed.		executing the relevant instruc-		executing the relevant instruc-	
			tion.		tion.	
Attached in-	Attached Informa	ation 1: Error Loca	ation			
formation			ition Details (Rung		orogram section, tl	ne rung number
		•	n. For ST, the line	•		
			the Instruction and			
			struction, informat	ion is given on all	of them. Nothing i	s given If the
	instruction canno		Fran Cada /Fran	IDEV) is siven for	:	ava Evaanaian
		•	Error Code (Error	, •		•
	,	oridex). 0x00000	000 is given for in	structions that do	not nave Expansio	on Error Codes
D	(ErrorIDEx).	l	41- 11			-41
Precautions/	ा a program is c	nangeα aπer an e	rror occurs, the att	acned information	n may not be corre	ctiy displayed.
Remarks						

3-9-3 OPC UA Server-specific Troubleshooting

This section shows the problems, causes, corrections, related event logs, and Execution Logs for OPC UA server-specific troubleshooting.

				Relate	ed logs
Symptom	Cause 1	Cause 2	Correction	Event log	Execution Log (Category, log code, and log name)
Cannot connect	The connection destination is incorrect.	The IP address is different.	Specify the same value as set for OPC UA Server Settings - End point for the URL.		
	The connection destination is incorrect.	The IP address has been changed by BOOTP.	Specify the same value as set for OPC UA Server Settings - End point for the URL.	Server Certificate Mismatch (15020000 hex)	Server Certificate Mismatch (CERT, 0004, Mismatch_Host)
	The connection destination is incorrect.	The port number is different or is duplicated with that of another communications service.	Specify the same value as set for OPC UA Server Settings - End point for the URL.		
	The connection destination is incorrect.	The IP address has been changed by the Sysmac Studio, NetworkConfigura- tor, or instruction.	Change the connection setting of the OPC UA client with a correct IP address. Manually regenerate the server certificate in Sysmac Studio. Then, export the server certificate and import it into OPC UA client.	Server Certificate Mismatch (15020000 hex)	Server Certificate Mismatch (CERT, 0004, Mismatch_Host)
	The Ethernet/IP cable is not connected.	The cable is disconnected. A relay device is faulty, etc.	Check the network environment.		
	OPC UA server set- ting error	The OPC UA server settings are corrupted.	Execute downloading using the Sysmac Studio.	OPC UA Server Set- ting Error (35D00000 hex)	OPC UA Server Error (SERVER, 0007, Hal- tError)
	The OPC UA Server Use setting is incorrect.	OPC UA Server of OPC UA Server Settings is set to Do not use.	Set OPC UA Server to Use.		

				Dolot	ad laws
Symptom	Cause 1	Cause 2	Correction	Event log	Execution Log (Category, log code, and log name)
	The OPC UA Server Use setting is incorrect.	The project is down- loaded from a CPU Unit with an old ver- sion.	Replace the CPU Unit with one which supports OPC UA functionality and then transfer the project to the Controller.		
	Packet Filter setting error	The Use Option for Packet Filter is selected in the TCP/IP Settings View and OPC UA packets are not allowed. Select Controller Setup - Built-in EtherNet/IP Port Settings for this setting.	Enter the settings for Packet Filter to allow OPC UA packets. For the details on the settings, refer to Packet Filter in the NJ/NX-series CPU Unit Built-in EtherNet/IP Port User's Manual (Cat. No. W506).		
	The OPC UA Server is in the shutdown state.	The OPCUA_Shut- down (Shutdown OPC UA Function) instruction was is- sued and then the OPC UA server was shut down from the Sys- mac Studio.	Cycle the power supply to the Controller, or reset the Controller.	OPC UA Server Stopped (95D10000 hex)	OPC UA Server Shut- down (SERVER, 0006, Shut- down)
	The OPC UA Server is in the Preparing state.	The OPC UA function is being used during downloading, clearing all memory, or restoring.	Wait until the state of the OPC UA function becomes Running and then connect.		
	The client certificate is invalid.	The client certificate or CA certificate is not registered in the Trusted Certificate List for client authentication.	Add the client certificate to the Trusted Certificate List. Add the CA certificate to the Trusted Certificate Lits for client authentication. Add the revoked certificate to the Certificate Revocation Lists for client authentication.	Client Con- nection Re- jected (85600000 hex)	Application Authentica- tion (AUTH, 0001, Appli- cation)
	The client certificate is invalid.	The client certificate is corrupted.	Set the correct client certificate for the OPC UA client.	Client Con- nection Re- jected (85600000 hex)	Application Authentica- tion (AUTH, 0001, Appli- cation)

				Relate	ed logs
Symptom	Cause 1	Cause 2	Correction	Event log	Execution Log (Category, log code, and log name)
	The client certificate is invalid.	The client certificate is not registered in the Trusted Certificate List for client authentication. Or the CA certificate is not registered in the Trusted Certificate List for client authentication or the Trusted Certificate List for issuer authentication.	Add the client certificate to the Trusted Certificate List for client authentication. Or add the CA certificate to the Trusted Certificate List for client authentication or the Trusted Certificate List for issuer authentication.	Client Con- nection Re- jected (85600000 hex)	Application Authentica- tion (AUTH, 0001, Appli- cation)
	The CA-signed client certificate has been revoked.	The CA-signed client certificate has been revoked.	Update all CA certificate revocation lists up to the root certificate.	Client Con- nection Re- jected (85600000 hex)	Application Authentica- tion (AUTH, 0001, Appli- cation)
	The CA certificate has been revoked	The CA certificate itself or the CA certificates up to the root have been revoked.	Update all CA certificate revocation lists up to the root certificate.	Client Con- nection Re- jected (85600000 hex)	Application Authentica- tion (AUTH, 0001, Appli- cation)
	The server certificate is invalid.	The IP address specified in the serv- er certificate does not match the IP ad- dress of the Control- ler.	Regenerate the server certificate and install it on the OPC UA client.	Server Certificate Mismatch (15020000 hex)	Server Certificate Mismatch (CERT, 0004, Mismatch_ Host)
	The server certificate is invalid.	The server certificate has expired.	Set an appropriate server certificate expiration date and then regenerate the server certificate.	Server Certificate Expired (35D10000 hex)	Server Cer- tificate Ex- pired (CERT, 0003, Ex- pired_Serv- er)
	Anonymous login setting mismatch	The anonymous log- in setting on the OPC UA client does not match the anon- ymous login setting on the server.	Check the consistency of the anonymous login settings between the server and client.		

				Relate	ed logs
Symptom	Cause 1	Cause 2	Correction	Event log	Execution Log (Category, log code, and log name)
	Security policy mismatch	The security policy set on the OPC UA client is outside of the allowable range of the server security policy.	Check the consistency of the security policies between the server and client. Add the security policy supported by OPC UA client to the security policy settings of the server.		
	Security policy mis- match	The OPC UA client does not support the encryption method of the server certificate.	Check the consistency of the security policies between the server and client.		
	Self-signed certificate acceptance rejected	The OPC UA client does not accept the self-signed certificate of the OPC UA server.	Consult with the system administrator to make sure that the self-signed certificate is accepted.		
	Server certificate mismatch	The OPC UA server certificate was cleared when all memory was cleared.	Reinstall the server certificate on the OPC UA client.	OPC UA Server Certificate and OPC UA Security Profile Deleted (95D40000 hex)	Server Cer- tificate Up- dated (CERT, 0001, Up- date_Sever)
	Server certificate mismatch	The server certificate has been regenerated.	Reinstall the server certificate on the OPC UA client.		Server Certificate Updated (CERT, 0001, Update_Sever)
	Error occurs when a session is created.	The number of supported sessions is exceeded.	Make sure that more than five sessions are not created.		Application Authentica- tion (AUTH, 0001, Appli- cation)
	Error occurs when a session is created.	The specified data encoding method is not supported by the OPC UA server.	Set Data Encoding of the OPC UA client to UA Binary.		
	Error occurs when a session is created.	The specified transport protocol is not supported by the OPC UA server.	Set Transport Protocol of the OPC UA client to UA TCP.		

				Relate	ed logs
Symptom	Cause 1	Cause 2	Correction	Event log	Execution Log (Category, log code, and log name)
	Error occurs when a session is created.	The user name or password entered on the OPC UA client does not match the corresponding authentication setting on the server.	Check the consistency of the user name and password between the server and client.	OPC UA Client Con- nection Re- jected (85600000 hex)	User Authentication (AUTH, 0002, User)
	Error occurs when a session is created.	The user of the OPC UA client is not registered in the user authentication settings.	Set the user authentication settings correctly.	OPC UA Client Con- nection Re- jected (85600000 hex)	User Authentication (AUTH, 0002, User)
	Error occurs when a session is created.	The user authentication settings have been changed.	Set the user authentication settings correctly.	OPC UA Client Con- nection Re- jected (85600000 hex)	Security Set- tings Updat- ed (AUTH, 0100, Up- date)
	Error occurs when a session is created.	The OPC UA client is requesting authentication with user certificate.	Select the Permit Option for Anonymous login in the Security Settings Dialog Box for the OPC UA Server. Or connect with the OPC UA client settings configured for user name and password authentication.	OPC UA Client Con- nection Re- jected (85600000 hex)	Application Authentica- tion (AUTH, 0001, Appli- cation)
	Error occurs when a session is created.	The settings of the OPC UA server are set for user name and password authentication but the OPC UA client is requesting to connect anonymously.	Select the Permit Option for Anonymous login in the Security Settings Dialog Box for the OPC UA Server. Or connect with the OPC UA client settings configured for user name and password authentication.	OPC UA Client Con- nection Re- jected (85600000 hex)	User Au- thentication (AUTH, 0002, User)

				Relate	ed logs
Symptom	Cause 1	Cause 2	Correction	Event log	Execution Log (Category, log code, and log name)
	The client certificate cannot be moved to the Trusted Certificate List. The client certificate	The maximum number of client certificates is already registered in the Trusted Certificate List.	More than 32 client certificates cannot be registered in the Trusted Certificate List. Delete the client certificate of a client that is not connected and then add the client certificate to the Trusted Certificate List. More than 32 client	Client Cer-	Certificate
	The client certificate cannot be moved as it is not included in the Rejected Certificate List.	ber of client certificates is already registered in the Rejected Certificate List.	certificates cannot be registered in the Rejected Certificate List. Delete unnecessary client certificates from the Rejected Certificate List to reconnect from the client. After the client certificate is added to the Rejected Certificate List, move it to the Trusted Certificate List.	tificate Discarded (95D30000 hex)	Discarded (CERT, 0102, Discard_Client)
A variable cannot be viewed from an OPC UA	A global variable of the CPU Unit is not displayed correctly on the OPC UA cli- ent.	The publish attribute of the global variable is set to <i>Do not publish</i> .	Set the publish attribute of the global variable of the CPU Unit to Publish Only, Input or Output.		
client.	A system-defined variable of the CPU Unit is not displayed correctly on the OPC UA client.		A system-defined variable cannot be published. Copy it to a network-published variable in a user program.		

				Relat	ed logs
Symptom	Cause 1	Cause 2	Correction	Event log	Execution Log (Category, log code, and log name)
	A global variable of the CPU Unit is not displayed correctly on the OPC UA client.	The variable is a variable that cannot be published.	The following variables cannot be published by the OPC UA Server. Change the variable to a data type that can be published with the OPC UA Server. • Multidimensional array specified structure • Structure containing multidimensional array(s) as member(s) • Structure whose nesting number exceeds the limit value • Union • Array whose start number is not 0 • Variable whose size exceeds the limit value • Array whose number of elements exceeds the limit value • Structure whose number of elements exceeds the limit value • Structure whose number of elements exceeds the limit value	Unsupported Data Type (35D40000 hex)	Variable Including Unsupported Data Type (SERVER, 0101, InvalidDataType)
	No node for structure member.	The structure member cannot be deployed.	Refer to the value at- tributes for details on the members of struc- ture variables.		
	A variable of the CPU Unit is not dis- played correctly on the OPC UA client.	The number of variables that can be published is exceeded.	Set the number of public variables of the OPC UA Server to no more than the upper limit. Set the publish attribute of any global variable for which network publishing is not necessary to Do not publish.	Too Many Public Vari- ables (35D30000 hex)	Maximum Number of Variables That Can Be Published Is Exceeded (SERVER, 0100, Max- Variables)

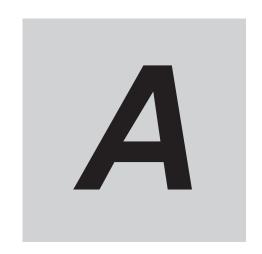
				Relate	ed logs
Symptom	Cause 1	Cause 2	Correction	Event log	Execution Log (Category, log code, and log name)
	A variable of the CPU Unit is not dis- played correctly on the OPC UA client.	The maximum number of value attributes that can be published is exceeded.	Make sure that the number of public attributes for the OPC UA Server does not exceed the upper limit. Set the publish attribute of any global variable for which network publishing is not necessary to Do not publish.	Too Many Public Val- ue Attrib- utes (35D50000 hex)	Maximum Number of Variables That Can Be Published Is Exceeded (SERVER, 0100, Max- Variables)
	A variable of the CPU Unit is not dis- played correctly on the OPC UA client.	The maximum number of structure definitions that can be published is exceeded.	Make sure that the number of structure definitions that can be published for the OPC UA Server does not exceed the upper limit.	Too Many Structure Definitions (35D60000 hex)	Maximum Number of Variables That Can Be Published Is Exceeded (SERVER, 0100, Max- Variables)

				Relate	ed logs
Symptom	Cause 1	Cause 2	Correction	Event log	Execution Log (Category, log code, and log name)
A variable cannot be read or written.	Read/write error	The variable is not published to OPC UA.	Set the publish attribute of the variable to Publish Only, Input or Output.		
	Read/write error	OPC UA is in a shutdown state.	Cycle the power supply to the Controller, or reset the Controller.	OPC UA Server Stopped (95D10000 hex)	OPC UA Server Shut- down (SERVER, 0006, Shut- down)
	Read/write error	OPC UA is in the Preparing state.	Read/write after the state becomes Running.		
	Read/write error	The variable cannot be accessed be- cause an element in its array is specified.	Specify the entire array.		
	Read/write error	The variable cannot be accessed because its structure member is specified.	Specify the entire structure.		
	Read/write error	The EtherNet/IP cable has become disconnected, communications has been cut off, or other communications failure has occurred.	Check the network environment.		Application Authentica- tion (AUTH, 0001, Appli- cation)

				Relate	ed logs
Symptom	Cause 1	Cause 2	Correction	Event log	Execution Log (Category, log code, and log name)
The sub- scription settings cannot be	Subscription error	The maximum value for subscriptions is exceeded.	Make sure that the number of OPC UA subscriptions does not exceed 100.		
config- ured.	Subscription error	The maximum value for Monitored Item is exceeded.	Make sure that the number of OPC UA client Monitored Items does not exceed 2,000 for NJ501-1□00 and 1,000 for NX102-□□□□□.		
	Subscription error	OPC UA is in a shutdown state.	Cycle the power supply to the Controller, or reset the Controller and then execute.	OPC UA Server Stopped (95D10000 hex)	OPC UA Server Shut- down (SERVER, 0006, Shut- down)
	Subscription error	OPC UA is in the Preparing state.	Execute after the state becomes Running.		
	Subscription error	The EtherNet/IP ca- ble has become dis- connected, commu- nications has been cut off, or other com- munications failure has occurred.	Check the network environment.		Connection from OPC UA client (AUTH, 0001, Appli- cation)

				Relate	ed logs
Symptom	Cause 1	Cause 2	Correction	Event log	Execution Log (Category, log code, and log name)
Execution logs are not recorded.	There is no SD Memory Card instal- led.	An SD Memory Card is not inserted correctly in the CPU Unit. The SD Memory Card is broken. Unsupported SD Memory Card is installed. The SD card is not formatted.	Insert an SD Memory Card into the CPU Unit correctly.	Execution Log Save Failed (15000000 hex)	
	SD Memory Card is write-protected.	The SD Memory Card is "write-pro- tected" with the write protection switch.	Change the write protection switch setting of the SD Memory Card to allow writing.	Execution Log Save Failed (15000000 hex)	
	The settings are incorrect.	The Do not record Option is selected for Execution Log in the OPC UA Server Settings Tab Page.	Select the <i>Record</i> Option for Execution Log in the OPC UA Server Settings Tab Page.		

Refer to 3-9 Errors in the OPC UA Function on page 3-802 for details on the event logs. Refer to NJ/NX-series CPU Unit OPC UA User's Manual (Cat. No. W588) for details on execution logs.



Appendices

The appendix describes the other errors (events) that can occur in models other than the standard CPU Units, the errors (events) that can occur in connected devices, the events in order of event codes, the applicable range of the HMI Troubleshooter and the correspondence of NX bus events for NX102 CPU Units, NX1P2 CPU Units and Slave Terminals.

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A-1 Other Errors (Events) That Can Occur in the CPU Units

This appendix provides tables of the errors (events) that can occur in models other than the standard NJ/NX-seriesCPU Units. These errors are not listed in *Section 3 Error Descriptions and Corrections* on page 3-1. Refer to *3-1 Interpreting Tables* on page 3-3 for interpreting error tables.

Refer to the manual for the specific product for details on errors.

A-1-1 Errors in the DB Connection Service Function

The section provides tables of the errors (events) that can occur in the DB connection service or DB connection instructions.

Refer to NJ/NX-series Database Connection CPU Units User's Manual(Cat. No. W527) for information on the model and the unit version of the CPU Unit with which you can use the DB connection service and DB connection instructions.

The errors are divided into the following functional groups.

- · Database connection service
- · Database connection instructions

DB Connection Service

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W527	NJ/NX-series Database Connection CPU Units User's Manual

					Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference	
14D00000 hex	Spool Mem- ory Corrupt- ed	Spool Memory Corrupted	The user application made an invalid writing to the Spool memory. Service start in Run mode in the DB Connection Service Settings was changed from anything other than Do not use to Do not use, and then changed again to anything other than Do not use.			0			W527	

						_eve	<u></u>		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
14D20000 hex	Execution Log Save Failed	Failed to save the Execution Log to the SD Memory Card.	 An SD Memory Card is not inserted. The SD Memory Card is not the correct type of card. The format of the SD Memory Card is not correct. The SD Memory Card is write protected. The capacity of the SD Memory Card is insufficient. The SD Memory Card is damaged. 			0	•		W527
14D30000 hex	SQL Execution Failure Log Save Failed	Failed to save the SQL Execution Fail- ure Log to the SD Memory Card.	 An SD Memory Card is not inserted. The SD Memory Card is not the correct type of card. The format of the SD Memory Card is not correct. The SD Memory Card is write protected. The capacity of the SD Memory Card is insufficient. The SD Memory Card is damaged. 			0	•		W527
35300000 hex	DB Connection Setting Error	The DB Connection settings are not correct.	The power supply to the Controller was interrupted during a download of the DB Connection settings. The DB Connection settings are not correct because the power supply to the Controller was interrupted during a Clear All Memory operation. The DB Connection settings are not correct because the power supply to the Controller was interrupted during a Restore operation. Non-volatile memory failed.			0			W527

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
35310000 hex	DB Server Certificate Error	The format of a DB server certificate is incorrect.	The DB server certificate, which must be formatted in the X.509 certificate, was downloaded in an incorrect format. The CPU Unit was powered OFF during a transfer of DB connection settings. The DB connection settings are incorrect because the Controller was powered OFF during Clear All Memory operation. The DB connection settings are incorrect because the Controller was powered OFF during restore operation. Non-volatile memory failure			0			W527
441C0000 hex	DB Connection Service System Error	A fatal error was detected in DB connection service.	A soft error occurred.			0			W527
85100000 hex	DB Connection Disconnected Error	DB connection was lost abnormally.	 The server was turned OFF. The DB is stopped in the server. The Ethernet cable connector is disconnected. The Ethernet cable is broken. Noise 			0			W527
95300000 hex	DB Connection Service	The DB Connection Service was started.	The DB Connection Service was successfully started.					0	W527
95310000 hex	DB Connection Service Stopped	The DB Connection Service was stopped.	The DB Connection Service was stopped.					0	W527
95320000 hex	DB Connection Service Shutdown	The DB Connection Service was shut down.	The DB connection service was ended.					0	W527
95330000 hex	Spool Cleared	The SQL statements stored in the spool memory were cleared.	The SQL statements stored in the spool memory were cleared.					0	W527
95340000 hex	Operation to Start DB Connection Service	Operation for starting the DB connection service was performed.	Operation for starting the DB connection service was performed with the Sysmac Studio.					0	W527
95350000 hex	Operation to Stop DB Connection Service	Operation for stop- ping the DB connec- tion service was per- formed.	Operation for stopping the DB connection service was performed with the Sysmac Studio.					0	W527

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
95360000 hex	Operation to End DB Connection Service	Operation for ending the DB connection service was performed.	Operation for ending the DB connection service was performed with the Sysmac Studio.					0	W527
95370000 hex	Operation to Clear Spool Memory	Operation for clearing the SQL statements stored in the spool memory was per- formed.	Operation for clearing the SQL statements stored in the spool memory was performed with the Sysmac Studio.					0	W527
95380000 hex	Operation to Clear Opera- tion Log	Operation for clearing the operation log was performed.	Operation for clearing the op- eration log was performed with the Sysmac Studio.					0	W527
95390000 hex	Operation to Start Debug Logging	Operation for starting debug logging was performed.	Operation for starting debug logging was performed with the Sysmac Studio.					0	W527
953A0000 hex	Operation to Stop Debug Logging	Operation for stop- ping debug logging was performed.	Operation for stopping debug logging was performed with the Sysmac Studio.					0	W527

DB Connection Instructions

The lower four digits of the event code give the error code (ErrorID) for the instruction. For descriptions of an error code, refer to the description of the corresponding event code. For example, if the error code for the instruction is 16#3000, refer to the description for event code 54013000 hex.

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W527	NJ/NX-series Database Connection CPU Units User's Manual

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54013000 hex	DB Connection Service Not Started	The DB Connection Service has not been started.	 A command to start the DB Connection Service was not given before the execution of relevant instruction. A command to stop the DB Connection Service was given before the execution of relevant instruction. 				0		W527
54013001 hex	DB Connection Service Run Mode Change Failed	Failed to change the Run mode of the DB Connection Service.	Run mode change to Test Mode was executed by the relevant instruction while running in Operation Mode. Run mode change to Operation Mode was executed by the relevant instruction while running in Test Mode. Start of the DB Connection Service was commanded while the DB Connection Service was being stopped. Shutdown of the DB Connection Service was commanded while the DB Connection Service was being stopped.				0		W527
54013002 hex	DB Connection Service Shutdown or Shutting Down	The DB Connection Service is already shut down or being shut down.	The relevant instruction was executed after the DB Connection Service was shut down. The relevant instruction was executed while the shutdown processing of the DB Connection Service was in progress.				0		W527

					ı	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54013003 hex	Invalid DB Connection Name	The specified DB Connection Name is not set in any DB Connection settings.	The DB Connection Name specified in the DBConnectionName input variable of the relevant instruction is wrong. The DB Connection Name set in the DB Connection settings is wrong.				0		W527
54013004 hex	DB Connection Rejected	The DB rejected the connection.	The user name or password set in the DB Connection set- tings is wrong.				0		W527
54013005 hex	DB Connection Failed	Failed to connect to the DB.	 A server does not exist for the specified IP address or the specified host name. The power supply to the server is OFF. The DB is stopped in the server. The Ethernet cable connector is disconnected. The Ethernet cable is broken. 				0		W527
54013006 hex	DB Connection Already Established	A same-name DB Connection is already established.	The relevant instruction was executed when a same-name DB Connection was already established.				0		W527
54013007 hex	Too Many DB Connec- tions	The number of DB Connections that can be established at the same time is exceed- ed.	The relevant instruction was executed when the maximum number of DB Connections that can be established at the same time were already established.				0		W527
54013008 hex	Invalid DB Connection	The specified DB Connection is not cor- rect, or the DB Con- nection is already closed.	 The DB Connection specified in the <i>DBConnection</i> input variable of the relevant instruction is wrong. The DB Connection specified in the <i>DBConnection</i> input variable of the relevant instruction is closed. 				0		W527
54013009 hex	Invalid DB Map Variable	The specified DB Map Variable is not correct.	 A structure variable that contains a derivative data type of member was specified as a DB Map Variable. A non-structure variable was specified as a DB Map Variable. A structure array variable was specified as a DB Map Variable for INSERT or UPDATE. 				0		W527

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
5401300A hex	Unregistered DB Map Var- iable	The specified DB Map Variable has not been registered.	 The DB Map Variable has not been created by a DB_Create-Mapping instruction. A variable that is not registered as a DB Map Variable was specified in <i>MapVar</i>. The DB Connection specified in the relevant instruction is different from the one specified at the execution of DB_Create-Mapping instruction. 				0		W527
5401300B hex	SQL Execution Error	The executed SQL statement resulted in an error.	 There is no column with the same name as a structure member of the DB Map Variable. The table specified in the DB_CreateMapping instruction does not exist in the DB. One or more structure member values of the DB Map Variable cannot be converted to the corresponding column's data type. One or more column values cannot be converted to the corresponding structure member's data type of the DB Map Variable. One or more structure member values of the DB Map Variable exceed the valid range of the corresponding column's data type. The column specified in the extraction condition does not exist in the DB's records. (DB_Select instruction, DB_Update instruction, DB_Delete instruction) The extraction condition has a syntax error. (DB_Select instruction) The column specified in the sort condition does not exist in the DB's records. (DB_Select instruction) The sort condition has a syntax error. (DB_Select instruction) The sort condition has a syntax error. (DB_Select instruction) The sort condition has a syntax error. (DB_Select instruction) The user does not have the access rights to the table. 				0		W527

					L	_eve	el .		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
5401300C hex	Spool Capacity Exceeded	The SQL statement could not be stored in the Spool memory because its maximum capacity was exceeded.	The DB connection failure has been continuing due to network failure or other factors. The resend processing of the SQL statements stored in the Spool memory has not been executed (when the Resend spool data parameter is set to Manual).				0		W527
5401300E hex	Invalid Ex- traction Con- dition	The entered extraction condition is invalid.	A text string that consists of a NULL (16#00) character only was specified in the <i>Where</i> in- put variable.				0		W527
54013010 hex	Log Code Out of Range	The value of the entered log code is outside the valid range.	A value outside the valid range from 0 to 9999 was specified.				0		W527
54013011 hex	DB Connection Disconnected Error Status	The instruction could not be executed because the DB Connection had been disconnected due to an error.	 The power supply to the server is OFF. The DB is stopped in the server. The Ethernet cable connector is disconnected. The Ethernet cable is broken. Noise 				0		W527
54013012 hex	DB Connection Instruction Execution Timeout	The instruction was not completed within the time specified for instruction execution timeout.	 The power supply to the server is OFF. The Ethernet cable connector is disconnected. The Ethernet cable is broken. The server's processing time is long. 				0		W527
54013013 hex	DB Connection Service Error Stop	The instruction could not be executed because the DB Connection Service was stopped due to an error.	The DB Connection settings are corrupted.				0		W527
54013014 hex	Data Already Spooled	One or more SQL statements are already stored in the Spool memory.	A DB_Insert or DB_Update instruction was executed when one or more SQL statements were already stored in the Spool memory. A DB_Select or DB_Delete instruction was executed when one or more SQL statements were already stored in the Spool memory.				0		W527

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54013015 hex	DB Connection Service Initializing	The instruction could not be executed because the initialization processing of the DB Connection Service is in progress.	The relevant instruction was executed during the initializa- tion processing of the DB Con- nection Service.				0		W527
54013016 hex	DB in Process	The instruction could not be executed because the DB is under processing in the server.	Though a DB Connection In- struction Execution Timeout occurred for the previous in- struction, the relevant instruc- tion was executed before com- pletion of the DB's processing in the server.				0		W527
54013017 hex	Operation Log Disa- bled	The log could not be recorded because the specified Operation Log is disabled.	 Though Execution Log was specified in the <i>LogType</i> input variable, the Execution Log is disabled. Though Debug Log was specified in the <i>LogType</i> input variable, recording to the Debug Log is stopped. 				0		W527
54013018 hex	Invalid Pro- cedure Han- dle	The specified procedure handles is invalid.	The procedure handle specified in the <i>ProcHandle</i> input variable of the relevant instruction is wrong.				0		W527
54013019 hex	Instruction Executed for Unsupported Database Type	The instruction was executed for a data-base type that is not supported by this instruction.	The database type specified in DB Connection Settings is not supported by the relevant in- struction.				0		W527
5401301A hex	Invalid Stor- ed Proce- dure Name	The specified stored procedure name does not exist.	The stored procedure name specified in the <i>ProcName</i> in- put variable of the relevant in- struction does not exist in the server-side database.				0		W527
5401301B hex	Invalid Stor- ed Proce- dure Argu- ment	The attached argument information does not match the argument of the stored procedure.	The name, number, and type of the stored procedure argument data that is retrieved from the server-side database do not match those of the input variables ArgIn, ArgOut, and ArgInOut of the relevant instruction.				0		W527
5401301C hex	Invalid Number of Columns for Stored Procedure Result Set	The number of col- umns in the stored procedure result set do not match the number of structure variable members where the result is stored.	The number of columns in the result set retrieved by the relevant instruction do not match the number of structure variable members where the result is stored.				0		W527

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
5401301E hex	DB Connection Service Not Used	DB connection service is set to Do not use .	The command was executed while DB connection service is set to Do not use .				0		W527

A-1-2 Errors in GEM Services

The section provides tables of the errors (events) that can occur in the GEM Services and GEM instructions.

You can use the GEM Services and GEM instructions with the NJ501-1340 CPU Unit. The unit version of the CPU Unit is 1.09 or later.

The errors are divided into the following functional groups.

- · GEM Services
- · GEM instructions

GEM Services

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W528	NJ-series SECS/GEM CPU Units User's Manual

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
14E00000 hex	Invalid GEM Setting Data	The GEM setting data is invalid.	The power supply to the CPU Unit was interrupted during a transfer of the setting data of the GEM Service. The setting data of the GEM Service is not correct because the power supply to the Controller was interrupted during a Clear All Memory operation. Non-volatile memory failed.			0			W528
14E20000 hex	Spool Data Discarded	The spool data is discarded.	The spool data was discarded because the power supply to the CPU Unit was interrupted with no shutdown.			0			W528
14E30000 hex	Spool Save Failed	Failed to save the spooled data to the SD Memory Card.	 The capacity of the SD Memory Card is insufficient. The SD Memory Card is damaged. 			0			W528
35400000 hex	Illegal Varia- ble Alloca- tion	Resolution of the variable allocation failed.	The variable that is specified in the SECS/GEM Configurator does not exist in the global variables. The data type, constant attribute, number of array dimensions or number of array elements of the variable that is set in the SECS/GEM Configurator is different from the variable defined in the global variables.			0			W528

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f	Reference
35410000 hex	Illegal TCP Port Number	The TCP port number for the host communications is illegal.	The TCP port number for the host communications is also used as the TCP port number of another function.			0			W528
14E10000 hex	GEM Service Log Save Failed	An error occurred when the GEM Service log is written to the SD Memory Card.	 The capacity of the SD Memory Card is insufficient. The SD Memory Card is damaged. 				0		W528
14E40000 hex	Invalid SD Memory Card	An SD Memory Card is not inserted or an SD Memory Card that cannot be written is inserted.	 An SD Memory Card is not inserted. The SD Memory Card type is not correct. The format of the SD Memory Card is not correct. The SD Memory Card is write protected. 				0		W528
66000000 hex	Send Trans- action Queue Over- run	The send transaction exceeded the capacity for temporary storage.	The capacity to process the send transaction is insufficient.				0		W528
66010000 hex	Reception Transaction Queue Over- run	The reception trans- action exceeded the capacity for tempora- ry storage.	The capacity to process the re- ception transaction is insuffi- cient.				0		W528
66020000 hex	Too Long SECS Mes- sage	The SECS message to be sent to the host exceeds the maximum length.	The SECS message to be sent to the host exceeds the maxi- mum length.				0		W528
95420000 hex	GEM Serv- ice Started	The GEM Service started normally.	The GEM Service started nor- mally.					0	W528
95430000 hex	Shutdown Completed	The shutdown processing was completed normally.	The shutdown processing was completed normally.					0	W528
95440000 hex	GEM Setting Data Changed	The setting data of the GEM Service was changed.	The setting data of the GEM Service from the SECS/GEM Configurator was changed.					0	W528
95450000 hex	Valid SD Memory Card	An SD Memory Card that can be written is inserted.	An SD Memory Card that can be written is inserted.					0	W528

GEM Instructions

The lower four digits of the event code give the error code (ErrorID) for the instruction. For descriptions of an error code, refer to the description of the corresponding event code. For example, if the error code for the instruction is 16#0400, refer to the description for event code 54010400 hex.

Cat. No.	Manual name
W502	NJ/NX-series Instructions Reference Manual
W528	NJ-series SECS/GEM CPU Units User's Manual

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54010400 hex	Input Value Out of Range	An input parameter for an instruction exceeded the valid range for an input variable. Or, division by an integer of 0 occurred in division or remainder calculations.	An input parameter for an instruction exceeded the valid range for an input variable. Or, division by an integer of 0 occurred in division or remainder calculations.				0		W502
54010419 hex	Incorrect Da- ta Type	A data type that cannot be used for an instruction is specified for an input or in-out variable.	A data type that cannot be used for an instruction is speci- fied for an input or in-out varia- ble.				0		W502
5401041D hex	Exceeded Simultane- ous Instruc- tion Execut- ed Resour- ces	The maximum resources that you can use for the relevant instruction group at the same time was exceeded.	More than the maximum num- ber of relevant instructions were executed at the same time.				0		W502
54013810 hex	GEM Serv- ice Status in Initializing	An instruction was executed when the GEM Service status was Initializing.	The relevant instruction was executed when the GEM Serv- ice status was Initializing.				0		W528
54013811 hex	GEM Service Status in EQStarting	An instruction was executed when the GEM Service status was EQStarting.	The relevant instruction was executed when the GEM Serv- ice status was EQStarting.				0		W528
54013812 hex	GEM Service Status in EQInitializing	An instruction was executed when the GEM Service status was EQInitializing.	The relevant instruction was executed when the GEM Serv- ice status was EQInitializing.				0		W528
54013813 hex	GEM Serv- ice Status in EQRun	An instruction was executed when the GEM Service status was EQRun.	The relevant instruction was executed when the GEM Serv- ice status was EQRun.				0		W528

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f	Reference
54013814 hex	GEM Service Status in Stop	An instruction was executed when the GEM Service status was Stop.	The relevant instruction was executed when the GEM Serv- ice status was Stop.				0		W528
54013815 hex	GEM Service Status in Error	An instruction was executed when the GEM Service status was Error.	The relevant instruction was executed when the GEM Serv- ice status was Error.				0		W528
54013816 hex	GEM Service Status in Shutting-Down	An instruction was executed when the GEM Service status was ShuttingDown.	The relevant instruction was executed when the GEM Serv- ice status was ShuttingDown.				0		W528
54013817 hex	GEM Service Status in Shutdown	An instruction was executed when the GEM Service status was Shutdown.	The relevant instruction was executed when the GEM Serv- ice status was Shutdown.				0		W528
54013818 hex	No Message Received	An instruction was executed without receiving a SECS message from the host.	The relevant instruction was executed without receiving the relevant SECS message from the host.				0		W528
54013819 hex	Multi-execution of Instructions	Processing of a trans- action for a different instance of the same instruction that was executed before this instruction is not com- pleted.	This instruction was executed before completing processing for a transaction for a different instance of the same instruc- tion.				0		W528
5401381A hex	State Transition in Progress	A state transition for a different instance of the same instruction that was executed before this instruction is not completed.	This instruction was executed for a different instance of the GEM_ChangeCommState instruction in EnabledNotComm state. This instruction was executed for a different instance of the GEM_ChangeControlState instruction in AttemptOnline state.				0		W528
5401381B hex	Insufficient Transaction Resource	The instruction was executed while the number of transactions that can be buffered exceeds the upper limit.	The instruction was executed while the number of transac- tions that can be buffered ex- ceeds the upper limit.				0		W528
54013820 hex	Too Many Characters	More characters were specified than the number that was set and the instruction was executed.	More characters were speci- fied than the number of char- acters set with the SECS/GEM Configurator.				0		W528

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54013821 hex	Invalid Size	An incorrect array or an array with an in- correct number of el- ements was specified and the instruction was executed.	A value was specified that is larger than the maximum table size set with the SECS/GEM Configurator.				0		W528
54013822 hex	Set to Disable	The instruction that was set to disable was executed.	The instruction executed for a GEM capability was disabled on the SECS/GEM Configura- tor.				0		W528
54013824 hex	Undefined CEID	An undefined CEID was specified and the instruction was executed.	A CEID that was not defined in the SECS/GEM Configurator was specified.				0		W528
54013825 hex	Undefined ALID	An undefined ALID was specified and the instruction was executed.	An ALID that was not defined in the SECS/GEM Configurator was specified.				0		W528
54013826 hex	Undefined CCODE	An undefined CCODE was speci- fied and the instruc- tion was executed.	A CCODE that was not defined in the SECS/GEM Configurator was specified.				0		W528
54013827 hex	Undefined Message Number	An undefined mes- sage number was specified and the in- struction was execut- ed.	A message number that was not defined in the SECS/GEM Configurator was specified.				0		W528
54013828 hex	HSMS Communications Setting Out of Range	An HSMS communications setting that is out of range was specified and the instruction was executed.	An HSMS communications setting that is out of range was specified.				0		W528
54013829 hex	TID Out of Range	A TID that is out of range was specified and the instruction was executed.	A TID that is out of range was specified.				0		W528
5401382C hex	Undefined ECID	An undefined ECID was specified and the instruction was executed.	An ECID that was not defined in the SECS/GEM Configurator was specified.				0		W528
5401382D hex	Type Mis- match	A value with an incorrect data type was specified and the instruction was executed.	A different equipment constant data type than the one regis- tered with the SECS/GEM Configurator was specified.				0		W528
5401382E hex	ECV Out of Range	An out-of-range value was specified for an equipment constant and the instruction was executed.	A value was specified that is outside the upper and lower limits of the value of the equip- ment constant that was set on the SECS/GEM Configurator.				0		W528

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f	Reference
5401382F hex	Illegal CPNAME	A CPNAME that is different form the re- ceived CPNAME was specified and the in- struction was execut- ed.	A CPNAME was specified that is different from the received CPNAME.				0		W528
54013830 hex	HCACK Out of Range	An HCACK that is out of range was speci- fied and the instruc- tion was executed.	An HCACK that is out of range was specified.				0		W528
54013831 hex	CPACK Out of Range	A CPACK that is out of range was speci- fied and the instruc- tion was executed.	A CPACK that is out of range was specified.				0		W528
54013832 hex	CEPACK Out of Range	A CEPACK that is out of range was speci- fied and the instruc- tion was executed.	A CEPACK that is out of range was specified.				0		W528
54013833 hex	ACKC7 Out of Range	An ACKC7 that is out of range was specified and the instruction was executed.	An ACKC7 that is out of range was specified.				0		W528
54013834 hex	ACKC7A Out of Range	An ACKC7A that is out of range was specified and the instruction was executed.	An ACKC7A that is out of range was specified.				0		W528
54013835 hex	ACKC10 Out of Range	An ACKC10 that is out of range was specified and the instruction was executed.	An ACKC10 that is out of range was specified.				0		W528
54013836 hex	EAC Out of Range	An EAC that is out of range was specified and the instruction was executed.	An EAC that is out of range was specified.				0		W528
54013838 hex	Illegal SECS Message	A message number for which an illegal SECS message is set was specified and the instruction was executed.	A message number for which a SECS message that does not agree with the instruction specifications was specified.				0		W528

A-1-3 Errors in Robot Control Function

This section provides tables of the errors (events) that can occur in the robot control functions and robot control instructions.

You can use the robot control functions and robot control instructions with the NJ501-R□□□ CPU Unit. The unit version of the CPU Unit is 1.41 or later.

General Robot Control

Cat. No.	Manual name
O037	NJ-series Robot Integrated CPU Unit User's Manual

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
17C00000 hex	Robot Control Parameter Setting Error	The robot control parameter settings that were saved in non-volatile memory are missing.	The power supply to the Controller was interrupted or communications with the Sysmac Studio were disconnected while downloading the robot control parameter settings or clearing memory. Built-in non-volatile memory in the CPU Unit failed.		0				O037
17C10000 hex	Remove SD Memory Card with Robot Con- trol Function Enabled	The SD Memory Card was removed when the robot control function was enabled.	The SD Memory Card was removed when the robot control function was enabled. The files related to the robot control function in the SD Memory Card were edited or deleted when the robot control function was enabled.		0				O037
17C20000 hex	Robot Control Function Enabled without SD Memory Card	The robot control function was enabled without inserting an SD Memory Card.	More than one robot device was assigned to the Robot Basic Settings and the robot control function was enabled without inserting an SD Memory Card. An SD Memory Card was inserted, however, it cannot be written due to write-protection, insufficient memory, or damage.		0				O037
37C00000 hex	Required Process Da- ta Object Not Set	The object that is absolutely required for the robot is not allocated to PDO.	The PDOs that are required for the robot are not mapped. Non-volatile memory failed.		0				O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
37C20000 hex	Robot Set- ting Mis- match	A mismatch was detected for the robot settings in the non-volatile memory and the SD Memory Card.	 An SD Memory Card was replaced. The files related to the robot control function in the SD Memory Card were overwritten without using the Sysmac Studio. 		0				O037
47C00000 hex	Robot Con- trol Initializa- tion Error	Initialization of the Robot Control Function Module failed.	The CPU Unit has failed.		0				O037
47C10000 hex	Robot Con- trol Function Module Sys- tem Error	A fatal error was detected in the Robot Control Function Module.	A fatal error was detected in the Robot Control Function Module.		0				O037
75000000 hex	Robot Control Period Exceeded	The robot control processing failures occurred two consecutive times during task period of primary periodic task.	 The task period of primary periodic task is too short for the amount of the user program that is executed in the primary periodic task. Too many robot control instructions are executed for the task period of primary periodic task. 		0				O037
47C20000 hex	Robot Control Function Module Processing Error	An unexpected error occurred in the Robot Control Function Module.	An unexpected error was detected in the Robot Control Function Module.			0			O037
55100000 hex	Robot Control Instruction Re-execution Disabled	An attempt was made to re-execute a robot control instruction that cannot be re-executed.	The Execute (Execute) input variable was re-executed during execution of the robot control instruction that has the Execute (Execute) input variable.			0			O037
55110000 hex	V+ Task Number Set- ting Out of Range	The value of <i>TaskNo</i> (Task Number) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
55120000 hex	Illegal Robot Specification	The robot specified for the <i>Robot</i> (Robot) in-out variable to a robot control instruction does not exist.	The value of variable that is used for the subscript for array of _RC_RBT[] robot variable specified for the <i>Robot</i> (Robot) in-out variable to an instruction, is specified to the robot that does not exist.			0			O037
55130000 hex	Illegal Pa- rameter List Specification	The value of PrgParam (Parame- ter List) input variable to a robot control in- struction is not cor- rect.	The length of the parameter list specified for the <i>PrgParam</i> (Parameter List) input variable to an instruction was outside of the valid range.			0			O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
55140000 hex	Starting Step Setting Out of Range	The parameter specified in the <i>StartStep</i> (Start Step) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
55150000 hex	Target Position Setting Out of Range	The value of <i>Position</i> (Target Position) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
55160000 hex	Lefty and Righty Set- ting Out of Range	The value of LeftyRighty (Lefty/ Righty Setting) member in the ArmConfig (Arm Configuration) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
55170000 hex	Above and Below Set- ting Out of Range	The value of AboveBelow (Abovel Below Setting) member in the ArmConfig (Arm Configuration) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
55180000 hex	Flip Setting Out of Range	The value of Flip (Flip Setting) member in the ArmConfig (Arm Configuration) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
55190000 hex	Velocity Pro- file Selection Out of Range	The value of VelocityProfile (Velocity Profile) member in the MotionParams (Motion Parameters) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
551A0000 hex	Velocity Mode Selec- tion Out of Range	The value of VelocityMode (Velocity Selection) member in the MotionParams (Motion Parameters) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
551B0000 hex	Velocity Ratio Setting Out of Range	The value of VelocityRatio (Velocity Ratio) member in the MotionParams (Motion Parameters) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
551C0000 hex	Rotation Velocity Ratio Setting Out of Range	The value of Rotation Velocity Ratio (Rotation Velocity Ratio) member in the MotionParams (Motion Parameters) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
551D0000 hex	Velocity Setting Out of Range	The value of Velocity (Velocity) member in the MotionParams (Motion Parameters) input variable to a robot control instruction is out of range. The value of Velocity (Velocity) input variable or Velocity (Velocity) member in the MotionParams (Motion Parameters) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
551E0000 hex	Acceleration Ratio Setting Out of Range	The value of AccelerationRatio (Acceleration Ratio) member in the MotionParams (Motion Parameters) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
551F0000 hex	Deceleration Ratio Setting Out of Range	The value of DecelerationRatio (Deceleration Ratio) member in the MotionParams (Motion Parameters) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
55200000 hex	Positioning Accuracy Selection Out of Range	The value of NullingTolerance (Positioning Accuracy) member in the MotionParams (Motion Parameters) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
55210000 hex	Rotation Limit Selec- tion Out of Range	The value of SingleTurn (Rotation Limit) member in the MotionParams (Motion Parameters) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
55220000 hex	Buffer Mode Selection Out of Range	The value of BufferMode (Buffer Mode Selection) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
55230000 hex	Target Position Specification Method Setting Out of Range	The value of PositionMode (Target Position Specification Method) input varia- ble to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
55240000 hex	Master Ma- chine ID Set- ting Out of Range	The value of MasterID (Master Machine ID) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
55250000 hex	Belt ID Set- ting Out of Range	The value of <i>BeltID</i> (Belt Number) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
55260000 hex	Scale Factor Setting Out of Range	The value of ScaleFactor (Scale Factor) member in the BeltData (Belt Data) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
55270000 hex	Coordinate System Set- ting Out of Range	The value of CoordTransform (Coordinate System) member in the BeltData (Belt Data), AxisData (Axis Data), AxesGroupData (Axes Group Data), or RobotData (Robot Data) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
55280000 hex	Upstream Limit Setting Out of Range	The value of Upstream (Upstream Limit) member in the BeltData (Belt Data) or AxisData (Axis Data) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
55290000 hex	Downstream Limit Setting Out of Range	The value of Downstream (Downstream Limit) member in the BeltData (Belt Data) or AxisData (Axis Data) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
552A0000 hex	Sensor Co- ordinate System Set- ting Out of Range	The value of SensorCoordTransfor m (Sensor Coordinate System) member in the BeltData (Belt Data), AxisData (Axis Data), or AxesGroupData (Axes Group Data) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
552B0000 hex	Position Type Selection Out of Range	The value of Referecne Type (Position Type Selection) member in the AxisData (Axis Data), AxesGroupData (Axes Group Data), or RobotData (Robot Data) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
552C0000 hex	Axis Assignment Out of Range	The value of Assignment (Axis Assignment) member in the AxesGroupData (Axes Group Data) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
552D0000 hex	Offset Position Setting Out of Range	The value of OffsetPosition (Offset Position) input varia- ble to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
552E0000 hex	Depart Height Set- ting Out of Range	The value of DepartHeight (Depart Height) input variable to a robot control in- struction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
552F0000 hex	Target Offset Setting Out of Range	The value of Offset (Target Offset) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
55300000 hex	Acceleration Setting Out of Range	The value of Acceleration (Acceleration) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
55310000 hex	Deceleration Setting Out of Range	The value of Deceleration (Deceleration) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
55320000 hex	Jerk Setting Out of Range	The value of <i>Jerk</i> (Jerk) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
55330000 hex	Robot Control Instruction Executed while Robot is not Attached	An instruction required that a robot has been attached was executed for the robot that has not been attached.	An instruction that controls a robot was executed for the robot that has not been attached.			0			O037
55340000 hex	Synchronization Ratio Setting Out of Range	The value of SyncRatio (Synchronization Ratio) in the AxisData (Axis Data), AxesGroupData (Axes Group Data), or RobotData (Robot Data) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
55350000 hex	Tool Coordination Transform Setting Out of Range	The value of ToolCoordTransform (Tool Conversion Coordinates) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O037
55360000 hex	Robot Con- trol Instruc- tion Multi-ex- ecution Dis- abled	Multiple robot control instructions that cannot be executed simultaneously were executed.	Multiple robot control instructions that cannot be executed simultaneously were executed.			0			O037
55370000 hex	Cannot Execute Robot Control Instruction during Synchronization	An instruction that cannot be executed during the synchronization was executed for a robot that was synchronized.	The RC_MoveDirect (Robot Joint Interpolation) instruction was executed for a robot that was synchronized.			0			O037
55380000 hex	Illegal Mas- ter Machine Specification	The master machine specified for the MasterID (Master Machine ID) input variable to a robot control instruction is not defined or the machine type is not correct.	 The master machine specified in the <i>MasterID</i> (Master Machine ID) input variable to the instruction is not defined. The machine type specified for the <i>MasterID</i> (Master Machine ID) input variable of the RC_ReadBeltLatch (Read Belt Latch) instruction, is not a belt. 			0			O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
55390000 hex	Illegal Axis Assignment	Multiple axes were assigned to the same element of the axis group coordinate sys- tem.	The specified value of Assignment (Axis Assignment) in the AxesGroupData (Axes Group Data) input variable to the RC_DefineGroup (Define Master Axes Group) instruction, is duplicated.			0			O037
553A0000 hex	Synchroni- zation Stop- ped	An instruction that can be executed only during synchronization was executed for a robot that was not synchronized.	The RC_SyncOut (End Robot Synchronization) instruction or RC_MasterOffset (Master Position Compensation) instruction was executed for a robot that was not synchronized.			0			O037
553C0000 hex	Robot Con- trol Instruc- tion Multi-ex- ecution Buf- fer Limit Ex- ceeded	The number of multi- execution for the ro- bot control instruc- tions exceeded the upper limit.	The total number of current robot control instructions and buffered robot control instructions exceeded eight.			0			O037
553D0000 hex	Robot Control Instruction Executed with Calibration Not	An instruction that is required for the calibration completion was executed for a robot whose calibration was not completed.	 An instruction that controls a robot was executed for the robot that the calibration has not been completed. An instruction to synchronize the master machine and the robot was executed for a robot whose calibration was not completed. 			0			O037
553E0000 hex	Robot Control Instruction Executed while Robot High Power is	An instruction required for the robot in a Power Enabled state was executed for the robot in which high power turns OFF.	An instruction that controls a robot was executed for the robot in which high power turns OFF.			0			O037
553F0000 hex	Robot Al- ready At- tached	An attempt was made to attach a robot again or execute calibration for the robot that was already attached.	The target robot was already attached in the sequence control program.			0			O037
55400000 hex	Robot Control Instruction Executed while Robot is MANUAL Mode or is not COMP Mode	A robot control in- struction for which the robot is MANUAL mode or is not COMP mode was executed.	The robot that you control is MANUAL mode. The robot in Auto mode that you control is not COMP mode.			0			O037
55410000 hex	Illegal Mas- ter Axis Specification	The axis specified for the master machine does not exist.	An axis does not exist for the variable specified for the <i>Axis</i> (Axis) in-out variable to the instruction.			0			O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
55420000 hex	Illegal Mas- ter Axes Group Spec- ification	The axes group that is specified for the master machine does not exist.	An axes group does not exist for the variable specified for the <i>AxesGroup</i> (Axes Group) in-out variable to the instruction.			0			O037
55430000 hex	Illegal Mas- ter Robot Specification	The robot specified for the master machine does not exist.	A robot does not exist for the variable specified for the MasterRobot (Master Robot) in- out variable to the instruction.			0			O037
55440000 hex	Cannot Execute Robot Control Instruction	The Robot Control Function Module is not running.	The robot control instruction was executed while the Robot Control Function Module was not running.			0			O037
55450000 hex	Master Ma- chine in Synchron- ized Control	The master machine specified for the MasterID (Master Machine ID) input variable to a robot control instruction is being used for synchronized control.	For the master machine that is currently used for synchronized control, an attempt was made to overwrite the definition of the master machine.			0			O037
55460000 hex	Master Position Compensation Enabled	Multiple Master Position Compensation instructions were enabled for the same robot.	For a robot whose master position was being corrected, an attempt was made to enable another Master Position Compensation instruction.			0			O037
55470000 hex	Simultane- ous Master Machine Definition	The master machine specified for the MasterID (Master Machine ID) input variable to a robot control instruction is defined with another instruction.	For the master machine specified for the <i>MasterID</i> (Master Machine ID) input variable to the instruction, an attempt was made to execute multiple defining operations at the same time.			0			O037
55480000 hex	Illegal Program Name Specification	The program name specified for the PrgName (Program Name) input variable to a robot control instruction is incorrect.	The length of the program name specified for the <i>PrgName</i> (Program Name) input variable to the instruction was outside of the valid range.			0			O037
55490000 hex	Cannot Read Belt Latch Simul- taneously	Multiple Read Belt Latch instructions were executed for the same belt.	For the belt for which a Read Belt Latch instruction was already being executed, an attempt was made to execute another Read Belt Latch instruction.			0			O037
554A0000 hex	Unsupported Function Executed	The function that is not supported was executed.	The function that is not supported by the robot was executed.			0			O037
554B0000 hex	Illegal IP Address Specification	The value of <i>IPAddr</i> input variable to a robot control instruction is not correct.	The length of the parameter list specified for the <i>IPAddr</i> input variable to an instruction was outside of the valid range.			0			O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
554C0000 hex	Vision Error Occurred	An error occurred during execution of the vision function in the IPC Application Controller from a sequence control program.	An error occurred during execution of the vision function in the IPC Application Controller.			0			O037
75010000 hex	Robot Con- trol Common Error Occur- red	A robot control common error occurred.	A partial fault level robot control common error occurred.			0			O037
75020000 hex	EtherCAT Slave Dis- connection Error	One of the following occurred for the EtherCAT slave that is allocated to a robot. Disconnect or replace the slave Disable the slave	One of the following occurred for the EtherCAT slave that is allocated to a robot. Disconnection or replacement Disablement			0			O037
75030000 hex	Robot Error Occurred	An error occurred in the robot that the ro- bot control instruction execution is in prog- ress.	An error occurred in the robot that the robot control instruction execution is in progress.			0			O037
75040000 hex	Robot Control Period Exceeded	The robot control processing failures occurred two consecutive times during task period of primary periodic task.	 The task period of primary periodic task is too short for the amount of the user program that is executed in the primary periodic task. Too many robot control instructions are executed for the task period of primary periodic task. 			0			O037
85800000 hex	EtherCAT Slave Com- munications Error	A communications error occurred for the EtherCAT slave that is allocated to a robot.	A communications error occurred for the EtherCAT slave that is allocated to a robot.			0			O037
96040000 hex	V+ Program Error	An error occurred in the V+ program.	An error occurred in the V+ program that was being executed.					0	O037
96050000 hex	V+ Program Warning	The V+ program issued a warning message.	The V+ program that was being executed issued a warning message.					0	O037
96060000 hex	V+ Program Information	The V+ program is- sued an information message.	The V+ program that was being executed issued an information message.					0	O037
96090000 hex	Robot Man- ual Mode Started	The robot was set to Manual mode.	The robot was set to Manual mode.					0	O037
960A0000 hex	Robot Auto Mode Start- ed	The robot was set to Auto mode.	The robot was set to Auto mode.					0	O037

Robot Control Instructions

The lower four digits of the event code represents the error code (ErrorID) for the instruction. For descriptions of error codes, refer to the description of the corresponding event code. For example, if the error code of the instruction is 16#5510, refer to the description of event code 54015510 hex.

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		name Meaning	Assumed cause	Level					
Event code	Event name			M a j	P rt	M i n	O b s	I n f o	Reference
54015510 hex	Robot Con- trol Instruc- tion Re-exe- cution Disa- bled	An attempt was made to re-execute a robot control instruction that cannot be re-executed.	The Execute (Execute) input variable was re-executed during execution of the robot control instruction that has the Execute (Execute) input variable.				0		O037
54015511 hex	V+ Task Number Set- ting Out of Range	The value of <i>TaskNo</i> (Task Number) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
54015512 hex	Illegal Robot Specification	The robot specified for the <i>Robot</i> (Robot) in-out variable to a robot control instruction does not exist.	The value of variable that is used for the subscript for array of _RC_RBT[] robot variable specified for the <i>Robot</i> (Robot) in-out variable to a instruction, is specified to the robot that does not exist.				0		O037
54015513 hex	Illegal Pa- rameter List Specification	The value of PrgParam (Parameter List) input variable to a robot control instruction is not correct.	The length of the parameter list specified for the <i>PrgParam</i> (Parameter List) input variable to an instruction was outside of the valid range.				0		O037
54015514 hex	Starting Step Setting Out of Range	The value specified in the StartStep (Start Step) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
54015515 hex	Target Position Setting Out of Range	The value of <i>Position</i> (Target Position) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015516 hex	Lefty and Righty Set- ting Out of Range	The value of LeftyRighty (Lefty/ Righty Setting) mem- ber in the ArmConfig (Arm Configuration) input variable to a ro- bot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
54015517 hex	Above and Below Set- ting Out of Range	The value of AboveBelow (Abovel Below Setting) member in the ArmConfig (Arm Configuration) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
54015518 hex	Flip Setting Out of Range	The value of <i>Flip</i> (Flip Setting) member in the <i>ArmConfig</i> (Arm Configuration) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
54015519 hex	Velocity Pro- file Selection Out of Range	The value of VelocityProfile (Velocity Profile) member in the MotionParams (Motion Parameters) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
5401551A hex	Velocity Mode Selec- tion Out of Range	The value of VelocityMode (Velocity Selection) member in the MotionParams (Motion Parameters) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
5401551B hex	Velocity Ratio Setting Out of Range	The value of VelocityRatio (Velocity Ratio) member in the MotionParams (Motion Parameters) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
5401551C hex	Rotation Velocity Ratio Setting Out of Range	The value of RotationVelocityRatio (Rotation Velocity Ratio) member in the MotionParams (Motion Parameters) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
5401551D hex	Velocity Setting Out of Range	The value of <i>Velocity</i> (Velocity) member in the <i>MotionParams</i> (Motion Parameters) input variable to a robot control instruction is out of range. The value of <i>Velocity</i> (Velocity) input variable or <i>Velocity</i> (Velocity) member in the <i>MotionParams</i> (Motion Parameters) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
5401551E hex	Acceleration Ratio Setting Out of Range	The value of AccelerationRatio (Acceleration Ratio) member in the MotionParams (Motion Parameters) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
5401551F hex	Deceleration Ratio Setting Out of Range	The value of DecelerationRatio (Deceleration Ratio) member in the MotionParams (Motion Parameters) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
54015520 hex	Positioning Accuracy Selection Out of Range	The value of NullingTolerance (Positioning Accuracy) member in the MotionParams (Motion Parameters) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015521 hex	Rotation Limit Selec- tion Out of Range	The value of SingleTurn (Rotation Limit) member in the MotionParams (Motion Parameters) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
54015522 hex	Buffer Mode Selection Out of Range	The value of BufferMode (Buffer Mode Selection) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
54015523 hex	Target Position Specification Method Setting Out of Range	The value of PositionMode (Target Position Specification Method) input varia- ble to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
54015524 hex	Master Ma- chine ID Set- ting Out of Range	The value of MasterID (Master Machine ID) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
54015525 hex	Belt ID Set- ting Out of Range	The value of <i>BeltID</i> (Belt Number) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
54015526 hex	Scale Factor Setting Out of Range	The value of ScaleFactor (Scale Factor) member in the BeltData (Belt Data) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
54015527 hex	Coordinate System Set- ting Out of Range	The value of CoordTransform (CoordTransform (Coordinate System) member in the BeltData (Belt Data), AxisData (Axis Data), AxesGroupData (Axes Group Data), or RobotData (Robot Data) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015528 hex	Upstream Limit Setting Out of Range	The value of Upstream (Upstream Limit) member in the BeltData (Belt Data) or AxisData (Axis Data) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
54015529 hex	Downstream Limit Setting Out of Range	The value of Downstream (Downstream Limit) member in the BeltData (Belt Data) or AxisData (Axis Data) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
5401552A hex	Sensor Co- ordinate System Set- ting Out of Range	The value of SensorCoordTransfor m (Sensor Coordinate System) member in the BeltData (Belt Data), AxisData (Axis Data), or AxesGroupData (Axes Group Data) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
5401552B hex	Position Type Selec- tion Out of Range	The value of Referecne Type (Position Type Selection) member in the AxisData (Axis Data), AxesGroupData (Axes Group Data), or RobotData (Robot Data) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
5401552C hex	Axis Assignment Out of Range	The value of Assignment (Axis Assignment) member in the AxesGroupData (Axes Group Data) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
5401552D hex	Offset Position Setting Out of Range	The value of OffsetPosition (Offset Position) input varia- ble to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
5401552E hex	Depart Height Set- ting Out of Range	The value of DepartHeight (Depart Height) input variable to a robot control in- struction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
5401552F hex	Target Offset Setting Out of Range	The value of Offset (Target Offset) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
54015530 hex	Acceleration Setting Out of Range	The value of Acceleration (Acceleration) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
54015531 hex	Deceleration Setting Out of Range	The value of Deceleration (Deceleration) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
54015532 hex	Jerk Setting Out of Range	The value of Jerk (Jerk) input variable to a robot control in- struction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
54015533 hex	Robot Con- trol Instruc- tion Execut- ed while Ro- bot is not At- tached	An instruction required that a robot has been attached was executed for the robot that has not been attached.	An instruction that controls a robot was executed for the robot that has not been attached.				0		O037
54015534 hex	Synchronization Ratio Setting Out of Range	The value of SyncRatio (Synchronization Ratio) in the AxisData (Axis Data), AxesGroupData (Axes Group Data), or RobotData (Robot Data) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015535 hex	Tool Coordination Transform Setting Out of Range	The value of ToolCoordTransform (Tool Conversion Coordinates) input variable to a robot control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O037
54015536 hex	Robot Control Instruction Multi-execution Disabled	Multiple robot control instructions that cannot be executed simultaneously were executed.	Multiple robot control instructions that cannot be executed simultaneously were executed.				0		O037
54015537 hex	Cannot Execute Robot Control Instruction during Synchronization	An instruction that cannot be executed during the synchronization was executed for a robot that was synchronized.	The RC_MoveDirect (Robot Joint Interpolation) instruction was executed for a robot that was synchronized.				0		O037
54015538 hex	Illegal Mas- ter Machine Specification	The master machine specified for the MasterID (Master Machine ID) input variable to a robot control instruction is not defined or the machine type is not correct.	The master machine specified in the MasterID (Master Machine ID) input variable to the instruction is not defined. The machine type specified for the MasterID (Master Machine ID) input variable of the RC_ReadBeltLatch (Read Belt Latch) instruction, is not a belt.				0		O037
54015539 hex	Illegal Axis Assignment	Multiple axes were assigned to the same element of the axis group coordinate sys- tem.	The specified value of Assignment (Axis Assignment) in the AxesGroupData (Axes Group Data) input variable to the RC_DefineGroup (Define Master Axes Group) instruction, is duplicated.				0		O037
5401553A hex	Synchroni- zation Stop- ped	An instruction that can be executed only during synchronization was executed for a robot that was not synchronized.	The RC_SyncOut (End Robot Synchronization) instruction or RC_MasterOffset (Master Position Compensation) instruction was executed for a robot that was not synchronized.				0		O037
5401553C hex	Robot Con- trol Instruc- tion Multi-ex- ecution Buf- fer Limit Ex- ceeded	The number of multi- execution for the ro- bot control instruc- tions exceeded the upper limit.	The total number of current robot control instructions and buffered robot control instructions exceeded eight.				0		O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
5401553D hex	Robot Control Instruction Executed with Calibration Not	An instruction that is required for the calibration completion was executed for a robot whose calibration was not completed.	 An instruction that controls a robot was executed for the robot that the calibration has not been completed. An instruction to synchronize the master machine and the robot was executed for a robot whose calibration was not completed. 				0		O037
5401553E hex	Robot Control Instruction Executed while Robot High Power is	An instruction required for the robot in a Power Enabled state was executed for the robot in which high power turns OFF.	An instruction that controls a robot was executed for the robot in which high power turns OFF.				0		O037
5401553F hex	Robot Al- ready At- tached	An attempt was made to attach a robot again or execute calibration for the robot that was already attached.	The target robot was already attached in the sequence control program.				0		O037
54015540 hex	Robot Control Instruction Executed while Robot is MAN-UAL Mode or is not COMP Mode	A robot control in- struction for which the robot is MANUAL mode or is not COMP mode was executed.	The robot that you control is MANUAL mode. The robot in Auto mode that you control is not COMP mode.				0		O037
54015541 hex	Illegal Mas- ter Axis Specification	The axis specified for the master machine does not exist.	An axis does not exist for the variable specified for the <i>Axis</i> (Axis) in-out variable to the instruction.				0		O037
54015542 hex	Illegal Mas- ter Axes Group Spec- ification	The axes group that is specified for the master machine does not exist.	An axes group does not exist for the variable specified for the AxesGroup (Axes Group) in-out variable to the instruction.				0		O037
54015543 hex	Illegal Mas- ter Robot Specification	The robot specified for the master machine does not exist.	A robot does not exist for the variable specified for the MasterRobot (Master Robot) inout variable to the instruction.				0		O037
54015544 hex	Cannot Exe- cute Robot Control In- struction	The Robot Control Function Module is not running.	The robot control instruction was executed while the Robot Control Function Module was not running.				0		O037

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015545 hex	Master Ma- chine in Synchron- ized Control	The master machine specified for the MasterID (Master Machine ID) input variable to a robot control instruction is being used for synchronized control.	For the master machine that is currently used for synchronized control, an attempt was made to overwrite the definition of the master machine.				0		O037
54015546 hex	Master Position Compensation Enabled	Multiple Master Position Compensation instructions were enabled for the same robot.	For a robot whose master position was being corrected, an attempt was made to enable another Master Position Compensation instruction.				0		O037
54015547 hex	Simultane- ous Master Machine Definition	The master machine specified for the MasterID (Master Machine ID) input variable to a robot control instruction is defined with another instruction.	For the master machine specified for the <i>MasterID</i> (Master Machine ID) input variable to the instruction, an attempt was made to execute multiple defining operations at the same time.				0		O037
54015548 hex	Illegal Program Name Specification	The program name specified for the <i>PrgName</i> (Program Name) input variable to a robot control instruction is incorrect.	The length of the program name specified for the <i>PrgName</i> (Program Name) input variable to the instruction was outside of the valid range.				0		O037
54015549 hex	Cannot Read Belt Latch Simul- taneously	More than one Read Belt Latch instruction was executed for the same belt at the same time.	For the belt for which a Read Belt Latch instruction was already being executed, an attempt was made to execute another Read Belt Latch instruction.				0		O037
5401554A hex	Unsupported Function Executed	The function that is not supported was executed.	The function that is not supported by the robot was executed.				0		O037
5401554B hex	Illegal IP Address Specification	The value of <i>IPAddr</i> input variable to a robot control instruction is not correct.	The length of the parameter list specified for the <i>IPAddr</i> input variable to an instruction was outside of the valid range.				0		O037

A-1-4 Errors in NJ Robotics Function

This section provides tables of the errors (events) that can occur in the NJ Robotics functions and robot instructions.

You can use the NJ Robotics functions and robot instructions with the NJ501-4□□□ CPU Unit and the NJ501-R□□□ CPU Unit. The unit version of the CPU Unit is 1.09 or later.

NJ Robotics Function

The upper four digits of the event code give the error code (ErrorID) for the instruction. For descriptions of an error code, refer to the description of the corresponding event code. For example, if the error code for the instruction is 16#5422, refer to the description for event code 54220000 hex.

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				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54220000 hex	Target Ve- locity Setting Out of Range	The parameter specified for the <i>Velocity</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			W539
54230000 hex	Acceleration Setting Out of Range	The parameter specified for the Acceleration input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			W539
54240000 hex	Deceleration Setting Out of Range	The parameter specified for the Deceleration input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			W539
542B0000 hex	Buffer Mode Selection Out of Range	The parameter specified for the BufferMode input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			W539

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
542C0000 hex	Coordinate System Se- lection Out of Range	The parameter specified for the CoordSystem input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			W539
542E0000 hex	Direction Selection Out of Range	The parameter specified for the <i>Direction</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			W539
54320000 hex	Transition Mode Selec- tion Out of Range	The parameter specified for the TransitionMode input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable. Image:mcAborting ormcBuffered was specified for BufferMode andmcTMNone was not specified for TransitionMode.			0			W539
543B0000 hex	Motion Control Instruction Re-execution Disabled	An attempt was made to re-execute a motion control instruction that cannot be reexecuted.	A motion control instruction that cannot be re-executed was re-executed.			0			W539
543C0000 hex	Motion Control Instruction Multi-execution Disabled	Multiple functions that cannot be executed simultaneously were executed for the same target (MC common, axis, or axes group).	Multiple functions that cannot be executed simultaneously were executed for the same target (MC common, axis, or axes group).			0			W539
543E0000 hex	Instruction Cannot Be Executed during Multi- axes Coordi- nated Con- trol	 A motion instruction was executed for an axis or an axes group that was in a coordinated multi-axes motion. A robot instruction that you cannot use for an axes group in a Group-Enable state was executed. 	 A motion instruction was executed for an axis or an axes group that was in a coordinated multiaxes motion. The MC_SetKinTransform instruction was executed for an axes group in a GroupEnable state. 			0			W539

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
543F0000 hex	Multi-axes Coordinated Control In- struction Executed for Disabled Ax- es Group	A multi-axes coordinated control instruction was executed for an axes group that was in a GroupDisable state.	A multi-axes coordinated control instruction was executed for an axes group that was in the Axes Group Disabled state. One of the following instructions was executed for an axes group that was in a GroupDisable state. MC_MoveTimeAbsolute MC_SyncLinearConveyor MC_SyncOut MC_RobotJog			0			W539
54410000 hex	Impossible Axis Operation Specified when the Servo is OFF	A motion instruction was executed for an axis for which the Servo is OFF.	A motion instruction was executed for an axis for which the Servo is OFF. A zero position preset was performed with the MC_Home or MC_HomeWithParameter instruction for an axis for which EtherCAT process data communications are not established.			0			W539
54420000 hex	Composition Axis Stop- ped Error	A motion instruction was executed for an axes group while the MC_Stop instruction was being executed for a composition axis.	A motion instruction was executed for an axes group while the MC_Stop instruction was being executed for a composition axis.			0			W539
54430000 hex	Motion Control Instruction Multi-execution Buffer Limit Exceeded	The number of motion control instructions that is buffered for Buffered or Blending Buffer Modes exceeded the buffer limit.	 An axis instruction was executed when there was already a current instruction and a buffered instruction for the same axis. An axes group instruction was executed when there was already eight current instructions and buffered instructions for the same axis. 			0			W539
54570000 hex	Motion Control Instruction Re-execution Disabled (Axes Group Specification)	An attempt was made to change the parameter for the AxesGroup input variable when re-executing a motion control instruction. (This input variable cannot be changed when reexecuting an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.			0			W539

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54610000 hex	Illegal Axes Group Spec- ification	The axes group specified for the AxesGroup input variable to a motion control instruction does not exist or is not a used group.	 An axes group does not exist for the variable specified for the AxesGroup input variable to the instruction. The axes group specified for the AxesGroup input variable to the instruction is not specified as a used group. 			0			W539
54660000 hex	Instruction Execution Error with Undefined Home	High-speed homing, an interpolation in- struction, or a robot instruction was exe- cuted when home was undefined.	High-speed homing was executed when home was undefined. An interpolation instruction was executed for an axes group that includes an axis with no defined home. One of the following robot instructions was executed for an axes group that includes a logical axis with no defined home. MC_SetKinTransform MC_MoveTimeAbsolute MC_SyncLinearConveyor MC_SyncOut MC_GroupMon MC_RobotJog			0			W539
54780000 hex	Target Position Setting Out of Range	The parameter specified for the <i>Position</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable. The target position of a Rotary Mode axis is not within the ring setting range.			0			W539
57050000 hex	Kinematics Unsupported Instruction	An attempt was made to execute an instruction that cannot be used for an axes group for which the kinematics transform was set.	One of the following instructions was executed for an axes group for which the kinematics transform was set. MC_MoveLinear MC_MoveLinearAbsolute MC_MoveLinearRelative MC_MoveCircular2D MC_ChangeAxesInGroup			0			W539

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
57060000 hex	Axes Group Mismatch with Kine- matics	The configuration elements of the specified axes group and the specified kinematics do not match.	 The number of axes in the axes group and the number of axes in the specified robot (kinematics type) do not match. The count mode for axes in the axes group and the count mode for the specified robot (kinematics type) do not match. The display unit for axes in the axes group and the display unit for the specified robot (kinematics type) do not match. 			0			W539
57070000 hex	Kinematics Type Out of Range	KinType specified for the KinTransform in- put variable to a mo- tion control instruction is out of range.	KinType is outside the setting range.			0			W539
57080000 hex	Kinematics Parameter Out of Range	KinParam or ExpansionParam specified for the KinTransform input variable to a motion control instruction is out of range.	 KinParam is outside the setting range. ExpansionParam is outside the setting range. 			0			W539
57090000 hex	Workspace Type Out of Range	WorkspaceType specified for the Workspace input variable to a motion control instruction is out of range.	WorkspaceType is outside the setting range.			0			W539
570A0000 hex	Workspace Parameter Out of Range	WorkspaceParam specified for the Workspace input variable to a motion control instruction is out of range.	WorkspaceParam is outside the setting range.			0			W539
570B0000 hex	Invalid Coordinate System Number	The coordinate system ID specified for the <i>CSID</i> input variable to a motion control instruction is out of range or not defined.	The coordinate system ID is outside the setting range. The specified coordinate system ID is not defined by the MC_DefineCoordSystem instruction.			0			W539

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
570C0000 hex	Coordinate Transforma- tion Parame- ter Out of Range	The coordinate transformation parameter <i>Pose</i> , which was specified for the <i>CoordTransform</i> input variable to a motion control instruction, is out of range.	The coordinate transformation parameter <i>Pose</i> is outside the setting range.			0			W539
570D0000 hex	Transition parameters out of range	The Transition Parameters specified for the TransitionParameter input variable to a motion control instruction is out of range.	TransitionParameter is outside the setting range.			0			W539
570F0000 hex	Cannot Cal- culate Kine- matics	The inverse kinematics or direct kinematics cannot be calculated.	 The kinematics parameter is outside the setting range. One of the robot axes (A0 to A2) is stopped at the position for which direct kinematics calculation cannot be performed. Inverse kinematics calculation cannot be performed for the target position specified in the machine coordinate system. 			0			W539
57100000 hex	Kinematics Transform Not Set	The kinematics transform is not set for the specified axes group.	The kinematics transform is not set for the axes group.			0			W539
57110000 hex	Target Position Out of Range	The position parameter specified as variable for the <i>Position</i> is out of range.	Specified wrong value of Position input.			0			W539
57120000 hex	Velocity Er- ror Detection Value Out of Range	MaxVelocity specified for the TrajData input variable to a motion control instruction is out of range.	MaxVelocity is outside the setting range.			0			W539
57130000 hex	Acceleration Error Detection Value Out of Range	MaxAcceleration specified for the TrajData input varia- ble to a motion con- trol instruction is out of range.	MaxAcceleration is outside the setting range.			0			W539
57140000 hex	Trajectory Target Time Out of Range	TrajTime specified for the TrajData input variable to a motion control instruction is out of range.	TrajTime is outside the setting range.			0			W539

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
57150000 hex	Trajectory Type Out of Range	MoveTrajType specified for the TrajData input variable to a motion control instruction is out of range.	MoveTrajType or SyncTrajType is outside the setting range.			0			W539
57160000 hex	Trajectory Transition Out of Range	TrajTransition speci- fied for the TrajData input variable to a motion control in- struction is out of range.	TrajTransition is outside the setting range.			0			W539
57170000 hex	Trajectory Travel Dis- tance Out of Range	TrajDistance specified for the TrajData input variable to a motion control instruction is out of range.	TrajDistance is outside the setting range.			0			W539
57190000 hex	Initial Work- piece Posi- tion Outside Workspace	The position of the workpiece specified for the InitWorkpiecePosition input variable to a motion control instruction is outside the workspace.	InitWorkpiecePosition is outside the workspace.			0			W539
571A0000 hex	Invalid Conveyor Axis Specified	The axis specified for the <i>ConveyorAxis</i> inout variable to a motion control instruction is not correct.	 The specified axis is registered in the axes group which is specified for <i>AxesGroup</i>. The specified axis is an unused axis. The unit of the conveyor axis is incorrect. 			0			W539
571B0000 hex	Target Position Outside Workspace	The target position specified for the <i>Position</i> input variable to a motion control instruction is outside the workspace.	Position is outside the work- space.			0			W539
571C0000 hex	Cannot Cancel Synchronization	The MC_SyncOut instruction cannot be executed.	The MC_SyncLinearConveyor instruction was not executed. The MC_SyncLinearConveyor instruction execution is in progress, but synchronization is not currently performed.			0			W539
571E0000 hex	Too Many Kinematics	The number of kine- matics exceeded the limit.	The number kinematics set by the MC_SetKinTransform in- struction exceeded the limit.			0			W539
571F0000 hex	Kinematics Initialization Error	Kinematics initialization failed.	One of the robot axes (A0 to A3) is stopped at the position for which direct kinematics cal- culation cannot be performed.			0			W539

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
57320000 hex	Invalid Tool Number	The tool ID specified for the <i>ToolID</i> input variable to a motion control instruction is out of range or not defined.	 ToolID is outside the setting range. The specified tool ID is not defined by the MC_DefineTool-Transform instruction. 			0			W539
57330000 hex	Tool Param- eter Out of Range	The transform parameter specified for the <i>ToolTransform</i> input variable to a motion control instruction is out of range.	The transform parameter is outside the setting range.			0			W539
57340000 hex	Unsupported Transition Data	The transition mode specified for the TransitionMode input variable to a motion control instruction does not support the current instruction or the buffered instruction.	 The parameters specified for the <i>TransitionParameter</i> input variable cannot be used for transition in the mode specified for the <i>TransitionMode</i> input variable. The trajectory data which is set for the buffered instruction cannot be used for transition in the mode specified for the <i>TransitionMode</i> input variable. 			0			W539
57360000 hex	Offset Not Allowed	During the MC_Syn- cLinearConveyor in- struction execution, the offset function can be used only in Phase6.	The EnableOffset input variable changed to TRUE before the MC_SyncLinearConveyor instruction operation entered Phase6.			0			W539
57370000 hex	Motion Control Instruction Multiexecution Disabled (Trajectory Type)	An input variable that cannot be changed was changed during multi-execution of instructions.	MoveTrajType or SyncTrajType for the current instruction do not match MoveTrajType or SyncTrajType for the next in- struction executed with Buffered or Blending.			0			W539
57390000 hex	Unsupported Transition Mode	The next instruction was executed with TransitionMode which does not support the combination of the current and next instructions.	The transition mode specified for the <i>TransitionMode</i> input variable to a motion control instruction does not support the combination of the current instruction and buffered instruction.			0			W539
57440000 hex	Jog Mode Out of Range	The JogMode input variable to the MC_RobotJog instruction is out of range.	The JogMode input variable to the MC_RobotJog instruction is outside the setting range.			0			W539

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
57450000 hex	Initial Work- piece Posi- tion Out of Range	The InitWorkpiecePosition input variable to the MC_SyncLinearConveyor instruction is out of range.	The InitWorkpiecePosition in- put variable to the MC_SyncLi- nearConveyor instruction is outside the setting range.			0			W539
57460000 hex	Maximum Interpolation Velocity Outof Range	The MaxVelocityTCP input variable to the MC_SetKinTransform instruction is out of range.	The MaxVelocityTCP input variable to the MC_SetKinTransform instruction is outside the setting range.			0			W539
57470000 hex	Maximum Interpolation Acceleration Out of Range	The MaxAccelerationTCP input variable to the MC_SetKinTransform instruction is out of range.	The MaxAccelerationTCP input variable to the MC_SetKin- Transform instruction is outside the setting range.			0			W539
57480000 hex	Maximum Interpolation Deceleration Out of Range	The MaxDecelerationTCP input variable to the MC_SetKinTransform instruction is out of range.	The MaxDecelerationTCP input variable to the MC_SetKin- Transform instruction is outside the setting range.			0			W539
64430000 hex	Positive Limit Input	An instruction was executed for a motion in the positive direction when the positive limit input was ON.	An instruction for a motion in the positive direction was executed when the positive limit input was ON, or an instruction for a motion with no direction specification was executed when the positive limit input was ON. An axes group motion control instruction was executed when the positive limit input was ON.			0			W539
64440000 hex	Negative Limit Input	An instruction for a motion in the negative direction was executed when the negative limit input was ON.	An instruction for a motion in the negative direction was executed when the negative limit input was ON, or an instruction for a motion with no direction specification was executed when the negative limit input was ON. An axes group motion control instruction was executed when the negative limit input was ON.			0			W539

		Meaning	Assumed cause		ı	_eve			
Event code	Event name			M a j	P rt	M i n	O b s	I n f o	Reference
64590000 hex	Home Undefined during Coordinated Motion	Home of the logical axis became undefined during axes group motion or while decelerating to a stop.	 The command position or actual position overflowed or underflowed for a logical axis in an axes group motion or a logical axis that was decelerating to a stop and the home definition was lost. A slave communications error occurred for a logical axis and home became undefined during axes group motion or while decelerating to a stop. A slave for a logical axis left the network or was disabled and home became undefined during axes group motion or while decelerating to a stop. 			0			W539
645A0000 hex	Maximum In- terpolation Velocity Er- ror	The command velocity exceeded the maximum interpolation velocity specified for the <i>MaxVelocityTCP</i> input variable to the MC_SetKinTransform instruction.	The trajectory data for the current instruction is incorrect. The maximum interpolation velocity specified for the MaxVelocityTCP input variable to the MC_SetKinTransform instruction is incorrect or too low.			0			W539
645B0000 hex	Maximum Interpolation Acceleration Error	The command acceleration rate exceeded the maximum interpolation acceleration specified for the MaxAccelerationTCP input variable to the MC_SetKinTransform instruction.	The trajectory data for the current instruction is incorrect. The maximum interpolation acceleration specified for the MaxAccelerationTCP input variable to the MC_SetKin-Transform instruction is incorrect or too low.			0			W539
645C0000 hex	Maximum Interpolation Deceleration Error	The command deceleration rate exceeded the maximum interpolation deceleration specified for the Max DecelerationTCP input variable to the MC_SetKinTransform instruction.	The trajectory data for the current instruction is incorrect. The maximum interpolation deceleration specified for the MaxDecelerationTCP input variable to the MC_SetKin-Transform instruction is incorrect or too low.			0			W539
67000000 hex	Command Position Out- side Work- space	The command position is outside the workspace.	The specified trajectory data is incorrect.			0			W539

	Event name	Meaning Assumed cause		L	_eve				
Event code			Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
67010000 hex	Current Position Outside Workspace	The current position was outside the workspace when an instruction was executed.	The current position was outside the workspace when one of the following instructions was executed. MC_MoveTimeAbsolute MC_SyncLinearConveyor MC_SyncOut MC_RobotJog			0			W539
67020000 hex	Workpiece Synchroni- zation Ex- cessive Fol- lowing Error	The robot could not catch up the work-piece on the conveyor.	The conveyor position was changed before the robot reached the workpiece. The conveyor current position is incorrect.			0			W539
67030000 hex	Velocity Er- ror Detection	The command velocity exceeded MaxVelocity specified for the TrajData input variable to a motion control instruction.	The combination of parameters specified for the <i>TrajData</i> input variable caused a too high command velocity. The parameters specified for the <i>TrajData</i> input variable are incorrect. MaxVelocity is too low.			0			W539
67040000 hex	Acceleration Error Detection	The command acceleration rate exceeded the <i>MaxAcceleration</i> specified for the <i>TrajData</i> input variable to a motion control instruction.	 The combination of parameters specified for the <i>TrajData</i> input variable caused a too high command acceleration rate. The parameters specified for the <i>TrajData</i> input variable are incorrect. <i>MaxAcceleration</i> is too low. 			0			W539
67050000 hex	Command Current Ve- locity Limit Exceeded	The command current velocity exceeded the axis maximum velocity.	The axis maximum velocity was exceeded.			0			W539
74300000 hex	Axes Group Composition Axis Error	An error occurred for an axis in an axes group.	An error occurred for an axis in an axes group that was in mo- tion.			0			W539
77000000 hex	Conveyor Axis Position Read Error	The MC_SyncLinear- Conveyor instruction cannot be executed due to a conveyor ax- is position error.	EtherCAT process data communications are not established for the conveyor axis. The slave of the conveyor axis was disconnected. An Absolute Encoder Current Position Calculation Failed error (64580000 hex) was detected for the conveyor axis.			0			W539

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
94230000 hex	Transition Parameter Adjusted	The specified TransitionParameter input variable was adjusted before transition started.	The transition start condition specified for TransitionParameter input variable for multi-execution of instructions was already exceeded by the current instruction.				0		W539

Robot Instructions

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015422 hex	Target Ve- locity Setting Out of Range	The parameter specified for the <i>Velocity</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		W539
54015423 hex	Acceleration Setting Out of Range	The parameter specified for the Acceleration input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		W539
54015424 hex	Deceleration Setting Out of Range	The parameter specified for the Deceleration input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		W539
5401542B hex	Buffer Mode Selection Out of Range	The parameter specified for the BufferMode input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		W539
5401542C hex	Coordinate System Se- lection Out of Range	The parameter specified for the CoordSystem input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		W539
5401542E hex	Direction Selection Out of Range	The parameter specified for the <i>Direction</i> input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		W539

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015432 hex	Transition Mode Selec- tion Out of Range	The parameter specified for the TransitionMode input variable to a motion control instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable. Image:mcAborting ormcBuffered was specified for BufferMode andmcTMNone was not specified for TransitionMode.				0		W539
5401543B hex	Motion Control Instruction Re-execution Disabled	An attempt was made to re-execute a motion control instruction that cannot be reexecuted.	A motion control instruction that cannot be re-executed was re-executed.				0		W539
5401543C hex	Motion Control Instruction Multi-execution Disabled	Multiple functions that cannot be executed simultaneously were executed for the same target (MC common, axis, or axes group).	Multiple functions that cannot be executed simultaneously were executed for the same target (MC common, axis, or axes group).				0		W539
5401543E hex	Instruction Cannot Be Executed during Multi- axes Coordi- nated Con- trol	 A motion instruction was executed for an axis or an axes group that was in a coordinated multi-axes motion. A robot instruction that you cannot use for an axes group in a Group-Enable state was executed. 	A motion instruction was executed for an axis or an axes group that was in a coordinated multiaxes motion. The MC_SetKinTransform instruction was executed for an axes group in a GroupEnable state.				0		W539
5401543F hex	Multi-axes Coordinated Control In- struction Executed for Disabled Ax- es Group	A multi-axes coordinated control instruction was executed for an axes group that was in a GroupDisable state.	A multi-axes coordinated control instruction was executed for an axes group that was in a GroupDisable state. One of the following instructions was executed for an axes group that was in a GroupDisable state. MC_MoveTimeAbsolute MC_SyncLinearConveyor MC_SyncOut MC_RobotJog				0		W539

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015441 hex	Impossible Axis Operation Specified when the Servo is OFF	A motion instruction was executed for an axis for which the Servo is OFF.	A motion instruction was executed for an axis for which the Servo is OFF. A zero position preset was performed with the MC_Home or MC_HomeWithParameter instruction for an axis for which EtherCAT process data communications are not established.				0		W539
54015442 hex	Composition Axis Stop- ped Error	A motion instruction was executed for an axes group while the MC_Stop instruction was being executed for a composition axis.	A motion instruction was executed for an axes group while the MC_Stop instruction was being executed for a composition axis.				0		W539
54015443 hex	Motion Control Instruction Multi-execution Buffer Limit Exceeded	The number of motion control instructions that is buffered for Buffered or Blending Buffer Modes exceeded the buffer limit.	 An axis instruction was executed when there was already a current instruction and a buffered instruction for the same axis. An axes group instruction was executed when there was already eight current instructions and buffered instructions for the same axis. 				0		W539
54015461 hex	Illegal Axes Group Spec- ification	The axes group specified for the AxesGroup input variable to a motion control instruction does not exist or is not a used axes group.	 An axes group does not exist for the variable specified for the AxesGroup input variable to the instruction. The axes group specified for the AxesGroup input variable to the instruction is not specified as a used axes group. 				0		W539
54015466 hex	Instruction Execution Error with Undefined Home	High-speed homing, an interpolation instruction, or a robot instruction was executed when home was undefined.	High-speed homing was executed when home was undefined. An interpolation instruction was executed for an axes group that includes an axis with no defined home. One of the following robot instructions was executed for an axes group that includes a logical axis with no defined home. MC_SetKinTransform MC_MoveTimeAbsolute MC_SyncLinearConveyor MC_SyncOut MC_GroupMon MC_RobotJog				0		W539

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015478 hex	Target Position Setting Out of Range	The parameter specified for the <i>Position</i> input variable to a motion control instruction is out of range.	 Instruction input parameter exceeded the valid range of the input variable. The target position of a Rotary Mode axis is not within the ring setting range. 				0		W539
54015706 hex	Axes Group Mismatch with Kine- matics	The configuration elements of the specified axes group and the specified kinematics do not match.	 The number of axes in the axes group and the number of axes in the specified robot (kinematics type) do not match. The count mode for axes in the axes group and the count mode for the specified robot (kinematics type) do not match. The display unit for axes in the axes group and the display unit for the specified robot (kinematics type) do not match. 				0		W539
54015707 hex	Kinematics Type Out of Range	KinType specified for the KinTransform in- put variable to a mo- tion control instruction is out of range.	KinType is outside the setting range.				0		W539
54015708 hex	Kinematics Parameter Out of Range	KinParam or ExpansionParam specified for the KinTransform input variable to a motion control instruction is out of range.	 KinParam is outside the setting range. ExpansionParam is outside the setting range. 				0		W539
54015709 hex	Workspace Type Out of Range	WorkspaceType specified for the Workspace input variable to a motion control instruction is out of range.	WorkspaceType is outside the setting range.				0		W539
5401570A hex	Workspace Parameter Out of Range	WorkspaceParam specified for the Workspace input variable to a motion control instruction is out of range.	WorkspaceParam is outside the setting range.				0		W539
5401570B hex	Invalid Coordinate System Number	The coordinate system ID specified for the <i>CSID</i> input variable to a motion control instruction is out of range or not defined.	The coordinate system ID is outside the setting range. The specified coordinate system ID is not defined by the MC_DefineCoordSystem instruction.				0		W539

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
5401570C hex	Coordinate Transforma- tion Parame- ter Out of Range	The coordinate transformation parameter <i>Pose</i> , which was specified for the <i>CoordTransform</i> input variable to a motion control instruction, is out of range.	The coordinate transformation parameter <i>Pose</i> is outside the setting range.				0		W539
5401570D hex	Transition parameters out of range	The Transition Parameters specified for the TransitionParameter input variable to a motion control instruction is out of range.	TransitionParameter is outside the setting range.				0		W539
54015710 hex	Kinematics Transform Not Set	The kinematics transform is not set for the specified axes group.	The kinematics transform is not set for the axes group.				0		W539
54015711 hex	Target Position Out of Range	The position parameter specified as variable for the <i>Position</i> is out of range.	Specified wrong value of Position input.				0		W539
54015712 hex	Velocity Er- ror Detection Value Out of Range	MaxVelocity specified for the TrajData input variable to a motion control instruction is out of range.	MaxVelocity is outside the set- ting range.				0		W539
54015713 hex	Acceleration Error Detection Value Out of Range	MaxAcceleration specified for the TrajData input varia- ble to a motion con- trol instruction is out of range.	MaxAcceleration is outside the setting range.				0		W539
54015714 hex	Trajectory Target Time Out of Range	TrajTime specified for the TrajData input variable to a motion control instruction is out of range.	TrajTime is outside the setting range.				0		W539
54015715 hex	Trajectory Type Out of Range	MoveTrajType specified for the TrajData input variable to a motion control instruction is out of range.	MoveTrajType or SyncTrajType is outside the setting range.				0		W539
54015716 hex	Trajectory Transition Out of Range	TrajTransition speci- fied for the TrajData input variable to a motion control in- struction is out of range.	TrajTransition is outside the setting range.				0		W539

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f	Reference
54015717 hex	Trajectory Travel Dis- tance Out of Range	TrajDistance specified for the TrajData input variable to a motion control instruction is out of range.	TrajDistance is outside the setting range.				0		W539
54015719 hex	Initial Work- piece Posi- tion Outside Workspace	The position of the workpiece specified for the InitWorkpiecePosition input variable to a motion control instruction is outside the workspace.	InitWorkpiecePosition is outside the workspace.				0		W539
5401571A hex	Invalid Conveyor Axis Specified	The axis specified for the <i>ConveyorAxis</i> inout variable to a motion control instruction is not correct.	 The specified axis is registered in the axes group which is specified for AxesGroup. The specified axis is an unused axis. The unit of the conveyor axis is incorrect. 				0		W539
5401571B hex	Target Position Outside Workspace	The target position specified for the <i>Position</i> input variable to a motion control instruction is outside the workspace.	Position is outside the work- space.				0		W539
5401571C hex	Cannot Cancel Synchronization	The MC_SyncOut instruction cannot be executed.	The MC_SyncLinearConveyor instruction was not executed. The MC_SyncLinearConveyor instruction execution is in progress, but synchronization is not currently performed.				0		W539
5401571E hex	Too Many Kinematics	The number of kine- matics exceeded the limit.	The number kinematics set by the MC_SetKinTransform in- struction exceeded the limit.				0		W539
5401571F hex	Kinematics Initialization Error	Kinematics initialization failed.	One of the robot axes (A0 to A3) is stopped at the position for which direct kinematics cal- culation cannot be performed.				0		W539
54015732 hex	Invalid Tool Number	The tool ID specified for the <i>ToolID</i> input variable to a motion control instruction is out of range or not defined.	 ToolID is outside the setting range. The specified tool ID is not defined by the MC_DefineTool-Transform instruction. 				0		W539
54015733 hex	Tool Parameter Out of Range	The transform parameter specified for the <i>ToolTransform</i> input variable to a motion control instruction is out of range.	The transform parameter is outside the setting range.				0		W539

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015736 hex	Offset Not Allowed	During the MC_Syn- cLinearConveyor in- struction execution, the offset function can be used only in Phase6.	The EnableOffset input variable changed to TRUE before the MC_SyncLinearConveyor instruction operation entered Phase6.				0		W539
54015744 hex	Jog Mode Out of Range	The JogMode input variable to the MC_RobotJog instruction is out of range.	The JogMode input variable to the MC_RobotJog instruction is outside the setting range.				0		W539
54015745 hex	Initial Work- piece Posi- tion Out of Range	The InitWorkpiecePosition input variable to the MC_SyncLinearConveyor instruction is out of range.	The InitWorkpiecePosition in- put variable to the MC_SyncLi- nearConveyor instruction is outside the setting range.				0		W539
54015746 hex	Maximum Interpolation Velocity Out of Range	The MaxVelocityTCP input variable to the MC_SetKinTransform instruction is out of range.	The MaxVelocityTCP input variable to the MC_SetKinTransform instruction is outside the setting range.				0		W539
54015747 hex	Maximum Interpolation Acceleration Out of Range	The MaxAccelerationTCP input variable to the MC_SetKinTransform instruction is out of range.	The MaxAccelerationTCP input variable to the MC_SetKin- Transform instruction is outside the setting range.				0		W539
54015748 hex	Maximum Interpolation Deceleration Out of Range	The MaxDecelerationTCP input variable to the MC_SetKinTransform instruction is out of range.	The MaxDecelerationTCP input variable to the MC_SetKin- Transform instruction is outside the setting range.				0		W539
54016443 hex	Positive Limit Input	An instruction was executed for a motion in the positive direction when the positive limit input was ON.	An instruction for a motion in the positive direction was executed when the positive limit input was ON, or an instruction for a motion with no direction specification was executed when the positive limit input was ON. An axes group motion control instruction was executed when the positive limit input was ON.				0		W539

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54016444 hex	Negative Limit Input	An instruction for a motion in the negative direction was executed when the negative limit input was ON.	An instruction for a motion in the negative direction was executed when the negative limit input was ON, or an instruction for a motion with no direction specification was executed when the negative limit input was ON. An axes group motion control instruction was executed when the negative limit input was ON.				0		W539
54016701 hex	Current Po- sition Out- side Work- space	The current position was outside the workspace when an instruction was executed.	The current position was outside the workspace when one of the following instructions was executed. MC_MoveTimeAbsolute MC_SyncLinearConveyor MC_SyncOut MC_RobotJog				0		W539

A-1-5 Errors in the CNC Function

This section provides tables of the errors (events) that can occur in the CNC functions and CNC instructions.

You can use the CNC functions and CNC instructions with an NJ501-5300 Controller. The unit version of the CPU Unit is 1.16 or later.

CNC Function

Cat. No.	Manual name
O030	NJ/NY-series NC Integrated Controller User's Manual

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
47810000 hex	CNC Parameter Setting	A fatal error was detected during setting of the CNC Function Module.	The system failed to transfer the CNC parameter setting. Otherwise, an error occurred in the software.	0					O030
17800000 hex	CNC Parameter Setting Error	The CNC parameters that were saved in non-volatile memory are missing.	The power supply to the Controller was interrupted or communications with the Sysmac Studio were disconnected while downloading the CNC parameter settings or clearing memory. Non-volatile memory failure		0				O030
17810000 hex	Absolute Encoder Home Offset Read Error	The absolute encoder current position that is retained during power interruptions was lost.	When the retained variables are backed up with a battery, this event indicates that the life of the battery in the CPU Unit has expired. Backup memory failure		0				O030
17820000 hex	CNC Motor Compensa- tion Table Read Error	The CNC motor compensation table that was saved in non-volatile memory is missing.	The power supply to the Controller was interrupted or communications with the Sysmac Studio were disconnected while downloading the CNC parameter settings or clearing memory. Non-volatile memory failure		0				O030
37800000 hex	Required Process Da- ta Object Not Set	The object that is required for the assigned axis type in the CNC motor parameter settings is not allocated to PDO.	The required PDOs are not mapped when the assigned axis type in the CNC motor parameter settings is set to a servo axis or encoder axis. Non-volatile memory failure		0				O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
47800000 hex	CNC Initialization Error	A fatal error occurred in the system and prevented initialization of the CNC Function Module.	Hardware failure		0				O030
77800000 hex	CNC Control Period Ex- ceeded	The primary periodic task processing has not been completed within two control cycles.	The processing load in the primary periodic task is too heavy.		0				O030
37810000 hex	Process Da- ta Object Setting Miss- ing	The PDO mapping is not correct.	The relevant instruction was executed for a device that does not have an object that supports the instruction.			0			O030
56000000 hex	Illegal CNC Coordinate System Specification	The CNC coordinate system specified for the <i>Coord</i> in-out variable to a CNC instruction does not exist.	CNC coordinate system does not exist for the variable speci- fied for the <i>Coord</i> in-out varia- ble to the instruction.			0			O030
56010000 hex	Deceleration Setting Out of Range	The parameter specified for the Deceleration input variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O030
56020000 hex	Jerk Setting Out of Range	The parameter specified for the <i>Jerk</i> input variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O030
56030000 hex	CNC Instruc- tion Re-exe- cution Disa- bled	A CNC instruction that cannot be re- executed was re-exe- cuted.	A CNC instruction that cannot be re-executed was re-execut- ed.			0			O030
56040000 hex	CNC Multi- execution Disabled	Multiple functions that cannot be executed simultaneously were executed for the same target (CNC coordinate system).	Multiple functions that cannot be executed simultaneously were executed for the same target (CNC coordinate system). The CNC_LoadProgramFile instruction was executed when any of CNC coordinate system was Executing (Executing) or Hold (Holding).			0			O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
56050000 hex	Unassigned Logical CNC Motor Num- ber Speci- fied	The CNC motor of the parameter specified for the LogicalMotorNo input variable to the CNC instruction is not assigned.	The logical CNC motor number for which the CNC motor is not assigned to the LogicalMotorNo input variable to the CNC instruction was specified, and the instruction was executed.			0			O030
56060000 hex	Logical CNC Motor Num- ber Out of Range	The parameter specified for the LogicalMotorNo input variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O030
56070000 hex	Target Position Setting Out of Range	The parameter specified for the <i>Position</i> input variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable. Or, there was an overflow/underflow in the target position.			0			O030
56080000 hex	Impossible CNC Motor Operation Specified when the Servo is OFF	An operation instruc- tion was executed for the CNC motor for which the Servo is OFF.	Home was preset with the CNC_Home or CNC_Home- WithParameter instruction for an axis for which EtherCAT process data communications are not established.			0			O030
56090000 hex	Target Ve- locity Setting Out of Range	The parameter specified for the <i>Velocity</i> input variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O030
560A0000 hex	Acceleration/ Deceleration Setting Out of Range	The parameter specified for the Acceleration input variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O030
560B0000 hex	Travel Mode Selection Out of Range	The parameter specified for the MoveMode input variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O030
560C0000 hex	Immediate Stop Instruc- tion Execut- ed	An Immediate Stop (CNC_CoordImmediateStop) instruction was executed.	An Immediate Stop instruction was executed.			0			O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f	Reference
560D0000 hex	Parameter Selection Out of Range	The parameter specified for the ParameterNumber input variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O030
560E0000 hex	CNC Parameter Setting Read/Write Setting Value Out of Range	The parameter specified for the Setting Value in-out variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the in-out variable.			0			O030
560F0000 hex	CNC Parameter Setting Read/Write Target Out of Range	The parameter specified for the <i>Target</i> inout variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the in-out variable.			0			O030
56100000 hex	Cycle Start Error with Undefined Home	A cycle start was exe- cuted for a CNC coor- dinate system includ- ing the positioning ax- is with no defined home.	A cycle start was executed for a CNC coordinate system in- cluding the positioning axis with no defined home.			0			O030
56110000 hex	Homing Parameter Setting Out of Range	The parameter specified for the HomingParameter inout variable of the CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the in-out variable.			0			O030
56120000 hex	M Code Number Out of Range	The parameter specified for the <i>MCodeNo</i> input variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O030
56130000 hex	CNC Instruction Re-execution Disabled (CNC Coordinate System Specification)	An attempt was made to change the parameter for the <i>Coord</i> inout variable when reexecuting a CNC instruction. (This in-out variable cannot be changed when re-executing an instruction.)	A parameter for an in-out variable that cannot be changed for re-execution was changed.			0			O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
56140000 hex	CNC Instruc- tion Re-exe- cution Disa- bled (Logical CNC Motor Number)	An attempt was made to change the parameter for the LogicalMotorNo input variable when re-executing a CNC instruction. (This input variable cannot be changed when re-executing an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.			0			O030
56150000 hex	Illegal NC Program	An error was detected in the NC program transferred from Sysmac Studio.	NC program transfer process- ing failed.			0			O030
56160000 hex	Cycle Start Multi-execu- tion Disabled	A cycle start was executed multiple times for the same target (CNC coordinate system).	A cycle start was executed while the CNC coordinate sys- tem is Executing (Executing), MovingOnHold (Manual Oper- ation While Holding), or Mov- ing (Moving).			0			O030
56170000 hex	Impossible CNC Motor Cycle Start Specified when the Servo is OFF	A cycle start was executed for a CNC coordinate system including the CNC motor for which the Servo is OFF.	A cycle start was executed for the CNC motor for which Ser- vo is turned OFF.			0			O030
56180000 hex	Illegal NC Program Number Specification	The NC program specified for ProgramNo in the ControlInputs in-out variable to the CNC_CoordControl instruction is not loaded.	A cycle start was executed after an unloaded NC program is specified for <i>ProgramNo</i> in the <i>ControlInputs</i> in-out variable to the CNC_CoordControl instruction.			0			O030
56190000 hex	Illegal Back Trace Speci- fication	A cycle start was executed when the CNC coordinate system is Standby (Standby) while BackTrace in the Controllnputs inout variable to the CNC_CoordControl instruction is set to TRUE.	A cycle start was executed when the CNC coordinate system is Standby (Standby) while BackTrace in the ControlInputs in-out variable to the CNC_CoordControl instruction is set to TRUE.			0			O030
56250000 hex	Illegal CNC Motor Speci- fication	The CNC motor specified for the Target input variable to a CNC instruction does not exist.	A CNC motor does not exist for the variable specified for the <i>Target</i> input variable to the instruction.			0			O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
56260000 hex	Illegal CNC Motor Com- pensation Table Speci- fication	The CNC motor compensation table specified for the <i>Target</i> input variable to a CNC instruction does not exist.	A CNC motor compensation table does not exist for the var- iable specified for the <i>Target</i> input variable to the instruction.			0			O030
56290000 hex	NC Program Capacity Ex- ceeded	Loading failed be- cause the NC pro- gram downloaded from Sysmac Studio exceeded the maxi- mum capacity.	The NC program that has a capacity above the maximum was downloaded from Sysmac Studio.			0			O030
562A0000 hex	Skew Control Mode Out of Range	The parameter specified for the SkewMode input variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O030
562B0000 hex	Offset Value Setting Out of Range	The parameter specified for the OffsetValue input variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.			0			O030
67800000 hex	Immediate Stop Input	The immediate stop input turned ON.	 An immediate stop input signal was detected. The immediate stop input signal is not connected correctly or the logic setting for the immediate stop input is wrong. 			0			O030
67810000 hex	Positive Limit Input Detected	The positive limit input turned ON.	 A positive limit input signal was detected. The positive limit input signal is not connected correctly or the logic setting for the positive limit input is wrong. 			0			O030
67820000 hex	Negative Limit Input Detected	The negative limit input turned ON.	 A negative limit input signal was detected. The negative limit input signal is not connected correctly or the logic setting for the negative limit input is wrong. 			0			O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
67830000 hex	Target Position Positive Software Limit Exceeded	The specified position exceeds the positive software limit.	The parameter specified for the <i>Position</i> input variable to the instruction is beyond the positive software limit. The first position is beyond the positive software limit and an instruction that specifies motion in the opposite direction of the software limit was executed.			0			O030
67840000 hex	Target Position Negative Software Limit Exceeded	The specified position exceeds the negative software limit.	The parameter specified for the <i>Position</i> input variable to the instruction is beyond the negative software limit. While the starting position is out of the negative software limit, an operation was specified in the opposite direction of the software limit.			0			O030
67850000 hex	Command Position Overflow/ Underflow	Positioning, an instruction in the underflow/overflow direction, or an instruction for which the direction is not specified was executed when there was an underflow/overflow in the command position.	One of the following was executed when there was a command position overflow/underflow. A positioning instruction A continuous control instruction in the underflow/overflow direction An instruction for which the direction is not specified (syncing)			0			O030
67860000 hex	Positive Limit Input	An instruction was executed for a motion in the positive direction when the positive limit input was <i>ON</i> .	An instruction for a motion in the positive direction was exe- cuted when the positive limit input was ON, or an instruction for a motion with no direction specification was executed when the positive limit input was ON.			0			O030
67870000 hex	Negative Limit Input	While the negative limit input is set to ON, an instruction that runs in the negative direction was executed.	While the negative limit input is set to ON, an instruction that runs in the negative direction was executed, or an instruction with no direction specified was executed.			0			O030
67880000 hex	Positive Software Limit Ex- ceeded	The position exceeded the positive software limit while the CNC motor was running.	The position exceeded the positive software limit.			0			O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
67890000 hex	Negative Software Limit Ex- ceeded	The position exceeded the negative software limit while the CNC motor was running.	The position exceeded the negative software limit.			0			O030
678A0000 hex	In-position Check Time Exceeded	The in-position check was not completed within the monitoring time.	Time is required to complete positioning.			0			O030
678B0000 hex	Following Error Limit Exceeded	The error between the command current position and actual current value exceeded the Following Error Over Value.	The positioning operation has poor following performance and the actual motion is slower than the command.			0			O030
67910000 hex	Illegal Following Error	The difference between the command position and the actual current position exceeds the range of 30-bit data when converted to pulses.	The command current position was restricted so that the velocity of the CNC motor would not exceed the maximum velocity for the specified travel distance. The CNC motor's positioning operation has poor following performance and the actual motion is slower than the command.			0			O030
67920000 hex	Absolute Encoder Current Position Calculation Failed	It was not possible to correctly restore the current position from the absolute encoder information that was saved when power was interrupted.	The position to restore when converted to pulses exceeded the range of signed 40-bit da- ta.			0			O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
67930000 hex	Home Undefined during Coordinated Motion	Home of the CNC motor became undefined while the status of CNC coordinate system is Executing (Executing), Hold (Holding), MovingOn-Hold (Manual Operation While Holding).	 The command position or actual position overflowed or underflowed for a CNC motor while the status of CNC coordinate system is Executing (Executing), Hold (Holding), or MovingOnHold (Manual Operation While Holding), and the home definition was lost. A slave communications error occurred in the CNC motor and the home become undefined while the status of CNC coordinate system is Executing (Executing), Hold (Holding), or MovingOnHold (Manual Operation While Holding). A slave for a logical axis left the network or was disabled and home became undefined while the status of CNC coordinate system is Executing (Executing), Hold (Holding), or MovingOnHold (Manual Operation While Holding). 			0			O030
67940000 hex	Cycle Start Specified during Positive Software Limit Exceeded	The first position exceeds the positive software limit.	The command current position of the positioning cartesian axis or positioning rotational axis in the CNC coordinate system is out of range of the positive software limit.			0			O030
67950000 hex	Cycle Start Specified during Negative Software Limit Exceeded	The first position exceeds the negative software limit.	The command current position of the positioning cartesian axis or positioning rotational axis in the CNC coordinate system is out of range of the negative software limit.			0			O030
67960000 hex	Cycle Start Specified during Com- mand Posi- tion Over- flow (Under- flow)	Positioning, an instruction in the underflow/overflow direction, or an instruction for which the direction is not specified was executed when there was an underflow/overflow in the command position.	One of the following was executed when there was a command position overflow/underflow. A positioning instruction A continuous control instruction in the underflow/overflow direction An instruction for which the direction is not specified (syncing)			0			O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
67970000 hex	Cycle Start Specified during Posi- tive Limit In- put	A cycle start was executed when the positive limit input was ON.	A cycle start was executed when the positive limit input was ON.			0			O030
67980000 hex	Cycle Start Specified during Nega- tive Limit In- put	A cycle start was executed when the negative limit input was ON.	A cycle start was executed when the negative limit input was ON.			0			O030
67990000 hex	NC Program Execution Error	An error was detected while the NC program was running.	An error was detected in the running NC program. Refer to the Error Codes in Attached information for the error contents.			0			O030
679B0000 hex	Position Deviation between Axes Limit Exceeded	The deviation of the feedback current position between the gantry master axis and the gantry slave axis exceeded the Position Deviation Between Axes Over Value.	The gantry slave axis is moving slower than the gantry master axis due to poor following performance of the slave axis.			0			O030
679D0000 hex	CNC Motor Maximum Velocity Ex- ceeded Error	The command velocity of the CNC motor exceeded the maximum velocity due to the feedrate override.	The value of feedrate override factor is too large.			0			O030
77820000 hex	CNC Coordinate System Composition CNC Motor Error	An error occurred for a composition CNC motor in a CNC coordinate system.	An error occurred for a composition CNC motor in a CNC coordinate system while it was moving.			0			O030
77830000 hex	CNC Com- mon Error Occurrence	A CNC common error occurred.	Partial fault level CNC common error occurred.			0			O030
77840000 hex	Servo Main Circuits OFF	An attempt was made to turn ON the Servo when the main circuit power supply to the Servo Drive was OFF.	An attempt was made to turn ON the Servo when the main circuit power supply to the Servo Drive was OFF.			0			O030
77850000 hex	Servo Main Circuit Pow- er OFF	The main circuit pow- er of the Servo Drive turned OFF while the Servo was ON.	The main circuit power of the Servo Drive was interrupted while the Servo was ON.			0			O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
77860000 hex	Slave Error Detected	An error was detected for the EtherCAT slave or NX Unit that is allocated to the CNC motor.	An error was detected for the EtherCAT slave or NX Unit that is allocated to the CNC motor.			0			O030
77880000 hex	Slave Dis- connection during Servo ON	An EtherCAT slave or NX Unit that is allocated to the CNC motor was disconnected, replaced, or disabled while the Servo was ON.	An EtherCAT slave or NX Unit that is allocated to the CNC motor was disconnected, re- placed, or disabled while the Servo was ON.			0			O030
77890000 hex	Homing Opposite Direction Limit Input Detected	The limit signal in the direction opposite to the homing direction was detected during a homing operation.	 The Operation Selection at Negative Limit Input or Operation Selection at Positive Limit Input parameter is set to No reverse turn. The location of the homing input signal sensors, homing settings, and homing start position cause a limit input to be reached. The input signal sensor wiring is incorrect or the sensor is faulty. 			0			O030
778A0000 hex	Homing Di- rection Limit Input Detect- ed	The limit signal in the homing direction was detected during a homing operation.	The Operation Selection at Negative Limit Input or Operation Selection at Positive Limit Input parameter is set to No reverse turn. The location of the homing input signal sensors, homing settings, and homing start position cause a limit input to be reached. The input signal sensor wiring is incorrect or the sensor is faulty.			0			O030
778B0000 hex	Homing Limit Inputs Detected in Both Directions	The limit signals in both directions were detected during a homing operation.	 The wiring of the limit signal is incorrect. The limit sensor is installed in the wrong location. The contact logic of the limit signal is not correct. The limit sensor failed. 			0			O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
778C0000 hex	Home Proximity/Homing Opposite Direction Limit Input Detected	The home proximity input and the limit signal in the direction opposite to the homing direction were detected at the same time during a homing operation.	 The wiring of the home proximity signal or limit signal is incorrect. The home proximity sensor or limit sensor is installed in the wrong location. The contact logic of the home proximity signal or limit signal is not correct. The home proximity sensor or limit sensor failed. 			0			O030
778D0000 hex	Home Prox- imity/Homing Direction Limit Input Detected	The home proximity input and the limit signal in the homing direction were detected at the same time during a homing operation.	 The wiring of the home proximity signal or limit signal is incorrect. The home proximity sensor or limit sensor is installed in the wrong location. The contact logic of the home proximity signal or limit signal is not correct. The home proximity sensor or limit sensor failed. 			0			O030
778E0000 hex	Home Input/ Homing Op- posite Direc- tion Limit In- put Detected	The home input and the limit signal in the direction opposite to the homing direction were detected at the same time during a homing operation.	 The wiring of the home input signal or limit signal is incorrect. The home input sensor or limit sensor is installed in the wrong location. The contact logic of the home input signal or limit signal is not correct. The home input signal output device or limit sensor failed. 			0			O030
778F0000 hex	Home Input/ Homing Di- rection Limit Input Detect- ed	The home input and the limit signal in the homing direction were detected at the same time during a homing operation.	 The wiring of the home input signal or limit signal is incorrect. The home input sensor or limit sensor is installed in the wrong location. The contact logic of the home input signal or limit signal is not correct. The home input signal output device or limit sensor failed. 			0			O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
77900000 hex	Invalid Home Input Mask Dis- tance	The setting of the home input mask distance is not suitable for the CNC_Home or CNC_HomeWith-Parameter instruction.	The set value of the home input mask distance when the operating mode of the MC_Home instruction is set to Proximity Reverse Turn/Home Input Mask Distance is insufficient to decelerate from the homing velocity to the homing approach velocity.			0			O030
77910000 hex	No Home Input	There was no home signal input during the homing operation. Or, a limit signal was detected before there was a home input.	 There was no home signal input during the homing operation. A limit signal was detected before there was a home input. 			0			O030
77920000 hex	No Home Proximity In- put	There was no home proximity signal input during the homing operation.	There was no home proximity signal input during the homing operation when a home proximity input signal was specified.			0			O030
87800000 hex	EtherCAT Slave Com- munications Error	A communications er- ror occurred for the EtherCAT slave or NX Unit that is allocated to a CNC motor.	A communications error occur- red for the EtherCAT slave or NX Unit that is allocated to the CNC motor.			0			O030
561D0000 hex	SD Memory Card Access Failure	SD Memory Card access failed when an instruction was executed.	An SD Memory Card is not inserted. The SD Memory Card is damaged. The SD Memory Card slot is broken.				0		O030
561E0000 hex	File Does Not Exist	The file specified for an instruction does not exist.	The specified file does not exist.				0		O030
561F0000 hex	Illegal Load NC Program Number Specification	Loading has failed because an attempt was made to load the NC program with an invalid program num- ber specified.	An attempt was made to load the NC program with an invalid program number specified.				0		O030
56200000 hex	Too Many Files Open	The maximum number of open files was exceeded when opening a file for an instruction.	The maximum number of open files was exceeded when opening a file for an instruc- tion.				0		O030
56210000 hex	File or Directory Name Is Too Long	The file name or di- rectory name that was specified for an instruction is too long.	The file name or directory name that was specified for the instruction to create is too long.				0		O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
56220000 hex	SD Memory Card Access Failed	SD Memory Card access failed.	The SD Memory Card is damaged. The SD Memory Card slot is broken.				0		O030
56230000 hex	Load NC Program Ca- pacity Ex- ceeded	Loading has failed because an attempt was made to load the NC program that has a capacity above the maximum.	An attempt was made to load the NC program that has a ca- pacity above the maximum.				0		O030
56240000 hex	Number of NC Program Exceeded	Loading failed be- cause an attempt was made to load NC pro- grams over the maxi- mum number of NC programs.	A new NC program was loaded while the number of loaded NC programs reaches the maximum.				0		O030
56280000 hex	Illegal Load NC Program	An error was detected in the loaded NC program.	A syntax error was detected in the NC program you attempted to load.				0		O030
678C0000 hex	Following Error Warn- ing	The following error exceeded the Following Error Warning Value.	The positioning operation has poor following performance and the actual motion is slower than the command.				0		O030
678D0000 hex	Command Position Overflow	The number of pulses for the command position overflowed.	When the command position was converted to the pulse unit for the positioning cartesian axis or positioning rotational axis, the specified value exceeded the upper limit of the signed 40-bit data (signed 54-bit data for the spindle axis).				0		O030
678E0000 hex	Command Position Un- derflow	The number of pulses for the command position exceeded the valid range. (It underflowed.)	When the command position was converted to the pulse unit for the positioning cartesian axis or positioning rotational axis, the specified value exceeded the lower limit of the signed 40-bit data (signed 54-bit data for the spindle axis).				0		O030
678F0000 hex	Actual Position Over- flow	The number of pulses for the actual position overflowed.	When the command position was converted to the pulse unit for the positioning cartesian axis or positioning rotational axis, the specified value exceeded the upper limit of the signed 40-bit data (signed 54-bit data for the spindle axis).				0		O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
67900000 hex	Actual Position Underflow	The number of pulses for the actual position underflowed.	When the command position was converted to the pulse unit for the positioning cartesian axis or positioning rotational axis, the specified value exceeded the lower limit of the signed 40-bit data (signed 54-bit data for the spindle axis).				0		O030
679A0000 hex	Position Deviation between Axes Limit Warning	The deviation of the feedback current position between the gantry master axis and the gantry slave axis exceeded the Position Deviation Between Axes Warning Value.	The gantry slave axis is moving slower than the gantry master axis due to poor following performance of the slave axis.				0		O030
679C0000 hex	CNC Motor Maximum Velocity Ex- ceeded Warning	The command velocity of the CNC motor exceeded the maximum velocity due to the feedrate override.	The value of feedrate override factor is too large.				0		O030
77810000 hex	CNC Plan- ner Service Period Ex- ceeded	CNC planner service processing was not finished within two periods.	The processing load of the NC program in a period of the CNC planner service is too heavy.				0		O030
77870000 hex	Slave Ob- servation Detected	A warning was de- tected for an Ether- CAT slave or NX Unit.	A warning was detected for the EtherCAT slave or NX Unit that is allocated to a CNC motor.				0		O030
97810000 hex	Software Limit Path Limited	The path exceeded the software limit was specified during Executing (Executing). Therefore, the path was limited within the software limit range.	The path exceeded the soft- ware limit was specified during Executing (Executing).				0		O030
97830000 hex	Velocity Control Command Value Satu- rated	The velocity control command value for the servo drive is saturated.	The output value by feedback loop calculation exceeded Maximum Velocity defined in the CNC motor parameter, or the actual operation is slower than the commanded one because of the poor following performance of the positioning operation. The spindle rotation velocity (S) or spindle velocity override value was commanded over the Maximum Velocity defined in the CNC motor parameter.				0		O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
97800000 hex	Slave Error Code Report	The error code was reported by the slave when a <i>Slave Error Detected</i> error occurred.	The error code was reported by the slave when a <i>Slave</i> <i>Error Detected</i> error (77860000 hex) occurred.					0	O030
97820000 hex	CNC Function System Information	This event provides internal information from the CNC Function Module.	This event provides internal information from the CNC Function Module. It is recorded to provide additional information for another event.					0	O030

CNC Instructions

This section shows lists of errors (events) that may occur in CNC instructions. The lower four digits of the event code represents the error code (ErrorID) for the instruction. For details of error codes, refer to the description of the corresponding event code. For example, when the error code of the target instruction is 16#3781, refer to the explanation of event code, 54013781 hex.

Cat. No.	Manual name
O030	NJ/NY-series NC Integrated Controller User's Manual

					L	_eve	l		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54013781 hex	Process Da- ta Object Setting Miss- ing	The PDO mapping is not correct.	 The PDOs that are required for the CNC instruction are not mapped. The relevant instruction was executed for a device that does not have an object that supports the instruction. 				0		O030
54015600 hex	Illegal CNC Coordinate System Specification	The CNC coordinate system specified for the <i>Coord</i> in-out variable to a CNC instruction does not exist.	CNC coordinate system does not exist for the variable speci- fied for the <i>Coord</i> in-out varia- ble to the instruction.				0		O030
54015601 hex	Deceleration Setting Out of Range	The parameter specified for the Deceleration input variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O030
54015602 hex	Jerk Setting Out of Range	The parameter specified for the Jerk input variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O030
54015603 hex	CNC Instruc- tion Re-exe- cution Disa- bled	A CNC instruction that cannot be re- executed was re-exe- cuted.	A CNC instruction that cannot be re-executed was re-execut- ed.				0		O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015604 hex	CNC Multi- execution Disabled	Multiple functions that cannot be executed simultaneously were executed for the same target (CNC coordinate system).	Multiple functions that cannot be executed simultaneously were executed for the same target (CNC coordinate system). The CNC_LoadProgramFile instruction was executed when any of CNC coordinate system was Executing (Executing) or Hold (Holding).				0		O030
54015605 hex	Unassigned Logical CNC Motor Num- ber Speci- fied	The CNC motor of the parameter specified for the Logical-MotorNo input variable to the CNC instruction is not assigned.	The logical CNC motor number for which the CNC motor is not assigned to the LogicalMotor- No input variable to the CNC instruction was specified, and the instruction was executed.				0		O030
54015606 hex	Logical CNC Motor Num- ber Out of Range	The parameter specified for the Logical-MotorNo input variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O030
54015607 hex	Target Position Setting Out of Range	The parameter specified for the <i>Position</i> input variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable. Or, there was an overflow/underflow in the target position.				0		O030
54015608 hex	Impossible CNC Motor Operation Specified when the Servo is OFF	An operation instruction was executed for the CNC motor for which the Servo is OFF.	An operation instruction was executed for the CNC motor for which the Servo is OFF. Home was preset with the CNC_Home or CNC_Home-WithParameter instruction for an axis for which EtherCAT process data communications are not established.				0		O030
54015609 hex	Target Ve- locity Setting Out of Range	The parameter specified for the <i>Velocity</i> input variable instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O030
5401560A hex	Acceleration/ Deceleration Setting Out of Range	The parameter specified for the Acceleration input variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
5401560B hex	Travel Mode Selection Out of Range	The parameter specified for the MoveMode input variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O030
5401560D hex	Parameter Selection Out of Range	The parameter specified for the ParameterNumber input variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O030
5401560E hex	CNC Parameter Setting Read/Write Setting Value Out of Range	The parameter specified for the Setting Value in-out variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the in-out variable.				0		O030
5401560F hex	CNC Parameter Setting Read/Write Target Out of Range	The parameter specified for the <i>Target</i> inout variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the in-out variable.				0		O030
54015611 hex	Homing Parameter Setting Out of Range	The parameter specified for the HomingParameter inout variable of the CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the in-out variable.				0		O030
54015612 hex	M Code Number Out of Range	The parameter specified for the <i>MCodeNo</i> input variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O030
54015613 hex	CNC Instruc- tion Re-exe- cution Disa- bled (CNC Coordinate System Specifica- tion)	An attempt was made to change the parameter for the <i>Coord</i> inout variable when reexecuting a CNC instruction. (This in-out variable cannot be changed when re-executing an instruction.)	A parameter for an in-out variable that cannot be changed for re-execution was changed.				0		O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015614 hex	CNC Instruction Re-execution Disabled (Logical CNC Motor Number)	An attempt was made to change the parameter for the LogicalMotorNo input variable when re-executing a CNC instruction. (This input variable cannot be changed when re-executing an instruction.)	A parameter for an input variable that cannot be changed for re-execution was changed.				0		O030
5401561D hex	SD Memory Card Access Failure	SD Memory Card access failed when an instruction was executed.	 An SD Memory Card is not inserted. The SD Memory Card is damaged. The SD Memory Card slot is broken. 				0		O030
5401561E hex	File Does Not Exist	The file specified for an instruction does not exist.	The specified file does not exist.				0		O030
5401561F hex	Illegal Load NC Program Number Specification	Loading has failed because an attempt was made to load the NC program with an invalid program number specified.	An attempt was made to load the NC program with an invalid program number specified.				0		O030
54015620 hex	Too Many Files Open	The maximum number of open files was exceeded when opening a file for an instruction.	The maximum number of open files was exceeded when opening a file for an instruc- tion.				0		O030
54015621 hex	File or Directory Name Is Too Long	The file name or directory name that was specified for an instruction is too long.	The file name or directory name that was specified for the instruction to create is too long.				0		O030
54015622 hex	SD Memory Card Access Failed	SD Memory Card access failed.	The SD Memory Card is damaged. The SD Memory Card slot is broken.				0		O030
54015623 hex	Load NC Program Ca- pacity Ex- ceeded	Loading has failed because an attempt was made to load the NC program that has a capacity above the maximum.	An attempt was made to load the NC program that has a ca- pacity above the maximum.				0		O030
54015624 hex	Number of NC Program Exceeded	Loading failed be- cause an attempt was made to load NC pro- grams over the maxi- mum number of NC programs.	A new NC program was load- ed while the number of loaded NC programs reaches the maximum.				0		O030

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54015625 hex	Illegal CNC Motor Speci- fication	The CNC motor specified for the Target in-out variable to a CNC instruction does not exist.	A CNC motor does not exist for the variable specified for the <i>Target</i> input variable to the instruction.				0		O030
54015626 hex	Illegal CNC Motor Com- pensation Table Speci- fication	The CNC motor compensation table specified for the <i>Target</i> input variable to a CNC instruction does not exist.	A CNC motor compensation table does not exist for the var- iable specified for the <i>Target</i> input variable to the instruction.				0		O030
54015628 hex	Illegal Load NC Program	An error was detected in the loaded NC program.	A syntax error was detected in the NC program you attempted to load.				0		O030
5401562A hex	Skew Control Mode Out of Range	The parameter specified for the SkewMode input variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O030
5401562B hex	Offset Value Setting Out of Range	The parameter specified for the OffsetValue input variable to a CNC instruction is out of range.	Instruction input parameter exceeded the valid range of the input variable.				0		O030
54016783 hex	Target Position Positive Software Limit Exceeded	The specified position exceeds the positive software limit.	The parameter specified for the <i>Position</i> input variable to the instruction is beyond the positive software limit. The first position is beyond the positive software limit and an instruction that specifies motion in the opposite direction of the software limit was executed.				0		O030
54016784 hex	Target Position Negative Software Limit Exceeded	The specified position exceeds the negative software limit.	The parameter specified for the <i>Position</i> input variable to the instruction is beyond the negative software limit. While the first position is out of the negative software limit, an operation was specified in the opposite direction of the software limit.				0		O030

					L	_eve	l		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54016785 hex	Command Position Overflow/ Underflow	Positioning, an instruction in the underflow/overflow direction, or an instruction for which the direction is not specified was executed when there was an underflow/overflow in the command position.	One of the following was executed when there was a command position overflow/underflow. A positioning instruction A continuous control instruction in the underflow/overflow direction An instruction for which the direction is not specified (syncing)				0		O030
54016786 hex	Positive Limit Input	An instruction was executed for a motion in the positive direction when the positive limit input was <i>ON</i> .	An instruction for a motion in the positive direction was exe- cuted when the positive limit input was ON, or an instruction for a motion with no direction specification was executed when the positive limit input was ON.				0		O030
54016787 hex	Negative Limit Input	While the negative limit input is set to ON, an instruction that runs in the negative direction was executed.	While the negative limit input is set to ON, an instruction that runs in the negative direction was executed, or an instruction with no direction specified was executed.				0		O030
54017784 hex	Servo Main Circuits OFF	An attempt was made to turn ON the Servo when the main circuit power supply to the Servo Drive was OFF.	An attempt was made to turn ON the Servo when the main circuit power supply to the Servo Drive was OFF.				0		O030

A-2 Errors (Events) That Can Occur in Connected Devices

The section provides tables of the errors (events) that can occur in the devices connected to NJ/NX-seriesCPU Unit. Refer to *3-1 Interpreting Tables* on page 3-3 for interpreting error tables. Refer to the manual for the specific product for details on errors.

A-2-1 Errors in Slave Terminals

The section provides tables of the errors (events) that can occur in the following Units in OMRON Slave Terminals.

- · NX-series EtherCAT Coupler Units
- · NX-series Digital I/O Units
- NX-series Analog I/O Units
- · NX-series System Units
- NX-series Position Interface Units
- · NX-series Communications Interface Unit
- · NX-series Safety CPU Units
- NX-series Safety I/O Units
- · NX-series Load Cell Input Units
- NX-series IO-Link Master Units
- NX-series Temperature Control Units
- NX-series EtherNet/IP Unit

NX-series EtherCAT Coupler Units

The section provides a table of the errors (events) that can occur in the following Unit. NX-ECC $\square\square\square$

Cat. No.	Manual name
W519	NX-series EtherCAT Coupler Unit User's Manual

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
00210000 hex	Bus Control- ler Error	An internal bus error occurred.	A Unit failed or an I/O commu- nications error occurred be- tween the Communications Coupler Unit and the NX Unit.			0			W519

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
00220000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure			0			W519
05010000 hex	ESC Error	An error occurred in the EtherCAT slave communications controller.	An error occurred in the Ether- CAT slave communications controller.			0			W519
05020000 hex	ESC Initialization Error	Initialization of the EtherCAT slave communications controller failed.	An initialization error occurred in the EtherCAT slave commu- nications controller.			0			W519
05030000 hex	Slave Unit Verification Error	An error occurred in Slave Unit verification.	An error occurred in Slave Unit information.			0			W519
10420000 hex	Non-volatile Memory Control Pa- rameter Er- ror	An error occurred in the control parameters.	The power supply to the Communications Coupler Unit was turned OFF or Support Software communications were disconnected while writing the Unit operation settings was in progress.			0			W519
10430000 hex	Memory Corruption Detected	Memory corruption was detected.	Memory corruption was detected.			0			W519
24A00000 hex	Unit Config- uration Error, Too Many Units	The number of con- nected NX Units ex- ceeds the maximum value for the Commu- nications Coupler Unit.	More than the maximum number of NX Units is connected to the Communications Coupler Unit.			0			W519
24A10000 hex	Unit Configuration Error, Unsupported Configuration	An unsupported NX Unit is mounted. Or, the total byte size of all I/O data for the connected NX Units exceeds the predeter- mined maximum val- ue for the Communi- cations Coupler Unit.	An unsupported NX Unit was detected. The total byte size of all I/O data for the connected NX Units exceeds the predetermined maximum value for the Communications Coupler Unit.			0			W519
35000000 hex	Unit Config- uration Infor- mation Error	An error occurred in the Unit configuration information in the Communications Coupler Unit.	The power supply to the Communications Coupler Unit was turned OFF or Support Software communications were disconnected while downloading the Unit configuration information.			0			W519

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
35010000 hex	Unit Configuration Verification Error	There is an inconsistency between the Unit configuration information in the Communications Coupler Unit and the Units that are actually connected. Or, the Unit configuration was changed during operation while the Unit configuration information was not set in the Communications Coupler Unit.	 An NX Unit that is registered in the Unit configuration information is not connected. A connected NX Unit does not agree with the NX Unit that is registered in the Unit configuration information. An NX Unit that is not registered in the Unit configuration information is connected. A mounted Unit is disabled in the NX Unit Mounting Setting for the Unit configuration information. An NX Unit became disconnected during operation. An NX Unit was connected during operation. The serial number of a Unit that is registered in the Unit configuration information does not agree with the serial number of the Unit that is connected. (The Serial Number Check Method is set to Setting = Actual device.) The version of a Unit that is registered in the Unit configuration information is newer than the version of the Unit that is connected. The power supply to the Additional NX Unit Power Supply Unit is not turned ON. 			0			W519
35020000 hex	NX Unit Mi- nor Fault	A minor fault was detected in an NX Unit.	A minor fault level error occur- red in a Unit where an error was detected.			0			W519
35040000 hex	Mailbox Set- ting Error	An incorrect mailbox setting was detected for the Sync Manag- er. (AL-Status Code: 0016 hex)	An incorrect mailbox setting was detected for the Sync Manager.			0			W519
35050000 hex	RxPDO Set- ting Error	An error was detected in the RxPDO settings. (AL-Status Code: 001D hex)	An error was detected in the RxPDO settings.			0			W519
35060000 hex	TxPDO Set- ting Error	An error was detected in the TxPDO settings. (AL-Status Code: 001E hex)	An error was detected in the TxPDO settings.			0			W519

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
35070000 hex	PDO WDT Setting Error	An incorrect PDO WDT setting was de- tected. (AL-Status Code: 001F hex)	An incorrect PDO WDT setting was detected.			0			W519
35080000 hex	SM Event Mode Set- ting Error	An SM Event Mode that is not supported was set. (AL-Status Code: 0028 hex)	An SM Event Mode that is not supported was set.			0			W519
35090000 hex	TxPDO Mapping Er- ror	An incorrect TxPDO was set. (AL-Status Code: 0024 hex)	An incorrect TxPDO was set, e.g., the index, subindex, or size was outside of the allowa- ble range.			0			W519
350A0000 hex	RxPDO Mapping Er- ror	An incorrect RxPDO was set. (AL-Status Code: 0025 hex)	An incorrect RxPDO was set, e.g., the index, subindex, or size was outside of the allowa- ble range.			0			W519
350B0000 hex	Illegal State Transition Request Received	An incorrect state transition request was received. (AL-Status Code: 0011 hex)	An incorrect state transition request was received.			0			W519
350C0000 hex	Error State Transition Received	An incorrect state transition request was received. (AL-Status Code: 0012 hex)	An unclear state transition request was received.			0			W519
350D0000 hex	Synchroni- zation Cycle Setting Error	When DC Mode was confirmed, the cycle time was set to a value that made operation impossible. (ALStatus Code: 0035 hex)	When DC Mode was confirmed, the cycle time was set to a value that made operation impossible.			0			W519
40200000 hex	NX Unit Processing Error	A fatal error occurred in an NX Unit.	An error occurred in the soft- ware.			0			W519
84C00000 hex	NX Unit Communica- tions Time- out	An error occurred in I/O data communications with the NX Units.	An NX Unit is not mounted properly. An NX Unit has failed.			0			W519
84C10000 hex	NX Unit Initi- alization Er- ror	Initializing an NX Unit failed.	An error occurred in processing the Communications Coupler Unit. An initialization error occurred in an NX Unit. The Enabled Channel Settings for all channels of the Analog Input Unit are set to Disable. The Enabled Channel Settings for all channels of the Analog Output Unit are set to Disable.			0			W519

	Event name Meani		Assumed cause		L	_eve			
Event code		Meaning		M a j	P rt	M i n	O b s	I n f o	Reference
85000000 hex	Process Da- ta WDT Er- ror	Process data commu- nications were stop- ped for more than the specified period of time.	The EtherCAT communications cable is disconnected or broken. There is an error in the host controller.			0			W519
85010000 hex	Synchroni- zation Inter- ruption Error	A synchronization interruption error occurred.	The EtherCAT communications cable is disconnected or broken. There is a synchronization setting error in the EtherCAT Coupler Unit. There is a hardware error in the EtherCAT Coupler Unit.			0			W519
85020000 hex	Synchroni- zation Error	A synchronization error occurred.	The EtherCAT communications cable is disconnected or broken. There is a synchronization setting error in the EtherCAT master or EtherCAT Coupler Unit. There is a hardware error in the EtherCAT Coupler Unit.			0			W519
85030000 hex	Communications Synchronization Error	The number of consecutive communications errors in receiving the synchronization data exceeded the value that is set for the Consecutive Communications Error Detection Count parameter in the Communications Error Settings.	Power to the host controller was interrupted during process data communications. The EtherCAT communications cable is disconnected or broken. Noise is entering on an EtherCAT communications cable.			0			W519
84C50000 hex	NX Unit Startup Error	Starting an NX Unit failed.	A startup error occurred in an NX Unit.			0			W519
35030000 hex	NX Unit Observation	An observation was detected in an NX Unit.	An observation level error oc- curred in a Unit where an error was detected. This event is re- corded in the event log in the Communications Coupler Unit.				0		W519
350E0000 hex	NX Bus Cy- cle Delay Detected	Exceeding the NX bus cycle was detected.	The NX bus cycle was exceeded.				0		W519

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
80220000 hex	NX Message Communica- tions Error	An error was detected in message communications and the message frame was discarded.	For the NX bus of CPU Units The message communications load is high. For Communications Coupler Units The message communications load is high. The communications cable is disconnected or broken. This cause does not apply if attached information 2 is 0 (NX bus). Message communications were cutoff in communications.				0		W519
90400000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					0	W519
90420000 hex	Restart Exe- cuted	A restart was executed.	A restart command was received.					0	W519
90430000 hex	Memory All Cleared	The Unit settings were cleared.	The non-volatile memory in the EtherCAT Coupler Unit was cleared.					0	W519
94600000 hex (Ver. 1.07 or later)	I/O Check Execution Started	I/O checking was started.	I/O checking was started.					0	W519

NX-series Digital I/O Units

The section	n provides	a table	of the	errors	(events)	that	can	occur	in the	following	g Units.
NX-ID											

NX-OC 🗆 🗆 🗆

 $NX-OD \square \square \square$

Cat. No.	Manual name
W521	NX-series Digital I/O Unit User's Manual

					L	_eve	ı		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure			0			W521
10410000 hex	Control Parameter Error in Master	An error occurred in the control parameters that are saved in the master.	The power supply to the CPU Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the CPU Unit in which the Unit operation settings for the relevant NX Unit are saved. For Communications Coupler Units The power supply to the Communications Coupler Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the Communications Coupler Unit in which the Unit operation settings for the relevant NX Unit are saved.			0			W521

						_eve	اد		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
80200000 hex	NX Unit I/O Communica- tions Error	An I/O communications error occurred in an NX Unit.	 For the NX bus of CPU Units An error that prevents normal NX bus communications occurred in a CPU Unit. An NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected, or the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range, or the capacity of the Unit power supply is insufficient. There is a hardware error in an NX Unit. For Communications Coupler Units An error that prevents normal NX bus communications occurred in a Communications Coupler Unit. The NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range. Or, the capacity of the Unit power supply is insufficient. There is a hardware error in the NX Unit. 			0			W521

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
80210000 hex	NX Unit Output Synchronization Error	An output synchronization error occurred in the NX Unit.	For the NX bus of CPU Units I/O refreshing on the NX bus is not performed normally due to an error in the CPU Unit. For Communications Coupler Units The communications cable connected to the Communications Coupler Unit is broken or the connection is faulty. The communications cable is affected by noise.			0			W521
80240000 hex	NX Unit Clock Not Synchron- ized Error	A time information error occurred in an NX Unit.	For the NX bus of CPU Units There is a hardware error in an NX Unit. There is a hardware error in a CPU Unit. For Communications Coupler Units There is a hardware error in an NX Unit. There is a hardware error in an EtherCAT Coupler Unit.			0			W521
70010000 hex (Ver. 1.06)	Previous Time Speci- fied	A previous time was specified for output refreshing with a specified time stamp.	For the NX bus of CPU Units A past time is specified due to an error in the user program. A Task Period Exceeded error occurred in a CPU Unit. For Communications Coupler Units A past time is specified due to an error in the user program. A Task Period Exceeded error occurred in a CPU Unit. The arrival of I/O data at an NX Unit was delayed due to a Communications Synchronization Error or other communications error.				0		W521
90400000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					0	W521

NX-series Analog I/O Units

The section provides a table of the errors	(events) that can occur in the f	ollowing Units.
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 $NX-AD\square\square\square\square$

NX-DA

NX-TS

NX-HB

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W522	NX-series Analog I/O Units User's Manual for Analog Input Units and Analog Output Units
W566*1	NX-series Analog I/O Units User's Manual for Temperature Input Units and Heater Burnout Detection Units

^{*1.} Temperature Input Units are introduced in Cat. No. W522 before Cat. No. W566 is released.

◆ Analog Input Units and Analog Output Units (NX-AD□□□□, NX-DA□□□□□)

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure			0			W522
10400000 hex	Analog Unit Calibration Parameter Error	An error occurred for the calibration data in the Analog Unit.	The power supply to the Analog Unit was turned OFF or Support Software communications were disconnected while writing the calibration values to the Analog Unit.			0			W522
10410000 hex	Control Parameter Error in Master	An error occurred in the control parameters that are saved in the master.	For the NX bus of CPU Units The power supply to the CPU Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the CPU Unit in which the Unit operation settings for the relevant NX Unit are saved.			0			W522
14C00000 hex	Unit Calibra- tion Value Parity Error	An error occurred in the user calibration data in the NX Unit.	An error was detected in the calibration data.			0			W522
65030000 hex	Unit I/O Dis- connection Detected for Channel 1	A disconnected input was detected for channel 1.	Input wiring is broken. Input wiring is disconnected.			0	•		W522

					L	_eve	l		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
65040000 hex	Unit I/O Dis- connection Detected for Channel 2	A disconnected input was detected for channel 2.	Input wiring is broken. Input wiring is disconnected.			0	•		W522
65050000 hex	Unit I/O Dis- connection Detected for Channel 3	A disconnected input was detected for channel 3.	Input wiring is broken.Input wiring is disconnected.			0	•		W522
65060000 hex	Unit I/O Dis- connection Detected for Channel 4	A disconnected input was detected for channel 4.	Input wiring is broken. Input wiring is disconnected.			0	•		W522
65070000 hex	Unit I/O Dis- connection Detected for Channel 5	A disconnected input was detected for channel 5.	Input wiring is broken. Input wiring is disconnected.			0	•		W522
65080000 hex	Unit I/O Dis- connection Detected for Channel 6	A disconnected input was detected for channel 6.	Input wiring is broken.Input wiring is disconnected.			0	•		W522
65090000 hex	Unit I/O Dis- connection Detected for Channel 7	A disconnected input was detected for channel 7.	Input wiring is broken. Input wiring is disconnected.			0	•		W522
650A0000 hex	Unit I/O Dis- connection Detected for Channel 8	A disconnected input was detected for channel 8.	Input wiring is broken. Input wiring is disconnected.			0	•		W522

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
80200000 hex	NX Unit I/O Communica- tions Error	An I/O communications error occurred in an NX Unit.	 For the NX bus of CPU Units An error that prevents normal NX bus communications occurred in a CPU Unit. An NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected, or the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range, or the capacity of the Unit power supply is insufficient. There is a hardware error in an NX Unit. For Communications Coupler Units An error that prevents normal NX bus communications occurred in a Communications Coupler Unit. An NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range. Or, the capacity of the Unit power supply is outside the specified range. Or, the capacity of the Unit power supply is insufficient. There is a hardware error in the NX Unit. 			0			W522

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
80210000 hex	NX Unit Output Synchronization Error	An output synchronization error occurred in the NX Unit.	 For the NX bus of CPU Units I/O refreshing on the NX bus is not performed normally due to an error in the CPU Unit. For Communications Coupler Units The communications cable connected to the Communications Coupler Unit is broken or the connection is faulty. The communications cable is affected by noise. 			0			W522
80240000 hex	NX Unit Clock Not Synchron- ized Error	A time information error occurred in an NX Unit.	 For the NX bus of CPU Units There is a hardware error in an NX Unit. There is a hardware error in a CPU Unit. For Communications Coupler Units There is a hardware error in an NX Unit. There is a hardware error in an EtherCAT Coupler Unit. 			0			W522
64F00000 hex	Unit Over Range for Channel 1	The analog input data for input channel 1 exceeded the upper limit of the input range. Or, the analog output data for output channel 1 exceeded the upper limit of the output range.	The analog input data exceeded the upper limit of the input range. Or, the analog output data exceeded the upper limit of the output range.			•	0		W522
64F10000 hex	Unit Over Range for Channel 2	The analog input data for input channel 2 exceeded the upper limit of the input range. Or, the analog output data for output channel 2 exceeded the upper limit of the output range.	The analog input data exceeded the upper limit of the input range. Or, the analog output data exceeded the upper limit of the output range.			•	0		W522
64F20000 hex	Unit Over Range for Channel 3	The analog input data for input channel 3 exceeded the upper limit of the input range. Or, the analog output data for output channel 3 exceeded the upper limit of the output range.	The analog input data exceeded the upper limit of the input range. Or, the analog output data exceeded the upper limit of the output range.			•	0		W522

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f	Reference
64F30000 hex	Unit Over Range for Channel 4	The analog input data for input channel 4 exceeded the upper limit of the input range. Or, the analog output data for output channel 4 exceeded the upper limit of the output range.	The analog input data exceeded the upper limit of the input range. Or, the analog output data exceeded the upper limit of the output range.			•	0		W522
64F40000 hex	Unit Over Range for Channel 5	The analog input data for input channel 5 exceeded the upper limit of the input range. Or, the analog output data for output channel 5 exceeded the upper limit of the output range.	The analog input data exceeded the upper limit of the input range. Or, the analog output data exceeded the upper limit of the output range.			•	0		W522
64F50000 hex	Unit Over Range for Channel 6	The analog input data for input channel 6 exceeded the upper limit of the input range. Or, the analog output data for output channel 6 exceeded the upper limit of the output range.	The analog input data exceeded the upper limit of the input range. Or, the analog output data exceeded the upper limit of the output range.			•	0		W522
64F60000 hex	Unit Over Range for Channel 7	The analog input data for input channel 7 exceeded the upper limit of the input range. Or, the analog output data for output channel 7 exceeded the upper limit of the output range.	The analog input data exceeded the upper limit of the input range. Or, the analog output data exceeded the upper limit of the output range.			•	0		W522
64F70000 hex	Unit Over Range for Channel 8	The analog input data for input channel 8 exceeded the upper limit of the input range. Or, the analog output data for output channel 8 exceeded the upper limit of the output range.	The analog input data exceeded the upper limit of the input range. Or, the analog output data exceeded the upper limit of the output range.			•	0		W522

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
64F80000 hex	Unit Under Range for Channel 1	The analog input data for input channel 1 went below the lower limit of the input range. Or, the analog output data for output channel 1 went below the lower limit of the output range.	The analog input data went below the lower limit of the input range. Or, the analog output data went below the lower limit of the output range.			•	0		W522
64F90000 hex	Unit Under Range for Channel 2	The analog input data for input channel 2 went below the lower limit of the input range. Or, the analog output data for output channel 2 went below the lower limit of the output range.	The analog input data went below the lower limit of the input range. Or, the analog output data went below the lower limit of the output range.			•	0		W522
64FA0000 hex	Unit Under Range for Channel 3	The analog input data for input channel 3 went below the lower limit of the input range. Or, the analog output data for output channel 3 went below the lower limit of the output range.	The analog input data went below the lower limit of the input range. Or, the analog output data went below the lower limit of the output range.			•	0		W522
64FB0000 hex	Unit Under Range for Channel 4	The analog input data for input channel 4 went below the lower limit of the input range. Or, the analog output data for output channel 4 went below the lower limit of the output range.	The analog input data went below the lower limit of the input range. Or, the analog output data went below the lower limit of the output range.			•	0		W522
64FC0000 hex	Unit Under Range for Channel 5	The analog input data for input channel 5 went below the lower limit of the input range. Or, the analog output data for output channel 5 went below the lower limit of the output range.	The analog input data went below the lower limit of the input range. Or, the analog output data went below the lower limit of the output range.			•	0		W522

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
64FD0000 hex	Unit Under Range for Channel 6	The analog input data for input channel 6 went below the lower limit of the input range. Or, the analog output data for output channel 6 went below the lower limit of the output range.	The analog input data went be- low the lower limit of the input range. Or, the analog output data went below the lower limit of the output range.			•	0		W522
64FE0000 hex	Unit Under Range for Channel 7	The analog input data for input channel 7 went below the lower limit of the input range. Or, the analog output data for output channel 7 went below the lower limit of the output range.	The analog input data went be- low the lower limit of the input range. Or, the analog output data went below the lower limit of the output range.			•	0		W522
64FF0000 hex	Unit Under Range for Channel 8	The analog input data for input channel 8 went below the lower limit of the input range. Or, the analog output data for output channel 8 went below the lower limit of the output range.	The analog input data went be- low the lower limit of the input range. Or, the analog output data went below the lower limit of the output range.			•	0		W522
90400000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					0	W522

● Temperature Input Units (NX-TS□□□□)

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure			0			W566 (W522)
05100000 hex	A/D Convert- er Error	An error occurred in the A/D converter	Noise A/D Converter Error			0			W566 (W522)
05110000 hex	Cold Junc- tion Sensor Error	The temperature can- not be converted be- cause the cold junc- tion sensor is discon- nected.	 There is a faulty connection to the cold junction sensor. The cold junction sensor failed. 			0	•		W566 (W522)
10410000 hex	Control Parameter Error in Master	An error occurred in the control parameters that are saved in the master.	 For the NX bus of CPU Units The power supply to the CPU Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the CPU Unit in which the Unit operation settings for the relevant NX Unit are saved. For Communications Coupler Units The power supply to the Communications Coupler Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the Communications Coupler Unit in which the Unit operation settings for the relevant NX Unit are saved. 			0			W566 (W522)
40200000 hex	NX Unit Processing Error	A fatal error occurred in an NX Unit.	An error occurred in the soft- ware.			0			W566 (W522)
65100000 hex	Sensor Disconnected Error	A disconnected temperature sensor was detected.	The temperature sensor is damaged or the wires are broken. An unused channel is not disabled.			0	•		W566 (W522)

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f	Reference
80200000 hex	NX Unit I/O Communica- tions Error	An I/O communications error occurred in an NX Unit.	 For the NX bus of CPU Units An error that prevents normal NX bus communications occurred in a CPU Unit. An NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected, or the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range, or the capacity of the Unit power supply is insufficient. There is a hardware error in the NX Unit. For Communications Coupler Units An error that prevents normal NX bus communications occurred in a Communications Coupler Unit. The NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range. Or, the capacity of the Unit power supply is insufficient. There is a hardware error in the NX Unit. 			0			W566 (W522)

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
80240000 hex	NX Unit Clock Not Synchron- ized Error	A time information error occurred in an NX Unit.	 For the NX bus of CPU Units There is a hardware error in an NX Unit. There is a hardware error in a CPU Unit. For Communications Coupler Units There is a hardware error in an NX Unit. There is a hardware error in an EtherCAT Coupler Unit. 			0			W566 (W522)
65110000 hex	Process Value Over Range	The process temperature exceeded the upper limit of temperature conversion range.	 The sensor is disconnected. The sensor or the compensating cables are not wired correctly. The sensor and the input type setting do not agree. The range of the input type is too narrow for the temperatures that need to be measured. An unused channel is not disabled. 			•	0		W566 (W522)
65120000 hex	Process Value Under Range	The process temper- ature went below the lower limit of temper- ature conversion range.	The sensor or the compensating cables are not wired correctly. The sensor and the input type setting do not agree. The range of the input type is too narrow for the temperatures that need to be measured.			•	0		W566 (W522)
80220000 hex	NX Message Communica- tions Error	An error was detected in message communications and the message frame was discarded.	 For the NX bus of CPU Units The message communications load is high. For Communications Coupler Units The message communications load is high. The communications cable is disconnected or broken. This cause does not apply if attached information 2 is 0 (NX bus). Message communications were cutoff in communications. 				0		W566 (W522)
90400000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					0	W566 (W522)

◆ Heater Burnout Detection Units (NX-HB□□□□)

					L	_evel				
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference	
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure			0			W566	
05100000 hex	A/D Convert- er Error	An error occurred in the A/D converter	Noise A/D Converter Error			0			W566	
10410000 hex	Control Parameter Error in Master	An error occurred in the control parameters that are saved in the master.	 For the NX bus of CPU Units The power supply to the CPU Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the CPU Unit in which the Unit operation settings for the relevant NX Unit are saved. For Communications Coupler Units The power supply to the Communications Coupler Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the Communications Coupler Unit in which the Unit operation settings for the relevant NX Unit are saved. 			0			W566	
40200000 hex	NX Unit Processing Error	A fatal error occurred in an NX Unit.	An error occurred in the soft- ware.			0			W566	
652C0000 hex	Heater Burn- out Detected	A heater burnout was detected.	 A heater was burned out or damaged. The setting of the Heater Burnout Detection Current is too high. A CT input that is not used is allocated to a control output in the CT Allocation setting. 			0	•		W566	
652D0000 hex	SSR Failure Detected	An SSR failure was detected.	The SSR was short-circuited or damaged. The setting of the SSR Failure Detection Current is too small. A CT input that is not used is allocated to a control output in the CT Allocation setting.			0	•		W566	

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
80200000 hex	NX Unit I/O Communica- tions Error	An I/O communications error occurred in an NX Unit.	 For the NX bus of CPU Units An error that prevents normal NX bus communications occurred in a CPU Unit. An NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected, or the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range, or the capacity of the Unit power supply is insufficient. There is a hardware error in an NX Unit. For Communications Coupler Units An error that prevents normal NX bus communications occurred in a Communications Coupler Unit. The NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range. Or, the capacity of the Unit power supply is insufficient. There is a hardware error in the NX Unit. 			0			W566

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
80240000 hex	NX Unit Clock Not Synchron- ized Error	A time information error occurred in an NX Unit.	 For the NX bus of CPU Units There is a hardware error in an NX Unit. There is a hardware error in a CPU Unit. For Communications Coupler Units There is a hardware error in an NX Unit. There is a hardware error in an EtherCAT Coupler Unit. 			0			W566
80220000 hex	NX Message Communica- tions Error	An error was detected in message communications and the message frame was discarded.	For the NX bus of CPU Units The message communications load is high. For Communications Coupler Units The message communications load is high. The communications cable is disconnected or broken. Message communications were cutoff in communications.				0		W566
90400000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					0	W566

NX-series System Units

The section provides a table of the errors	(events) that can	n occur in the following	Units.
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NX-PD1□□□

NX-PF0□□□

 $NX-PC0\square\square\square$

NX-TBX01

Cat. No.	Manual name
W523	NX-series System Unit User's Manual

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure			0			W523
90400000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					0	W523

NX-series Position Interface Units

Th	ne section	provides a	ı table o	of the errors	(events)	that can	occur in the	following Units.

 $NX-ECO\square\square\square$

NX-ECS□□□

NX-PG0□□□

Cat. No.	Manual name
W524	NX-series Position Interface Units User's Manual

					l	_eve	l		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure			0			W524
10410000 hex	Control Parameter Error in Master	An error occurred in the control parameters that are saved in the master.	For the NX bus of CPU Units The power supply to the CPU Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the CPU Unit in which the Unit operation settings for the relevant NX Unit are saved. For Communications Coupler Units The power supply to the Communications Coupler Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the Communications Coupler Unit in which the Unit operation settings for the relevant NX Unit are saved.			0			W524
35100000 hex	External Input Setting Error	A setting for an external input is not correct.	The same function (other than a general-purpose input) is as- signed to more than one of the external inputs (I0 to I2).			0			W524

					Level				
Event code	Event name	Meaning	Assumed cause		P rt	M i n	O b s	I n f o	Reference
35110000 hex	SSI Data Setting Error	There is an error in the SSI data settings.	The sum of the values set for the Valid Data Length and the Leading Bits parameters exceeds 32. The sum of the values set for the Multi-turn Data Length, and the Status Data Length parameters exceeds 32. The sum of the value set for the start bit position and the data length of the SSI data exceeds the value set for the Valid Data Length parameter. The value set for the Encoder Resolution parameter exceeds the range expressed by the data length set for the Singleturn Data Length parameter.			0			W524
40200000 hex	NX Unit Processing Error	A fatal error occurred in an NX Unit.	An error occurred in the soft- ware.			0			W524
743D0000 hex	Incorrect Synchroni- zation Com- mand	Updating the target position data in the synchronization refresh failed consecutively for more than the specified number of times.	The communications cable that connects the Communications Coupler Unit is disconnected or a connection is faulty. Noise			0	•		W524
743E0000 hex	Illegal Following Error	The difference between the command position and actual position exceeds the range expressed by 29 bits.	A command that exceeded the maximum velocity (for a model that allows maximum velocity setting, the set value applies to this maximum velocity) was output continuously, so the following error for the actual output, which is restricted by the maximum velocity, has increased. A command velocity that does not correspond to the command position was specified when a velocity-continuous pulse output was used, so the number of pulses that were actually output for the updated command position has increased.			0			W524

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
743F0000 hex	Illegal State Transition	The EtherCAT master or EtherCAT Coupler Unit executed a command to change the communications status when the Pulse Output Unit is in the Operation Enabled status.	A communications command to change the current commu- nications status was received from the communications mas- ter while the Unit is in the Op- eration Enabled status.			0			W524
80200000 hex	NX Unit I/O Communications Error	An I/O communications error occurred in an NX Unit.	 For the NX bus of CPU Units An error that prevents normal NX bus communications occurred in a CPU Unit. An NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected, or the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range, or the capacity of the Unit power supply is insufficient. There is a hardware error in an NX Unit. For Communications Coupler Units An error that prevents normal NX bus communications occurred in a Communications Coupler Unit. The NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range. Or, the capacity of the Unit power supply is outside the specified range. Or, the capacity of the Unit power supply is insufficient. There is a hardware error in an NX Unit. 			0			W524

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
80210000 hex	NX Unit Output Synchronization Error	An output synchronization error occurred in the NX Unit.	 For the NX bus of CPU Units I/O refreshing on the NX bus is not performed normally due to an error in the CPU Unit. For Communications Coupler Units The communications cable connected to the Communications Coupler Unit is broken or the connection is faulty. The communications cable is affected by noise. 			0			W524
80240000 hex	NX Unit Clock Not Synchron- ized Error	A time information error occurred in an NX Unit.	 For the NX bus of CPU Units There is a hardware error in an NX Unit. There is a hardware error in a CPU Unit. For Communications Coupler Units There is a hardware error in an NX Unit. There is a hardware error in an EtherCAT Coupler Unit. 			0			W524
80220000 hex	NX Message Communica- tions Error	An error was detected in message communications and the message frame was discarded.	For the NX bus of CPU Units The message communications load is high. For Communications Coupler Units The message communications load is high. The communications cable is disconnected or broken. Message communications were cutoff in communications.				0		W524
90400000 hex	SSI Communications Error	An error occurred in SSI communications.	The SSI data settings do not agree with the SSI communications settings in the connected device. The wiring between the NX Unit and the connected device is not correct or disconnected. Noise The event log was cleared by			•	0		W524
	Cleared	cleared.	the user.					0	

NX-series Communications Interface Units

The section provides a table of the errors (events) that can occur in the following Units. NX-CIF $\Box\Box\Box$

Cat. No.	Manual name
W540	NX-series Communications Interface Units User's Manual

					L	_eve	l		Reference
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure			0			W540
10410000 hex	Control Parameter Error in Master	An error occurred in the control parameters that are saved in the master.	For the NX bus of CPU Units The power supply to the CPU Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the CPU Unit in which the Unit operation settings for the relevant NX Unit are saved. For Communications Coupler Units The power supply to the Communications Coupler Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the Communications Coupler Unit in which the Unit operation settings for the relevant NX Unit are saved.			0			W540
40200000 hex	NX Unit Processing Error	A fatal error occurred in an NX Unit.	An error occurred in the soft- ware.			0			W540

					I	_eve	el l		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
80200000 hex	NX Unit I/O Communica- tions Error	An I/O communications error occurred in an NX Unit.	 For the NX bus of CPU Units An error that prevents normal NX bus communications occurred in a CPU Unit. An NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected, or the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range, or the capacity of the Unit power supply is insufficient. There is a hardware error in an NX Unit. For Communications Coupler Units An error that prevents normal NX bus communications occurred in a Communications Coupler Unit. The NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range. Or, the capacity of the Unit power supply is outside the specified range. Or, the capacity of the Unit power supply is insufficient. There is a hardware error in an NX Unit. 			0			W540

					Level				
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
80240000 hex	NX Unit Clock Not Synchron- ized Error	A time information error occurred in an NX Unit.	 For the NX bus of CPU Units There is a hardware error in an NX Unit. There is a hardware error in a CPU Unit. For Communications Coupler Units There is a hardware error in an NX Unit. There is a hardware error in an EtherCAT Coupler Unit. 			0			W540
85400000 hex	Data Dis- carded Due to Full Inter- nal Buffer	The internal buffer is full. The input data is discarded.	If the internal buffer for received data is full, the Controller cannot read the received data. If the internal buffer for transmission data is full, the transmission data was too large or there are too many send requests.			0	•		W540
80220000 hex	NX Message Communica- tions Error	An error was detected in message communications and the message frame was discarded.	For the NX bus of CPU Units The message communications load is high. For Communications Coupler Units The message communications load is high. The communications cable is disconnected or broken. Message communications were cutoff in communications.				0		W540
85410000 hex	Parity Error	A parity error occurred.	The communications settings and baud rate setting do not agree with those of the remote device. Noise		· O		0		W540
85420000 hex	Framing Er- ror	A framing error occurred.	The communications settings and baud rate setting do not agree with those of the remote device. Noise			•	0		W540
85430000 hex	Overrun Er- ror	An overrun error occurred.	The next data was received during processing of received data because the baud rate is too high.			•	0		W540
90400000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					0	W540

NX-series Safety CPU Units

The section provides a table of the errors	(events) that ca	an occur in the follow	wing Safety Contro	ol Units.
NX-SL5□□□				

NX-SL3□□□

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
Z930	NX-series Safety Control Unit User's Manual

System Error

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
05200000 hex	System Er- ror	A hardware error was detected during self-diagnosis of the hardware.	 Hardware has failed. A memory error occurred due to a transient cause, such as a soft error or excessive noise. 			0			Z930

Communications Errors

				Leve			
Event code	Event name	Meaning	Assumed cause Maa j	M i n	O b s	I n f o	Reference
35200000 hex	Safety Process Data Communications Not Established Error	Safety process data communications was not established with one or more safety slaves.	The communications settings for safety process data are not correct, the safety slave is not in the correct status, etc. The safety slave for safety process data communications is not connected. The NX Unit Mounting Setting for the safety slave for safety process data communications is set to Disabled.	0			Z930
35200001 hex	FSoE Mas- ter Connec- tion Not Es- tablished Er- ror	FSoE communications were not established with the FSoE slave.	The FSoE communications settings are not correct, the FSoE slave is not in the correct status, etc. The FSoE slave for FSoE communications is not connected. The FSoE slave set in the NX Unit Mounting Setting for FSoE communications is disabled. The version of the FSoE slave to be communicated is older than the configured version.	0			Z930

					-	_eve	اد		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
80200000 hex	NX Unit I/O Communica- tions Error	An I/O communications error occurred in an NX Unit.	 NX Bus of the CPU Unit An error occurred in the CPU Unit, which prevents the NX bus communications from being carried out normally. The NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The Unit power voltage is out of the supported range, or the Unit power capacity is not sufficient. There is a hardware error in the NX Unit. Communications Coupler Unit An error occurred in the Communications Coupler Unit, which prevents the NX bus communications from being carried out normally. The NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The Unit power voltage is out of the supported range, or the Unit power capacity is not sufficient. There is a hardware error in the NX Unit. 			0			Z930

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
80300000 hex	Safety Process Data Communications Timeout	A communications timeout occurred in safety process data communications with the Safety Control Unit.	 A setting is not correct. The setting of the safety task period is too short. There is excessive noise. The Safety CPU Unit or safety slave entered a status where it could not continue safety process data communications. An error or status change occurred in the NX Bus Master to which the Unit is connected, preventing correct process data communications. 			0			Z930
80300001 hex	FSoE Mas- ter Connec- tion Timeout	A communication timeout occurred in FSoE communications with the FSoE slave.	 A setting is not correct. The setting of the safety task period is too short. There is excessive noise. The Safety CPU Unit or FSoE slave entered a state where it could not continue FSoE communications. The process data communications were not performed correctly because an error or status change occurred in the NX bus master to which the Unit is connected. 			0			Z930

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
80310000 hex	CIP Safety Originator Connection Not Estab- lished Error	CIP safety originator connection was not established.	 The target node is different. The target node is not configured. The target node status is invalid. The Do not use Option is selected for CIP message server setting in the EtherNet/IP Port Settings. The settings of the NX-series CPU Unit and NX-series EtherNet/IP Unit related to CIP Safety communications do not match the settings of the Safety CPU Unit. Setting to use tag data link communications was made to the NX-series EtherNet/IP Unit that is included in the CIP Safety connection settings. The NX-series EtherNet/IP Unit with tag data link communications was added to the CIP Safety connection settings. The Do not use Option is selected for CIP Safety communications in the Built-in EtherNet/IP Port Settings. 			0			Z930
80320000 hex	CIP Safety Originator Connection Timeout	A timeout occurred in CIP safety originator connection.	 The communications cable is disconnected or broken. The target node entered a state where it could not accept the connection. The timeout value in the communications setup is too small. CIP message communications at the target node are stopped. When the Packet Filter function is enabled in the EtherNet/IP Port Settings, CIP Safety packets from the target node are not allowed. CIP Safety packets are not allowed by the Packet Filter (Simple) or Packet Filter functions on the target node or the devices on the communication path. There is excessive noise. 			0			Z930

					L	_eve	l		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
80330000 hex	CIP Safety Target Does Not Exist	The target node does not exist.	 The communications cable is disconnected or broken. The target node entered a state where it could not accept the connection. The timeout value in the communications setup is too small. CIP message communications at the target node are stopped. CIP Safety packets from the originator node are not allowed by the Packet Filter (Simple) or Packet Filter functions on the target node or the devices on the communication path. There is excessive noise. 			0			Z930
80340000 hex	CIP Safety Target Con- nection Timeout	A timeout occurred in the CIP Safety Target connection.	 The communications cable is disconnected or broken. The originator device entered a state where it could not accept the connection. The timeout value for the communications settings is too small. CIP Safety packets from the originator node are not allowed by the Packet Filter (Simple) or Packet Filter functions in the EtherNet/IP Port Settings or on the devices on the communication path. The CIP message server setting for the originator node is set to Do not use. When the Packet Filter function of the originator node is enabled, CIP Safety packets from the target node are not allowed. There is excessive noise. The Do not use Option is selected for CIP Safety communications in the Built-in EtherNet/IP Port Settings. 			0			Z930
84F00000 hex	NX Bus I/O Communica- tions Stop- ped	An error occurred in I/O communications between the NX bus master and an NX Unit.	There is a hardware error in the NX bus master or an NX Unit.			0			Z930

Operation Continuation Error Related to Program Execution Function

					L	_eve			
Event code	Event name	Possible settings	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
74A00000 hex	SF_Antiva- lent Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the NX-series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74A10000 hex	SF_EDM Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the NX-series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74A20000 hex	SF_Emer- gencyStop Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the NX-series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74A30000 hex	SF_Enable- Switch Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the NX-series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74A40000 hex	SF_Equiva- lent Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the NX-series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74A50000 hex	SF_ESPE Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the NX-series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74A60000 hex	SF_Guar- dLocking Er- ror	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the NX-series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74A70000 hex	SF_Guard- Monitoring Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the NX-series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930

					L	_eve			
Event code	Event name	Possible settings	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
74A80000 hex	SF_Mode- Selector Er- ror	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the NX-series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74A90000 hex	SF_Muting- Par Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the NX-series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74AA0000 hex	SF_Muting- Par_2Sen- sor Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the NX-series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74AB0000 hex	SF_Muting- Seq Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the NX-series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74AC0000 hex	SF_OutControl Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the NX-series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74AD0000 hex	SF_Safe- tyRequest Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the NX-series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74AE0000 hex	SF_Testa- bleSafety- Sensor Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the .			0			Z930
74AF0000 hex	SF_Two- HandCon- trolTypell Er- ror	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the NX-series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930
74B00000 hex	SF_Two- HandCon- trolTypeIII Error	An error was detected in execution of a safety function block.	Refer to information on the diagnostic code that is given for attached information 1 in the NX-series Safety ControlUnit InstructionsReference Manual (Cat No. Z931).			0			Z930

Operation Stop Error Related to Program Execution

				Leve			l		
Event code	Event name	Possible settings	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
55000000 hex	Division by Zero	Division by zero was detected.	The divisor is zero.			0			Z930
55010000 hex	Cast Error	A casting error was detected.	A value was input that exceeded the range of the receiving variable.			0			Z930
55020000 hex	MUX Error	An MUX instruction error was detected.	The value of the selection input (K) to the MUX instruction is not correct.			0			Z930

Setting Error

				Level		Level		Level		Level		Level		Level		Level		Level			
Event code	Event name	Possible settings	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference												
10500000 hex	NX Bus Communica- tions Set- tings Read Error	There is an error in the NX Bus communications settings that are saved in non-volatile memory.	 A hardware failure occurred in the non-volatile memory. Power was turned OFF while saving data to the non-volatile memory. 			0			Z930												
10510000 hex	Safety Application Data Read Error	There is an error in the safety application data that is saved in non-volatile memory.	 A hardware failure occurred in the non-volatile memory. Power was turned OFF while saving data to the non-volatile memory. 			0			Z930												
10520000 hex	NX Bus Communica- tions Set- tings and Safety Appli- cation Data Mismatch	There is an error in the safety application data that is saved in non-volatile memory.	The NX bus communications settings that were transferred to the Safety CPU Unit do not match the safety application data.			0			Z930												
10530000 hex	Non-volatile Memory Ac- cess Error	Reading/writing non- volatile memory failed.	Non-volatile memory failure.			0			Z930												
24AA0000 hex	DIP Switch Setting Error	The DIP switch set- ting is invalid.	The DIP switch setting was changed.				0		Z930												

• Restore Function Errors

				Level			el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
35250000 hex	Safety Unit Restore Op- eration Failed to Start (SD Memory Card Access Failed)	Access to the SD Memory Card failed when you start the re- store operation for a Safety Unit.	 An SD Memory Card is not inserted. The SD Memory Card type is not correct. The format of the SD Memory Card is not correct. The SD Memory Card is damaged. 				0		Z930
35260000 hex	Safety Unit Restore Op- eration Failed to Start (Safety Unit Restore File Read Failure)	Reading the Safety Unit Restore File failed.	 The Safety Unit Restore File is not stored in the specified fold- er. The Safety Unit Restore File is corrupted. 				0		Z930
35270000 hex	Safety Unit Restore Op- eration Failed to Start (Model Mismatch)	A model mismatch was detected during pre-execution checks for a restore operation for a Safety Unit.	 The restore operation for a Safety Unit was performed on an incorrect Unit. An incorrect Safety Unit Re- store File was used. 				0		Z930
35280000 hex	Safety Unit Restore Operation Failed to Start (Version Mismatch)	A version mismatch was detected during pre-execution checks for a restore opera- tion for a Safety Unit.	 The restore operation for a Safety Unit was performed on an incompatible unit. An incorrect Safety Unit Re- store File was used. 				0		Z930
35290000 hex	Safety Unit Restore Op- eration Failed to Start (Node Name Mis- match)	A node name mismatch was detected during pre-execution checks for a restore operation for a Safety Unit.	The restore operation for a Safety Unit was performed on an incorrect Unit. An incorrect Safety Unit Restore File was used. The node name specified when the Safety Unit Restore File was generated is incorrect.				0		Z930
352A0000 hex	Safety Unit Restore Op- eration Failed to Start (Safety Password Mismatch)	A safety password mismatch was detect- ed during pre-execu- tion checks for a re- store operation for a Safety Unit.	 The restore operation for a Safety Unit was performed on an incorrect Unit. An incorrect Safety Unit Restore File was used. The safety password specified when the Safety Unit Restore File was generated is incorrect. 				0		Z930

					Level				
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
352B0000 hex	Safety Unit Restore Op- eration Failed	The restore operation for a Safety Unit ended in an error.	 The SD Memory Card was removed during a restore operation for a Safety Unit. Data was read from or written to the SD Memory Card via the Support Software or an FTP client during a restore operation for a Safety Unit. 				0		Z930

Other Errors

		vent name Meaning	Assumed cause		L	_eve			
Event code	Event name				P rt	M i n	O b s	I n f o	Reference
80220000 hex	NX Message Communica- tions Error	An error was detected in message communications for an NX Unit and the message frame was discarded.	The message communications load is high. The communications cable is disconnected or broken. This cause does not apply if attached information 2 is 0 (NX bus). Message communications were cut off as the result of executing a synchronization or restoration operation on the Sysmac Studio or as the result of disconnecting an EtherCAT slave.				0		Z930
951E0000 hex	Sysmac Studio Communications Connection Timeout	A communications timeout occurred be- tween the Sysmac Studio and the Safety CPU Unit.	The communications cable was disconnected.					0	Z930
951F0000 hex	Clear All Memory Re- jected	Clearing all of memory failed.	The Clear All Memory opera- tion for a Controller or a Slave Terminal was performed.					0	Z930

User Access Log

				Level					
Event code	Event name	Meaning	g Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
90400000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					0	Z930
90430000 hex	Memory All Cleared	The Unit settings were cleared.	The Clear All Memory opera- tion was performed.					0	Z930

NX-series Safety I/O Units (NX-SI□□□□/NX-SO□□□□)

The section provides a table of the errors	(events) that can	occur in the following	Safety Control Units
NX-SI□□□□			

NX-SO

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name						
Z930	NX-series Safety Control Unit User's Manual						

System Error

				Level					
Event code	Event name	Meaning	Assumed cause		P rt	M i n	O b w	I n f o	Reference
05200000 hex	System Er- ror	A hardware error was detected during self-diagnosis of the hardware.	 Hardware has failed. A memory error occurred due to a transient cause, such as a soft error or excessive noise. 			0			Z930

Communications Errors

						L	_eve			
Event code	Event name	Meaning		Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
35210000 hex	Safety Proc- ess Data Communica- tions Not Es- tablished - Incorrect Unit Param- eter Error	Safety process data communications was not established with the Safety CPU Unit.	•	The model or safety I/O terminal settings are not correct.			0			Z930
35230000 hex	Safety Proc- ess Data Communica- tions Not Es- tablished, In- correct FSoE Slave Address Er- ror	Safety process data communications was not established with the Safety CPU Unit because of an incorrect FSoE slave address.	•	The setting of the FSoE slave address in the safety process data communications settings is different from the setting in the Unit.			0			Z930
35240000 hex	Safety Proc- ess Data Communica- tions Not Es- tablished, In- correct Frame Error	Safety process data communications were not established with the Safety CPU Unit because an incorrect frame was received.		An incorrect frame was received in safety process data communications. There is excessive noise.			0			Z930

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
80200000 hex	NX Unit I/O Communica- tions Error	An I/O communications error occurred between the NX bus master and the NX Unit.	The NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The unit power voltage is out of the supported range, or the unit power capacity is not sufficient. There is a hardware error in the NX Unit.			0			Z930
80300000 hex	Safety Process Data Communications Timeout	A communications timeout occurred in safety process data communications with the Safety Control Unit.	 A setting is not correct. The setting of the safety task period is too short. There is excessive noise. The Safety CPU Unit or safety slave entered a status where it could not continue safety process data communications. The process data communications were not performed correctly because an error or status change occurred in the NX bus master to which the Unit is connected. 			0			Z930
84F10000 hex	NX Bus I/O Communica- tions Stop- ped	An error occurred in I/O communications between the NX bus master and an NX Unit.	There is a hardware error in the NX bus master or an NX Unit.			0			Z930

Safety I/O Errors

					L	eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
05210000 hex	Internal Cir- cuit Error at Safety Input	A fault was detected in the internal circuit for the safety input terminal.	 The internal circuit for the safety input terminal is faulty. A memory error or signal error occurred due to a transient cause, such as an excessive noise. 			0			Z930

					L	eve	ı		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
05220000 hex	Internal Circuit Error at Test Output	A fault was detected in the internal circuit for the test output terminal.	The internal circuit for the test output terminal is faulty. A memory error or signal error occurred due to a transient cause, such as an excessive noise.			0			Z930
05230000 hex	Internal Circuit Error at Safety Output	A fault was detected in the internal circuit for the safety output terminal.	The internal circuit for the safety output terminal is faulty. A memory error or signal error occurred due to a transient cause, such as an excessive noise.			0			Z930
65200000 hex	I/O Power Supply Volt- age Error	An incorrect I/O pow- er supply voltage was detected.	The input power or output power is not supplied correctly.			0			Z930
65210000 hex	Output Pow- er Interrupt Circuit Error	An error was detected by the output power interruption test.	The wiring is not correct or there is a fault in the hardware.			0			Z930
65220000 hex	External Test Signal Fail- ure at Safety Input	An error was detected in test pulse evaluation of the safety input terminals.	 The positive power supply wire is in contact with the input signal line. The input signal lines are shorted. The external device is faulty. 			0			Z930
65230000 hex	Discrepancy Error at Safety Input	An error was detected in discrepancy evaluation of safety input terminals.	 There is a ground fault or disconnection in the input signal line. The connected device is faulty. The setting of the discrepancy time is not correct. Chattering occurred in the input signal from the external input device, such as a safety door. 			0			Z930
65240000 hex	Overload Detected at Test Output	An overcurrent was detected at the test output terminal.	There is a ground fault on the output signal line. The external device is faulty.			0			Z930
65250000 hex	Stuck-at- high Detect- ed at Test Output	It was detected that the test output termi- nal is stuck ON.	 The positive power supply line is in contact with the output signal line. The internal circuit is faulty. A memory error or signal error occurred due to a transient cause, such as a soft error or excessive noise. 			0			Z930
65270000 hex	Short Circuit Detected at Safety Out- put	A ground fault was detected on the safety output terminal.	There is a ground fault on the output signal line.			0			Z930

					Level				
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
65280000 hex	Stuck-at- high Detect- ed at Safety Output	It was detected that the safety output ter- minal is stuck ON.	 The positive power supply line is in contact with the output signal line. The output power supply is outside the specifications. The internal circuit is faulty. A memory error or signal error occurred due to a transient cause, such as a soft error or excessive noise. 			0			Z930

Other Errors

					Level				
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
80220000 hex	NX Message Communica- tions Error	An error was detected in message communications for an NX Unit and the message frame was discarded.	The message communications load is high. The communications cable is disconnected or broken. Message communications were cut off as the result of executing a synchronization or restoration operation on the Sysmac Studio or as the result of disconnecting an EtherCAT slave.				0		Z930

User Access Log

					L	eve	l		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	о р о	I n f o	Reference
90400000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					0	Z930
90430000 hex	Memory All Cleared	The Unit settings were cleared.	The Clear All Memory operation was performed.					0	Z930

NX-series Load Cell Input Units

The section provides a table of errors (events) that can occur in the following Unit. NX-RS \square \square \square

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W565	NX-series Load Cell Input Unit User's Manual

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure			0			W565
05120000 hex	A/D Conversion Error	AD conversion was not performed by the AD converter.	EXC+ terminal and EXC- terminal are short-circuited. Noise A/D converter failure			0			W565
10410000 hex	Control Parameter Error in Master	An error occurred in the control parameters that are saved in the master.	 For the NX bus of CPU Units The power supply to the CPU Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the CPU Unit in which the Unit operation settings for the relevant NX Unit are saved. For Communications Coupler Units The power supply to the Communications Coupler Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the Communications Coupler Unit in which the Unit operation settings for the relevant NX Unit are saved. 			0			W565
10440000 hex	Unit Calibration Value Error	There is an error in the area in which the Unit calibration values are saved.	There is an error in the area of the non-volatile memory in which the Unit calibration val- ues are saved.			0			W565
10450000 hex	Actual Load Calibration Value Error	There is an error in the area in which the actual load calibration values are saved.	There is an error in the area of the non-volatile memory in which the actual load calibra- tion values are saved.			0			W565

						_eve	NI.		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f	Reference
40200000 hex	NX Unit Processing Error	A fatal error occurred in an NX Unit.	An error occurred in the soft- ware.			0			W565
65130000 hex	Sensor Disconnected Error	A disconnection with the load cell was detected.	 Wiring with the load cell is not connected. Wiring with the load cell is broken. The input signal exceeds the input conversion range. Load cell failure. 			0			W565
80200000 hex	NX Unit I/O Communica- tions Error	An I/O communications error occurred in an NX Unit.	 For the NX bus of CPU Units An error that prevents normal NX bus communications occurred in a CPU Unit. An NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected, or the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range, or the capacity of the Unit power supply is insufficient. There is a hardware error in an NX Unit. For Communications Coupler Units An error that prevents normal NX bus communications occurred in a Communications Coupler Unit. The NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range. Or, the capacity of the Unit power supply is outside the specified range. Or, the capacity of the Unit power supply is insufficient. There is a hardware error in the NX Units. 			0			W565

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
80210000 hex	NX Unit Output Synchronization Error	An output synchronization error occurred in the NX Unit.	 For the NX bus of CPU Units I/O refreshing on the NX bus is not performed normally due to an error in the CPU Unit. For Communications Coupler Units The communications cable connected to the Communications Coupler Unit is broken or the connection is faulty. The communications cable is affected by noise. 			0			W565
80240000 hex	NX Unit Clock Not Synchron- ized Error	A time information error occurred in an NX Unit.	 For the NX bus of CPU Units There is a hardware error in an NX Unit. There is a hardware error in a CPU Unit. For Communications Coupler Units There is a hardware error in an NX Unit. There is a hardware error in an EtherCAT Coupler Unit. 			0			W565
65140000 hex	Over Range	The input signal from the load cell exceeded the upper limit of the input conversion range.	Wiring with the load cell is not connected. Wiring with the load cell is broken. EXC+ terminal and EXC- terminal are short-circuited. Load cell failure. A load cell with which the rated output exceeds the input range of the Load Cell Input Unit is used. A load that exceeds the rated capacity is applied to the load cell. Noise			•	0		W565

					L	_eve	el .		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
65150000 hex	Under Range	The input signal from the load cell went below the lower limit of the input conversion range.	Wiring with the load cell is not connected. Wiring with the load cell is broken. EXC+ terminal and EXC- terminal are short-circuited. Load cell failure. A load cell with which the rated output exceeds the input range of the Load Cell Input Unit is used. A load that exceeds the rated capacity is applied to the load cell.			•	0		W565
80220000 hex	NX Message Communica- tions Error	An error was detected in message communications and the message frame was discarded.	For the NX bus of CPU Units The message communications load is high. For Communications Coupler Units The message communications load is high. The communications cable is disconnected or broken. Message communications were cutoff in communications.				0		W565
90400000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					0	W565

NX-series IO-Link Master Units

The section provides a table of errors (events) that can occur in the following Unit. NX-ILM \square \square

The manual name is given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W570	IO-Link System User's Manual

					L	_eve	l		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure			0			W570
10410000 hex	Control Parameter Error in Master	An error occurred in the control parameters that are saved in the master.	For the NX bus of CPU Units The power supply to the CPU Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the CPU Unit in which the Unit operation settings for the relevant NX Unit are saved. For Communications Coupler Units The power supply to the Communications Coupler Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the Communications Coupler Unit in which the Unit operation settings for the relevant NX Unit are saved.			0			W570
40200000 hex	NX Unit Processing Error	A fatal error occurred in an NX Unit.	An error occurred in the software.			0			W570

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Event code	Event name	Meaning	Assumed cause	M a j	P	M i n	O b s	I n f o	Reference
80200000 hex	NX Unit I/O Communica- tions Error	An I/O communications error occurred in an NX Unit.	 For the NX bus of CPU Units An error that prevents normal NX bus communications occurred in a CPU Unit. An NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected, or the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range, or the capacity of the Unit power supply is insufficient. There is a hardware error in an NX Unit. For Communications Coupler Units An error that prevents normal NX bus communications occurred in a Communications Coupler Unit. The NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range. Or, the capacity of the Unit power supply is insufficient. There is a hardware error in the NX Unit. 			0			W570

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
80240000 hex	NX Unit Clock Not Synchron- ized Error	A time information error occurred in an NX Unit.	 For the NX bus of CPU Units There is a hardware error in an NX Unit. There is a hardware error in a CPU Unit. For Communications Coupler Units There is a hardware error in an NX Unit. There is a hardware error in an EtherCAT Coupler Unit. 			0			W570
848F0000 hex	Device Configuration Verification Error	The connected device is different from the IO-Link device registered for a port of the IO-Link Master.	The connected device is different from the IO-Link device registered for a port of the IO-Link Master.			0			W570
84970000 hex	I/O Cable Short-circuit	There is a short-circuit in the cable that connects the IO-Link master and device.	There is a short-circuit in the I/O cable. An IO-Link device has failed.			0			W570
849A0000 hex	IO-Link Communications Module Processing Error	A hardware failure occurred in the IO-Link Communications Module.	A hardware failure occurred.			0			W570
80220000 hex	NX Message Communica- tions Error	An error was detected in message communications and the message frame was discarded.	For the NX bus of CPU Units The message communications load is high. For Communications Coupler Units The message communications load is high. The communications cable is disconnected or broken. Message communications were cutoff in communications.				0		W570
848C0000 hex	Error-level Device Event	An error-level event occurred in the IO-Link device.	Use CX-Configurator FDT to confirm the event code of the IO-Link device.				0		W570
848D0000 hex	IO-Link Communica- tions Error	An error occurred in IO-Link communications with a device.	The I/O cable is broken. IO-Link device failure. The communications were affected by noise.				0		W570
84990000 hex	Warning-lev- el Device Event Flag	A warning-level event occurred in the IO-Link device.	Use CX-Configurator FDT to confirm the event code of the IO-Link device.				0		W570
84950000 hex	IO-Link De- vice Config- uration Infor- mation Cre- ated	IO-Link device configuration information was created.	IO-Link device configuration information was created.					0	W570

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
84980000 hex	I/O Power Supply ON Detected	The I/O power supply ON was detected in several times.	The I/O power supply ON was detected in several times.					0	W570
90400000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					0	W570

NX-series Temperature Control Units

The section provides a table of the errors (events) that can occur in the following Unit. NX-TC $\Box\Box\Box\Box$

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
H228	NX-series Temperature Control Units User's Manual

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
00200000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure			0			H228
05100000 hex	A/D Convert- er Error	An error occurred in the A/D converter.	Noise A/D converter failure			0			H228
05110000 hex	Cold Junction Sensor Error	The temperature can- not be converted be- cause the cold junc- tion sensor is discon- nected.	 There is a faulty connection to the cold junction sensor. The cold junction sensor failed. 			0	•		H228
10410000 hex	Control Parameter Error in Master	An error occurred in the control parameters that are saved in the master.	For the NX bus of CPU Units The power supply to the CPU Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the CPU Unit in which the Unit operation settings for the relevant NX Unit are saved. For Communications Coupler Units The power supply to the Communications Coupler Unit was turned OFF while writing the Unit operation settings was in progress. Or there is an error in the area of the non-volatile memory in the Communications Coupler Unit in which the Unit operation settings for the relevant NX Unit are saved.			0			H228

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
14C10000 hex	Invalid Tun- ing Parame- ters Saved in the Unit	Failed to write the tuning result to the non-volatile memory, the tuning parameters saved in the Unit became invalid.	Power was turned OFF during tuning.			0			H228
40200000 hex	NX Unit Processing Error	A fatal error occurred in an NX Unit.	An error occurred in the soft- ware.			0			H228
65100000 hex	Sensor Disconnected Error	A disconnected temperature sensor was detected.	The temperature sensor is damaged or the wires are broken. An unused channel is not disabled. The wiring to the temperature sensor is incorrect. The input type is not set correctly when this error occurs in the Temperature Control Unit. The measured value exceeds the input indication range when this error occurs in the Temperature Control Unit. The PV Input Shift or the PV Input Slope Coefficient is not set correctly when this error occurs in the Temperature Control Unit.			0	•		H228
652C0000 hex	Heater Burn- out Detected	A heater burnout was detected.	A heater was burned out or damaged. The setting of the Heater Burnout Detection Current is too high. A CT input that is not used is allocated to a control output in the CT Allocation setting when this error occurs in the Heater Burnout Detection Unit. An unused channel is not disabled when this error occurs in the Temperature Control Unit.			0	•		H228

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
652D0000 hex	SSR Failure Detected	An SSR failure was detected.	 The SSR was short-circuited or damaged. The setting of the SSR Failure Detection Current is too small. A CT input that is not used is allocated to a control output in the CT Allocation setting when this error occurs in the Heater Burnout Detection Unit. An unused channel is not disabled when this error occurs in the Temperature Control Unit. 			0	•		H228
652E0000 hex	Alarm Detected	The alarm set for the alarm type was detected.	An alarm was detected, which was set to output in the following cases according to the alarm type: • - if a measured value deviates for the amount specified by the alarm upper limit and/or alarm lower limit, or • - if a measured value is greater or smaller than the specified alarm value. The following values that are set according to the alarm type do not conform to the alarm that is to be detected. • Alarm value • Alarm upper limit and alarm lower limit			0	•		H228

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f	Reference
80200000 hex	NX Unit I/O Communica- tions Error	An I/O communications error occurred in an NX Unit.	 For the NX bus of CPU Units An error that prevents normal NX bus communications occurred in a CPU Unit. An NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected, or the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range, or the capacity of the Unit power supply is insufficient. There is a hardware error in an NX Unit. For Communications Coupler Units An error that prevents normal NX bus communications occurred in a Communications Coupler Unit. The NX Unit is not mounted properly. The power cable for the Unit power supply is disconnected. Or, the wiring from the Unit power supply to the NX Units is incorrect. The power cable for the Unit power supply is broken. The voltage of the Unit power supply is outside the specified range. Or, the capacity of the Unit power supply is insufficient. There is a hardware error in an NX Unit. 			0			H228

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
80240000 hex	NX Unit Clock Not Synchron- ized Error	A time information error occurred in an NX Unit.	 For the NX bus of CPU Units There is a hardware error in an NX Unit. There is a hardware error in a CPU Unit. For Communications Coupler Units There is a hardware error in an NX Unit. There is a hardware error in an EtherCAT Coupler Unit. 			0			H228
80220000 hex	NX Message Communica- tions Error	An error was detected in message communications and the message frame was discarded.	For the NX bus of CPU Units The message communications load is high. For Communications Coupler Units The message communications load is high. The communications cable is disconnected or broken. Message communications were cutoff in communications.				0		H228
90400000 hex	Event Log Cleared	The event log was cleared.	The event log was cleared by the user.					0	H228
94D00000 hex	Tuning Parameter Updated	The parameters were updated by tuning.	Tuning of one of the following functions by the user operation was completed normally and the tuning parameters were updated. • AT • Automatic filter adjustment • PID update by Adaptive control with the Notification • D-AT					0	H228
94D10000 hex	Related Parameters Initialized	Related parameters were initialized by pa- rameter changes.	The model parameters of adaptive control were initial- ized because either the input type parameter or the temper- ature unit parameter had been changed.					0	H228
94F00000 hex	Tuning Parameter Automatically Updated	The parameters were automatically updated by tuning.	Tuning by automatic execution of the following functions was completed normally, and the tuning parameters were updated. • Water-cooling output adjustment • Adaptive control with the Automatic update					0	H228

NX-series EtherNet/IP Units

The section provides a table of the errors (events) that can occur in the following Unit. NX-EIP201

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W627	NX-series EtherNet/IP Unit User's Manual

Ethernet Function

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
04310000 hex	Communications Controller Error	A hardware error was detected in the Communications Controller of the EtherNet/IP port.	Hardware failure of Communi- cations Controller			0			W627
14310000 hex	MAC Ad- dress Error	MAC address in non- volatile memory could not be read correctly.	Non-volatile memory failure			0			W627
14340000 hex	Ethernet Processing Error	A fatal error was detected in the Ethernet Function Module.	Hardware failure			0			W627
36010000 hex	Basic Ether- net Setting Error	An Ethernet setting error was detected.	 Parameter error Power interruption while downloading EtherNet/IP port settings Memory error 			0			W627
36020000 hex	IP Address Setting Error	An IP address setting error was detected.	 Parameter error Power interruption while downloading EtherNet/IP port settings The IP address obtained from the BOOTP server is invalid. Memory error 			0			W627
36030000 hex	IP Rout Ta- ble Setting Error	An error was detected in the IP routing function settings.	 Parameter error Power interruption while downloading EtherNet/IP port settings Memory error 			0			W627
36060000 hex	SNMP Set- ting Error	A setting error in SNMP agent/trap was detected.	Parameter error Power interruption while downloading SNMP agent/trap settings Memory error			0			W627

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
36080000 hex	DNS Setting Error	Errors were detected in DNS setting and Hosts setting.	Parameter error Power interruption while downloading EtherNet/IP port settings Memory error			0			W627
85D00000 hex	IP Address Duplication Error	The IP address is duplicated.	The IP address of the Ether- Net/IP port is duplicated with the IP address of another node.			0			W627
85D10000 hex	BOOTP Server Con- nection Error	Connection to the BOOTP server failed.	The server is misconfigured. The server went down. Abnormalities occurred in the communication path.			0			W627
85D40000 hex	Packet Discarded Due to Full Reception Buffer	A packet drop occurred.	Network congestion occurred.				0		W627
85D50000 hex	Link OFF Detected	An Ethernet link OFF was detected.	An Ethernet cable is broken, disconnected, or loose. The Ethernet switch's power supply is turned OFF. Communications speed mismatched. Noise The identity object was reset. Settings for Ethernet were downloaded from the Network Configurator or Sysmac Studio, or the Clear All Memory operation was performed. The built-in EtherNet/IP port was restarted.			•	0		W627
96440000 hex	Link Detect- ed	Establishment of an Ethernet link was detected.	Establishment of an Ethernet link was detected.					0	W627
96470000 hex	IP Address Fixed	The correct IP address has been determined and Ethernet communications can start.	The correct IP address has been determined and Ethernet communications can start.					0	W627
96480000 hex	BOOTP Cli- ent Started	The BOOTP client started requesting an IP address.	The BOOTP client started requesting an IP address.					0	W627
964B0000 hex	SNMP Start- ed	The SNMP agent started normally.	The SNMP agent started nor- mally.					0	W627
96500000 hex	IP Address Changed	The IP address was changed.	The IP address was changed.					0	W627
96510000 hex	SNMP Set- tings Changed	SNMP Settings were changed.	SNMP Settings were changed.					0	W627

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
96520000 hex	Subnet Mask Changed	The subnet mask was changed.	The subnet mask was changed.					0	W627

EtherNet/IP Function

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
14210000 hex	Identity Error	The CIP identity information in non-volatile memory was not read correctly.	Non-volatile memory failure			0			W627
34200000 hex	Tag Data Link Setting Error	An error was detected in the communications settings for tag data links.	Power was interrupted when a download was in progress for the tag data link settings. Memory error			0			W627
34270000 hex	Tag Name Resolution Error	Resolution of a tag used in a tag data link failed.	 The size of the network variable is different from the tag settings. The I/O direction that is set in the tag data link settings does not agree with the I/O direction of the variable in the Controller. There is no network variable in the Controller that corresponds to the tag setting. A variable in the Controller that is set for a tag data link has the Network Publish attribute set to Input but also has the Constant attribute. 			0			W627

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
84070000 hex	Tag Data Link Con- nection Failed	Establishing a tag data link connection failed.	 The tag data link connection information is not the same for the originator and target. Insufficient connections CIP message communications at the target node are stopped. Setting to use tag data link communications was made to the NX-series EtherNet/IP Unit that is included in the CIP Safety connection settings (for NX-series EtherNet/IP Units). The NX-series EtherNet/IP Unit with tag data link communications was added to the CIP Safety connection settings (for NX-series EtherNet/IP Units). 			0			W627
84080000 hex	Tag Data Link Timeout	A timeout occurred in a tag data link.	 The power supply to the target node is OFF. Communications at the target node are stopped. The Ethernet cable connector for EtherNet/IP is disconnected. The Ethernet cable for EtherNet/IP is broken. The link to the EtherNet/IP port is OFF. CIP message communications at the target node are stopped. When the Packet Filter function is enabled in the EtherNet/IP Port Settings, packets from the target are not allowed. CIP communications are not allowed by the firewall function or Packet Filter function on the target node or the devices on the communication path. The packet loss occurred on the path due to the network communications load. Noise 			0			W627

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
84090000 hex	Tag Data Link Con- nection Timeout	A timeout occurred while trying to establish a tag data link connection.	 The power supply to the target node is OFF. Communications at the target node are stopped. CIP message communications are stopped at the target node or the EtherNet/IP port. The Ethernet cable connector for EtherNet/IP is disconnected. The Ethernet cable for EtherNet/IP is broken. CIP communications are not allowed by the firewall function or Packet Filter function on the target node or the devices on the communication path. Abnormalities occurred in the communication path. 			0	•		W627
840C0000 hex	Allowed Communica- tions Band- width per Unit Exceed- ed	The total bandwidth for the connections that are set or established for all of the EtherNet/IP ports exceeded the allowed communications bandwidth of tag data links and CIP Safety communications per Unit.	An attempt was made to establish a connection of communications bandwidth (PPS), which is the sum of the packet transmission rates of the tag data links and CIP Safety communications used for all Ether-Net/IP ports, and it exceeded the allowable communications bandwidth of the Unit.			0			W627
840E0000 hex	Number of Tag Sets for Tag Data Links Ex- ceeded	The total number of tag sets for tag data links for all Ethernet/IP ports exceeds the upper limit.	The total number for all ports of tag sets for tag data links that are set for each Ethernet/IP port exceeded the total number the product al- lows.			0			W627
342C0000 hex	Unit Config- uration Error, Combined Use of CIP Safety and Tag Data Link	Tag data link commu- nications and CIP Safety communica- tions cannot be used together in one NX- series EtherNet/IP Unit.	Setting to use tag data link communications was made to the NX-series EtherNet/IP Unit that is included in the CIP Safety connection settings. The NX-series EtherNet/IP Unit with tag data link communications was added to the CIP Safety connection settings.				0		W627

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54E00000 hex	Access Detected Outside Range of Variable	Accessing a value that is out of range was detected for a tag variable that is used in a tag data link.	An out-of-range value was written by an EtherNet/IP tag data link for a variable with a specified range. A value that does not specify an enumerator was written by an EtherNet/IP tag data link for an enumeration variable.				0		W627
94010000 hex	Tag Data Link Down- load Started	Changing the tag data link settings started.	Changing the tag data link set- tings started.					0	W627
94020000 hex	Tag Data Link Down- load Finish- ed	Changing the tag data link settings finished.	Changing the tag data link set- tings finished.					0	W627
94030000 hex	Tag Data Link Stop- ped	Tag data links were stopped by the Network Configurator, Sysmac Studio, or manipulation of a system-defined variable. Or, the data link table was downloaded from Network Configurator or Sysmac Studio.	Tag data links were stopped by the Network Configurator, Sys- mac Studio, or manipulation of a system-defined variable.					0	W627
94040000 hex	Tag Data Link Started	Tag data links were started by the Network Configurator, Sysmac Studio, or manipulation of a system-defined variable. Or, the data link table was downloaded from Network Configurator or Sysmac Studio.	Tag data links were started by the Network Configurator, Sys- mac Studio, or manipulation of a system-defined variable.					0	W627
94070000 hex	Tag Data Link All Run	Tag data link connections to all nodes have been normally established.	Tag data link connections to all target nodes have been nor- mally established.					0	W627
96450000 hex	Restarting Ethernet Port	The EtherNet/IP port was restarted.	The EtherNet/IP port was restarted.					0	W627

A-2-2 Errors in EtherCAT Slaves

This section provides tables of the errors (events) for which the following OMRON EtherCAT slaves provide notification to the NJ/NX-series CPU Unit.

- · GX-series EtherCAT Slave Units
- Servo 1S (1S-series AC Servo Drives with Built-in EtherCAT Communications)
 R88M-1□, R88D-1SN□-ECT and R88D-1SAN□-ECT
- Servo G5 (G5-series AC Servo Drives with Built-in EtherCAT Communications) and G5 Linear (G5-series Linear Motors/Drives with Built-in EtherCAT Communications Linear Motor Type)
- MX2/RX-series Inverters with EtherCAT Communications Units
- · FH-series Vision Systems
- · EtherCAT FQ-M-series Specialized Vision Sensors for Positioning
- E3X-series Fiber Sensors with EtherCAT Communications Unit for Digital Sensors
- E3NW-ECT EtherCAT Digital Sensor Communications Unit
- ZW-CE1□T Confocal Fiber Type Displacement Sensor

GX-series EtherCAT Slave Units

The manual names are given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
W488	GX-series EtherCAT Slave Units User's Manual
W570	IO-Link System User's Manual

Block I/O

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
04A00000 hex	Expansion Unit Hard- ware Error	An Expansion Unit was disconnected during operation or a signal between the Slave Unit and Expansion Unit was broken.	 The Expansion Unit is disconnected. The Expansion Unit is faulty. 			0			W488
04A20000 hex	Slave Hard- ware Error	A hardware error oc- curred in the Slave Unit.	The Slave Unit is faulty.			0			W488
14A00000 hex	Non-volatile Memory Checksum Error	An error occurred in the control parameters.	Noise			0			W488 W640
24610000 hex	Switch Set- ting Error	The setting switch is set out of range.	The analog range that is set on the switch is outside the set- ting range.			0			W488

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
64CC0000 hex	I/O Discon- nection De- tected	An I/O signal line is disconnected.	 I/O signal wiring is disconnected or has a faulty connection. An I/O signal line is disconnected. 			0			W488
84A00000 hex	Slave Unit Verification Error	A verification error occurred for the SII.	An error occurred in the control board.			0			W488 W640
04A10000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure Noise				0		W488 W640

• IO-Link Master Units

					ı	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
04A10000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure Noise			0			W570 W640
04A20000 hex	Slave Hard- ware Error	A hardware error oc- curred in the Slave Unit.	The Slave Unit is faulty.			0			W570
14A00000 hex	Non-volatile Memory Checksum Error	An error occurred in the control parameters.	Noise			0			W570 W640
847C0000 hex	Device Configuration Verification Error	The connected device is different from the IO-Link device registered for a port of the IO-Link Master.	The connected device is different from the IO-Link device registered for a port of the IO-Link Master.			0			W570 W640
84840000 hex	I/O Cable Short-circuit	There is a short-circuit in the cable that connects the IO-Link master and device.	There is a short-circuit in the I/O cable. An IO-Link device has failed.			0			W570 W640
84870000 hex	IO-Link Communications Module Processing Error	A hardware failure occurred in the IO-Link Communications Module.	A hardware failure occurred.			0			W570
84A00000 hex	Slave Unit Verification Error	An error occurred in Slave Unit verification.	An error occurred in the control board.			0			W570 W640
84790000 hex	Error-level Device Event	An error-level event occurred in the IO-Link device.	Use CX-Configurator FDT to confirm the event code of the IO-Link device.				0		W570 W640
847A0000 hex	IO-Link Communica- tions Error	An error occurred in IO-Link communications with a device.	 The I/O cable is broken. Or, the IO-Link device is disconnected from the port. The communications were affected by noise. IO-Link device failure. 				0		W570 W640
84860000 hex	Warning-lev- el Device Event Flag	A warning-level event occurred in the IO-Link device.	Use CX-Configurator FDT to confirm the event code of the IO-Link device.				0		W570 W640
84820000 hex	IO-Link De- vice Config- uration Infor- mation Cre- ated	IO-Link device configuration information was created.	IO-Link device configuration in- formation was created.					0	W570 W640
84850000 hex	I/O Power Supply ON Detected	The I/O power supply ON was detected in several times.	The I/O power supply ON was detected in several times.					0	W570

Servo 1S (1S-series AC Servo Drives with Built-in EtherCAT Communications) R88M-1□, R88D-1SN□-ECT, and R88D-1SAN□-ECT

The section provides a table of the errors (events) that can occur in R88M-1□ (AC Servomotors), R88D-1SN□-ECT (AC Servo Drives) and R88D-1SAN□-ECT (AC Servo Drives).

The manual name is given below for the catalog numbers given in the Reference column of the event table.

Cat. No.	Manual name
1586	AC Servomotors/Servo Drives 1S-series with Built-in EtherCAT Communications User's
	Manual
1621	AC Servomotors/Servo Drives 1S-series with Built-in EtherCAT Communications and Safe-
	ty Functionality User's Manual

					L	eve	l		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
04B30000 hex	Regenera- tion Circuit Error Detect- ed during Power ON	An error of the Regeneration Circuit was detected at power ON.	 Power supply voltage is insufficient at power ON, or rising slowly. Power supply voltage fluctuated at power ON. L1, L2, and L3 terminals are not connected or disconnected. N1 and N2 terminals are opened. Servo Drive failure 			0			1586
04B50000 hex	Inrush Cur- rent Preven- tion Circuit Error	An error of inrush current prevention circuit was detected.	Inrush current prevention circuit failure			0			1586
04B60000 hex	Regenera- tion Circuit Error	An regeneration circuit error was detected.	 There is a short circuit between B2 and N2/N3 Regeneration circuit failure Noise into wiring of the external regeneration resistor 			0			I586 I621
05430000 hex	ESC Error	An error occurred in the EtherCAT slave communications con- troller.	Error of the EtherCAT slave communications controller or false detection when the AL status code is 0051 hex Error access from the non-OM-RON EtherCAT master when the AL status code is 0050 hex			0			1586 1621

					L	_eve	ı		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
08390000 hex	Power Mod- ule Error	An error was detected in the power module.	There is a short-circuit, ground fault, or contact failure on the U, V, or W motor cable There is a short-circuit on the wiring of External Regeneration Resistor or the resistance value is small The insulation resistance failed between the U, V, or W motor cable and the motor ground wire Servo Drive failure			0			1586 1621
083B0000 hex	Self-diagno- sis Error	An error was detected by the self-diagnosis of the safety function.	False detection due to a data read error that was caused by excessive noise Hardware failure			0			I586 I621
083C0000 hex	Main Circuit Temperature Monitoring Circuit Fail- ure	A temperature monitoring circuit failure was detected on the main circuit.	Broken wiring of the thermistor, temperature monitoring circuit failure			0			1586 1621
083D0000 hex	Fan Error	The rotation speed of the fan is 40% or less of the rating and the cooling performance decreases.	There is a foreign matter in the cooling fan and it blocks the rotation Cooling fan failure			0			1586 1621
083F0000 hex	Regenera- tion Proc- essing Error	The regeneration processing was stopped to protect the Regeneration Resistor.	The regeneration processing is set inappropriately The Regeneration Resistor is selected inappropriately The Regeneration Resistor is used for continuous regenerative braking The applied power supply voltage is higher than the specified value Regeneration Resistor failure			0			I586 I621
08410000 hex	Overvoltage Error	The main circuit power supply voltage (P-N voltage) exceeded the operation guarantee range.	The P-N voltage exceeded the specified value The input voltage increased The Regeneration Resistor wiring is broken The External Regeneration Resistor is set or selected inappropriately Servo Drive failure			0			1586 1621
08420000 hex	Motor Over- heat Error	The encoder detected the temperature that exceeded the protection level of motor.	The temperature is high around the motor The motor is overloaded Encoder failure			0			1586

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
08430000 hex	1-rotation Counter Er- ror	The encoder detected a one-rotation counter error.	There is excessive noise Failure due to vibration, impact, condensation, foreign matter, etc.			0			I586 I621
08440000 hex	Overspeed Error	The encoder detected the overspeed.	The motor was rotated by external forces Encoder failure and false detection			0			1586
08450000 hex	Encoder Memory Er- ror	The encoder detected a nonvolatile memory error.	False detection due to a data read error that was caused by excessive noise Non-volatile memory failure			0			I586 I621
08460000 hex	Absolute Position Detection Error	The encoder detected a multi-rotation counter error.	A detection error was detected in the multi-rotation detection section of the encoder There is excessive noise			0			I586 I621
08480000 hex	Main Power Supply Un- dervoltage (insufficient voltage be- tween P and N)	The main circuit power supply voltage fell below the operation guarantee range during Servo ON.	Incorrect wiring of the main circuit power supply The low power supply voltage is applied to the Servo Drive The long time was set in Momentary Hold Time and the voltage was decreased momentarily Servo Drive failure			0			1586 1621
08490000 hex	Overcurrent Error	The current flowing to the motor exceeded the protection level.	There is a short-circuit, ground fault, or contact failure on the U, V, or W motor cable There is a short-circuit on the wiring of External Regeneration Resistor The insulation resistance failed between the U, V, or W motor cable and the motor ground wire False detection due to the noise Servo Drive failure			0			1586 1621
084A0000 hex	Encoder Communica- tions Discon- nection Error	The communications disconnection was detected between the encoder and the Servo Drive.	Noise into the encoder cable Contact failure of the signal line, and disconnection of the encoder Power supply undervoltage to the encoder Encoder failure			0			1586
084B0000 hex	Encoder Communica- tions Error	Illegal data was received from the encoder the specified number of times.	Noise into the encoder cable Contact failure of the signal line, and disconnection of the encoder Power supply undervoltage to the encoder			0			1586 1621

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
084D0000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	 False detection due to a data read error that was caused by excessive noise Non-volatile memory failure 			0			I586 I621
086D0000 hex	Motor Tem- perature Er- ror	The encoder detected the temperature that exceeded the protection level of motor.	The temperature around the motor is not operating temperature The motor is overloaded Encoder failure			0			1621
086E0000 hex	Encoder Error	The encoder detected the position information error.	 Noise into the encoder Hardware failure from mechanical impact, and fault of power supply to the encoder. Contact failure of the signal line Encoder failure 			0			1621
086F0000 hex	Encoder power sup- ply Error	Encoder power sup- ply error was detect- ed.	 Noise into the encoder cable Contact failure of the signal line Power supply undervoltage to the encoder Encoder failure 			0			l621
08700000 hex	Encoder Self-diagno- sis Error	An error was detected by the self-diagnosis of the encoder.	False detection due to a data read error that was caused by excessive noise Encoder failure			0			l621
08710000 hex	Internal Cir- cuit Error at SF Input	Internal circuit error at SF input terminal was detected.	Memory error or signal abnormality due to transient factors such as soft errors and excessive noise Failure of safety input circuit of Servo Drive			0			1621
08720000 hex	Internal Cir- cuit Error at SOPT Input	Internal circuit error was detected at SOPT input terminal.	Memory error or signal abnormality due to transient factors such as soft errors and excessive noise Failure of SOPT input circuit of Servo Drive			0			l621
08730000 hex	Internal Cir- cuit Error at Test Output	Internal circuit errors were detected at test output terminal.	Memory error or signal abnormality due to transient factors such as soft errors and excessive noise Failure of test output circuit of Servo Drive			0			1621
08740000 hex	Internal Cir- cuit Error at SBC Output	Internal circuit error was detected at SBC Output terminal.	Memory error or signal abnormality due to transient factors such as soft errors and excessive noise Failure of SBC output circuit of Servo Drive			0			1621

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
08750000 hex	Overspeed Error	The encoder detected the overspeed.	The motor was rotated by external forces Encoder failure and the false detection			0			l621
08760000 hex	Absolute Encoder Multi- rotation Counter Er- ror	The encoder detected a multi-rotation counter error.	A temporary error occurred in the encoder multi-rotation de- tection function due to vibra- tion, impact, or condensation Encoder failure			0			1621
08780000 hex	Encoder Communica- tions Discon- nection Error	The communications disconnection was detected between the encoder and the Servo Drive.	Noise into the encoder cable Contact failure of the signal line, and No connection to the integrated cable Power supply undervoltage to the encoder Encoder failure			0			l621
18230000 hex	Absolute Encoder Multi- rotation Counter Er- ror	The encoder detected a multi-rotation counter error.	A temporary error occurred in the encoder multi-rotation de- tection function due to vibra- tion, impact, or condensation Encoder failure			0			1586
18380000 hex	System Er- ror	A hardware error due to the self-diagnosis and a fatal soft error were detected.	False detection due to a data read error that was caused by excessive noise A fatal soft error was detected Hardware failure			0			I586 I621
183A0000 hex	Non-volatile Memory Da- ta Error	An error of data saved in the nonvolatile memory was detected.	Power interruption or noise occurred while parameters other than the safety were saved Power interruption or noise occurred while the motor identity information was saved Power interruption or noise occurred while safety parameters were saved			0			I586 I621
246D0000 hex	Motor Non- conformity	The Servo Drive and motor combination is not correct.	The Servo Drive and motor combination is not correct			0			I586 I621

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
28080000 hex	Main Circuit Power Sup- ply Phase Loss Error	The phase loss of the main circuit power supply was detected.	Incorrect wiring, for example the single-phase power supply is input to a 3-phase input type Servo Drive In the case where the single-phase power supply is input to a single- and 3-phase input type Servo Drive, the phase loss detection is enabled. The power supply voltage is low or insufficient Broken wiring of the main circuit power supply input Servo Drive failure			0			1586 1621
280D0000 hex	Runaway Detected	The motor rotated in the direction opposite to the command.	 There is incorrect wiring of the motor cable or a broken cable. The motor rotated in the direction opposite to the command by external forces. 			0			1586 1621
357D0000 hex	DC Setting Error	A mistake was made in the DC Mode operation setting.	A mistake was made in the DC Mode operation setting			0			I586 I621
357E0000 hex	Synchroni- zation Cycle Setting Error	When the DC mode was established, the cycle time was set to the inoperable value.	The variable PDO mapping is used, and the number of objects is more than the maximum number of mapped objects for the cycle time The cycle time setting is incorrect			0			1586 1621
357F0000 hex	Mailbox Set- ting Error	An incorrect mailbox setting of Sync Manager was detected.	An incorrect mailbox setting of Sync Manager was detected			0			I586 I621
35800000 hex	RxPDO Set- ting Error	An RxPDO setting error was detected.	The RxPDO setting of Ether-CAT master is incorrect Servo Drive failure			0			I586 I621
35810000 hex	TxPDO Set- ting Error	A TxPDO setting error was detected.	The TxPDO setting of Ether-CAT master is incorrect Servo Drive failure			0			I586 I621
35820000 hex	RxPDO Mapping Er- ror	An incorrect RxPDO was set.	An incorrect RxPDO was set, such as out of the allowable range of Index, Subindex, or size			0			I586 I621
35830000 hex	TxPDO Mapping Er- ror	An incorrect TxPDO was set.	An incorrect TxPDO was set, such as out of the allowable range of Index, Subindex, or size			0			I586 I621
35840000 hex	PDO WDT Setting Error	An incorrect PDO WDT setting was detected.	An incorrect PDO WDT setting was detected			0			1586 1621

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Event code	Event name			M a j	P rt	M i n	O b s	I n f o	Reference
35850000 hex	Node Ad- dress Updat- ed	The node address is changed to a value of the ID switches.	The node address is changed from a set value in Sysmac Studio to a value of the ID switches			0			I586 I621
35860000 hex	SM Event Mode Set- ting Error	The unsupported SM Event Mode was set.	The unsupported SM Event Mode was set			0			I586 I621
38570000 hex	Function Setting Error	The function that was set does not support the communications period.	 The electronic gear ratio was not 1:1 when the communications period was set to 125 μs. The Backlash Compensation was enabled when the communications period was set to 125 μs. 			0			1586 1621
38780000 hex	General In- put Alloca- tion Dupli- cate Error	More than one function input is allocated to one general input.	More than one function input is allocated to one general input			0			I586 I621
38790000 hex	General Out- put Alloca- tion Dupli- cate Error	More than one function output is allocated to one general output.	More than one function output is allocated to one general out- put			0			I586 I621
387B0000 hex	Pulse Output Setting Error	The dividing numerator exceeded the dividing denominator when the Encoder Dividing Pulse Output - Dividing Denominator was set to a value other than 0.	The dividing numerator exceeded the dividing denominator when the Encoder Dividing Pulse Output - Dividing Denominator was set to a value other than 0			0			1586 1621
387C0000 hex	Motor Replacement Detected	The connected motor is different from the motor that was connected the last time.	The motor was replaced The Servo Drive was replaced			0			I586 I621
387F0000 hex	Electronic Gear Setting Error	The electronic gear ratio exceeded the allowable range.	The electronic gear ratio exceeded the allowable range			0			I586 I621
38800000 hex	Servo Drive Overheat	The internal temperature of Servo Drive exceeded the circuit protection level.	The ambient temperature of the Servo Drive exceeded the specified value Overload			0			I586 I621
38810000 hex	Overload Error	The Load Ratio of Servo Drive or motor (4150-81 hex) ex- ceeded 100%.	 Operation was continued for a long time with high load There is incorrect wiring of the motor cable or a broken cable Increase in friction 			0			I586 I621

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
38820000 hex	Regenera- tion Over- load Error	The Regeneration Load Ratio (4310-81 hex) exceeded the re- generation overload ratio.	The regeneration processing is set inappropriately The Regeneration Resistor is selected inappropriately The Regeneration Resistor is used for continuous regenerative braking The applied power supply voltage is higher than the specified value Regeneration Resistor failure			0			1586 1621
38830000 hex	Excessive Position De- viation Error	The position deviation is greater than or equal to the value set in the Following error window.	Motor operation does not follow the command The value of Following error window is small			0			I586 I621
38840000 hex	Excessive Speed Devi- ation Error	The speed deviation is greater than or equal to the value set in the Excessive Velocity Deviation Detection Level.	The motor operation does not follow the command because a parameter value is inappropriate The output axis of motor is limited on the operation by external forces The value of the Excessive Velocity Deviation Detection Level is inappropriate			0			1586 1621
38850000 hex	Excessive Speed Error	The feedback motor speed is greater than or equal to the value set in the Excessive Speed Detection Level.	The velocity command value is too large Overshooting occurred The motor was rotated by external forces			0			1586 1621
38860000 hex	Following Error Coun- ter Overflow	The following error value exceeded the range from - 2147483648 to 2147483647.	The motor operation does not follow the command The motor is rotated or limited on the operation by external forces			0			1586 1621
38870000 hex	Absolute Encoder Counter Overflow Error	The multi-rotation counter of the encoder exceeded the maximum number of rotations.	An inappropriate value was set in the Encoder - Operation Selection when Using Absolute Encoder (4510-01 hex) The multi-rotation number of the encoder exceeded the maximum number of rotations			0			I586 I621

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
38880000 hex	Safety Com- munications Setting Error	Safety process data communications were not established with the Safety CPU Unit because of an incorrect communications setting.	The watchdog time was set incorrectly The processing was not completed within the watchdog time because communications were not established due to the noise			0			I586 I621
38890000 hex	Safety Frame Error	Safety process data communications were not established with the Safety CPU Unit because an incorrect frame was received.	An incorrect frame was received in safety process data communications. There is excessive noise			0			I586 I621
388A0000 hex	Safety Pa- rameter Er- ror	Safety process data communications were not established with the Safety CPU Unit because an incorrect parameter was received.	The set safety slave model is incorrect			0			1586
388B0000 hex	FSoE Slave Address Er- ror	Safety process data communications were not established with the Safety CPU Unit because of an incorrect FSoE slave address.	The setting of the FSoE slave address in the safety process data communications settings is different from the setting in the Unit			0			I586 I621
38980000 hex	Safety Function Setting Error	Incorrect safety function setting was detected.	 Safety function setting is broken Safety function setting is incorrect in the attached information 			0			1621
38990000 hex	Safety Pa- rameter Er- ror	Safety process data communications were not established with the Safety CPU Unit because an incorrect parameter was re- ceived.	The specified safety slave model is incorrect There is discrepancy between safety function setting downloaded to EtherCAT master and safety application data downloaded to safety controller			0			1621
48080000 hex	FPGA WDT Error	An FPGA error was detected.	False detection due to a data read error that was caused by excessive noise Hardware failure			0			1586 1621

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
64E30000 hex	Drive Pro- hibition Input Error	Both the Positive Drive Prohibition (POT) and the Nega- tive Drive Prohibition Input (NOT) turned ON.	An error occurred on the switch, wire, power supply, and wiring that were connected to the Positive Drive Prohibition (POT) or Negative Drive Prohibition Input (NOT) False detection occurred because the control signal power supply was turned ON slowly			0			1586 1621
68200000 hex	Drive Pro- hibition De- tected	The operation was stopped according to the user setting because the motor ran in the prohibited direction when the Drive Prohibition was enabled.	Incorrect or broken wiring of Positive Drive Prohibition Input (POT) or Negative Drive Prohibition Input (NOT) Incorrect setting of the Drive Prohibition Input			0			1586 1621
68210000 hex	Control Right Re- lease Error	Communications between the Sysmac Studio and Servo Drive were interrupted while a specific function was used from the Sysmac Studio.	The USB cable or EtherCAT cable was disconnected during the connection with the Sysmac Studio There is excessive noise A command sent from the Sysmac Studio was not sent to the Servo Drive because the computer was in a busy state or the like			0			1586 1621
68220000 hex	Error stop input	The Error Stop Input (ESTP) is active.	The Error Stop Input (ESTP) was input The Error Stop Input (ESTP) is incorrectly wired			0			1586 1621
68230000 hex	Software Limit Ex- ceeded	The Position actual value detected the position that exceeded the value set in the Software Position Limit, and stopped the operation according to the user setting.	Incorrect setting of Software Position Limit When the Software Position Limit - Stop Selection was set to Stop according to the setting of Fault reaction option code, the position exceeded the value set in the Software Position Limit			0			1586 1621

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
68370000 hex	SOPT Input Monitoring Error	Improper installation of SOPT input device and the malfunction were detected.	Detected a gap of the installation positions of SOPT input devices The setting of Discrepancy Distance (4F00-05 hex) is inappropriate The setting of Safety Origin Position Offset (4F00-04 hex) is inappropriate The setting of Safety Origin Position Tolerance (4F00-06 hex) is inappropriate SOPT Input Terminal Setting is different from specification of input device Speed where a work passed SOPT1/SOPT2 exceeded 200 r/min Failure of input device Disconnection of input device connection cable			0			1621
68380000 hex	Safety Function Error	A problem on use of safety functions is detected.	SLP function: Safety origin position is not determined SLP function: Discrepancy Distance is incorrectly set SLP function: Disconnection of cable for connection with SOPT input device SLS function: Operation of SLS command is not appropriate Safety Position/Velocity Validation Monitoring Function: A motor does not rotate as commanded or the overshooting occurs Safety Position/Velocity Validation Monitoring Function: External forces rotate a motor or limit the operation SOPT input device and encoder are broken			0			1621
68390000 hex	Discrepancy Error at SF Input	Discrepancy between safety input1 and safety input2 was detected.	SF+ input contacts power line (+ side) with 24V DC Ground fault of SF+ input Disconnection of SF+ input or SF- input Short circuit of SF1+ input and SF2+ input Inappropriate safety controller setting or the failure			0			l621

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
683A0000 hex	SBC Relay Diagnosis Error	Improper wiring of terminals between SBC RFB and an er- ror of safety relay for SBC were detected.	Wrong wiring between a safety relay and SBC RFB terminals Safety Relay OFF Delay Time is inappropriate Safety Relay Activate is set inappropriately Wrong wiring of SBC RFB terminals Failure of safety relay			0			1621
683B0000 hex	External Test Signal Fail- ure at SOPT Input	An error was detected in test pulse diagnosis for SOPT input.	SOPT input wiring contacts IOV input wiring There is short circuit in the wiring of SOPT1 input and SOPT2 input Failure of externally connected equipment Test Pulse Diagnosis is set inappropriately			0			1621
683C0000 hex	Overload Detected at Test Output	Overcurrent was detected at the test output terminals.	Ground fault of the test output to IOG input Failure of externally connected equipment			0			I621
683D0000 hex	Stuck-at- high Detect- ed at Test Output	Stuck ON was detected at test output terminals.	The wiring of the test output contacts the wiring of IOV input There is short circuit in SOPT1 input and SOPT2 input Memory abnormality or signal abnormality due to transient factors such as soft errors and excessive noise Failure of the test output circuit of Servo Drive			0			1621
683E0000 hex	Overload Detected at SBC Output	Overcurrent was detected at the SBC output terminal.	Ground fault of SBC+ output to SBC CM input The wiring of SBC- output contacts SBC PS input Output of a power supply is out of specifications Memory error or signal abnormality due to transient factors such as soft errors and excessive noise Failure of SBC circuit of Servo Drive			0			1621

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	Obs	I n f o	Reference
683F0000 hex	Stuck-at- high Detect- ed at SBC Output	Stuck ON was detected at the SBC output terminals.	The wiring of SBC+ output contacts SBC PS input Ground fault of SBC- output to IOG input Memory error or signal abnormality due to transient factors such as soft errors and excessive noise Failure of SBC circuit of Servo Drive			0			1621
68400000 hex	IOV Power Supply Volt- age Error	Voltage error of IOV power supply was detected.	IOV power supply is not turned on Overvoltage of IOV power supply			0			1621
68410000 hex	SBC Power Supply Volt- age Error	Voltage error of SBC power supply was detected.	SBC power supply is not turned on Overvoltage of the SBC power supply			0			l621

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
68420000 hex	Monitoring Limit Ex- ceedance Error	A monitoring error was detected in safety monitoring functions.	 a. Each position and velocity exceeded a monitoring range/limit for safety monitoring functions SOS function: Safety Current Pulse Position exceeded SOS position zero window. Safety Current Motor Velocity exceeded SOS velocity zero window SLS function: Safety Current Motor Velocity exceeded SLS velocity limit SLP function: Safety Current Position exceeded a range from SLP Monitoring Upper Limit Position SDI function: Safety Current Motor Velocity exceeded SDI velocity exceeded SDI velocity zero window to rotation limit direction. And, Safety Current Pulse Position exceeded SDI position zero window to rotation limit direction Safety Position/Velocity Validation Monitoring Function: The monitoring limit values/ranges for the safety functions are set lower than the allowable ranges of the safety position/the velocity appropriateness monitoring function 			0			1621
78200000 hex	Pulse Output Overspeed Error	The speed, which exceeded the frequency that could be output by the Encoder Dividing Pulse Output function, was detected.	The dividing ratio setting is in- appropriate for the actual us- age condition			0			I586 I621

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
78210000 hex	Brake Inter- lock Error	The Brake Interlock Output (BKIR) was output by the Timeout at Servo OFF.	The Brake Interlock Output (BKIR) was output because the motor rotation speed did not decrease to or less than the speed set in the Threshold Speed at Servo OFF within the time set in the Timeout at Servo OFF when Servo OFF was performed during the motor operation			0			I586 I621
78230000 hex	Command Error	A mistake was made in using a command.	 When bit 9 (Remote) of the Statusword was set to 1 (remote), and the Servo Drive was in Operation enabled state (Servo ON), the Servo Drive received a command to change the communications state from Operational to another state (Init, Pre-Operational, or Safe-Operational) A mode of operation other than the hm mode was set during the homing operation Modes of operation was set to pp, pv or hm mode when the communications period was set to shorter than 250 µs 			0			I586 I621
84B10000 hex	EtherCAT State Change Er- ror	A communications state change command was received for which the current communications state could not be changed.	A communications state change command was re- ceived for which the current communications state could not be changed			0			I586 I621
84B20000 hex	EtherCAT II- legal State Change Er- ror	An undefined com- munications state change command was received.	An undefined communications state change command was received			0			I586 I621
84B40000 hex	Synchroni- zation Error	A signal for synchro- nous communications could not be detect- ed.	Noise Error of the EtherCAT slave communications controller			0			I586 I621
84B50000 hex	Sync Man- ager WDT Error	PDO communications were interrupted for the allowable period or longer.	An EtherCAT communications cable is disconnected, loose, or broken Host controller error			0			I586 I621
84B60000 hex	ESC Initialization Error	Initialization of the EtherCAT slave communications controller failed.	Data was incorrectly overwritten in the non-volatile memory of the EtherCAT slave communications controller Failure of the EtherCAT slave communications controller			0			I586 I621

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
84B70000 hex	SII Verification Error	An error occurred in SII data of the Ether- CAT slave communi- cations controller.	Data was incorrectly overwritten in the non-volatile memory of the EtherCAT slave communications controller Failure of the EtherCAT slave communications controller or false detection			0			1586 1621
84B90000 hex	Synchroni- zation Inter- ruption Error	Synchronization inter- ruption did not occur within the specified period	Incorrect EtherCAT synchronization setting of the host controller Failure of the EtherCAT slave communications controller or false detection			0			I586 I621
84BA0000 hex	Bootstrap State Transi- tion Request Error	The state transition to unsupported Bootstrap was requested.	The EtherCAT master request- ed the transition of unsupport- ed Bootstrap			0			I586 I621
88100000 hex	Communications Synchronization Error	Communications were not established consecutively be- cause the synchroni- zation with the Ether- CAT Master could not be achieved.	The power supply to the host controller was interrupted during PDO communications An EtherCAT communications cable is disconnected, loose, broken, or has a contact failure Noise			0			I586 I621
88120000 hex	Safety Communications Timeout	A communications timeout occurred in safety process data communications with the Safety CPU Unit.	A setting is not correct. The setting of the safety task period of the Safety CPU Unit is too short There is excessive noise The Safety CPU Unit or safety slave entered a status where it could not continue safety process data communications			0			I586 I621
98200000 hex	Absolute Value Cleared	The multi-rotation counter of the absolute encoder was cleared.	The multi-rotation counter of the absolute encoder was cleared			0			I586 I621
081C0000 hex	Capacitor Lifetime Warning	The capacitor built into the Servo Drive reached the service life.	The operating time of the ca- pacitor in the Servo Drive ex- ceeded the service life				0		I586 I621
081D0000 hex	Inrush Cur- rent Preven- tion Relay Lifetime Warning	The inrush current prevention relay built into the Servo Drive reached the service life.	The number of operating times of the inrush current preven- tion relay in the Servo Drive exceeded the service life				0		I586 I621
081F0000 hex	Brake Inter- lock Output Relay Life- time Warn- ing	The brake interlock output (BKIR) relay built into the Servo Drive reached the service life.	The number of operating times of the brake interlock output in the Servo Drive exceeded the service life				0		1586

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
083A0000 hex	Encoder Communica- tions Warn- ing	Encoder communications errors occurred in series more frequently than the specified value.	 Power supply undervoltage to the encoder Noise into the encoder cable Contact failure of the encoder cable 				0		1586
08470000 hex	Encoder Lifetime Warning	The encoder lifetime is close to the end.	Temporary noise The end of the encoder life				0		I586 I621
084C0000 hex	Fan Rotation Warning	The rotation speed of the fan is 80% or less of the rating and the cooling performance decreases.	There is a foreign matter in the cooling fan and it blocks the rotation Cooling fan failure				0		I586 I621
084E0000 hex	Absolute Encoder Counter Overflow Warning	The multi-rotation counter of the encoder exceeded the value set in Encoder - Absolute Encoder Counter Overflow Warning Level (4510-02 hex).	An inappropriate value was set in the Encoder - Operation Selection (4510-01 hex) The multi-rotation number of the encoder exceeded the warning level				0		I586 I621
08770000 hex	Safety Relay Lifetime Warning	A safety relay for SBC reached the life-time counting.	Use numbers of safety relay for SBC surpassed Safety Relay Lifetime Warning Detection Threshold				0		1621
18390000 hex	Lifetime Information Corruption Warning	An error was detected in the saved lifetime information.	The lifetime information cor- ruption was detected when the power supply was turned ON				0		I586 I621
34E00000 hex	Data Setting Warning	The object set value is out of the range.	The object set value is out of the range				0		I586 I621
387A0000 hex	Overload Warning	The Load Ratio of Servo Drive or motor (4150-81 hex) ex- ceeded the level set in Overload - Warning Notification Level (4150-01 hex).	 Operation was continued for a long time with high load. There is incorrect wiring of the motor cable or a broken cable Increase in friction 				0		I586 I621
387D0000 hex	Regenera- tion Over- load Warn- ing	The Regeneration Load Ratio(4310-81Hex) exceeded 85% of the regeneration overload ratio.	The regeneration processing is set inappropriately The Regeneration Resistor is selected inappropriately The Regeneration Resistor is used for continuous regenerative braking The applied power supply voltage is higher than the specified value Regeneration Resistor failure				0		I586 I621

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
387E0000 hex	Motor Vibration Warning	The motor vibration, which was higher than or equal to the level set in the Vibration Detection - Detection Level (3B70-01 hex), was detected.	The control parameter is set inappropriately The rigidity decreased due to mechanical looseness or wear				0		1586 1621
78220000 hex	Command Warning	A command could not be executed.	The Switch ON command was received The Enable operation command was received An operation command in the prohibition direction was received after the immediate stop by the Drive Prohibition Input or Software Position Limit Homing started The positioning start command was received in the Profile position mode				0		1586 1621
84B00000 hex	EtherCAT Communica- tions Warn- ing	An EtherCAT communications error occurred more than one time.	An EtherCAT communications cable has a contact failure, or is connected incorrectly or broken Noise				0		I586 I621
90A00000 hex	Unit Restart-	Restart was per- formed.	Restart was performed					0	I586 I621
98210000 hex	STO Detected	The safety input OFF state was detected via the safety input signal or EtherCAT communications.	The cable is disconnected or broken The STO input was turned OFF via EtherCAT communications The cable is disconnected or broken.					0	1586
98220000 hex	Memory All Cleared	The Unit setting was cleared.	Clear All Memory was per- formed					0	I586 I621
98230000 hex	Motor Rota- tion Direc- tion Selec- tion Non- conformity	Discrepancy of Motor Rotation Direction Selection and Safety Motor Rotation Direction Selection was detected.	Motor rotation settings are different between Motor Rotation Direction Selection and Safety Motor Rotation Direction Selection					0	1621
98240000 hex	Event Log Cleared	The event log was cleared.	Clear Event Log was performed					0	I586 I621

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	Obs	I n f o	Reference
98250000 hex	STO Detected	The safety input OFF state was detected via the safety input signal or EtherCAT communications.	There are detached wires and the disconnection of safety input cable Incorrect safety programming of safety controller Torque off request was detected at safety input signal Torque off request was detected by commands via EtherCAT communication					0	l621

Servo G5 (G5-series AC Servo Drives with Built-in EtherCAT Communications) and G5 Linear (G5-series Linear Motors/Drives with Built-in EtherCAT Communications Linear Motor Type)

Cat. No.	Manual name
1576	AC Servomotors/Servo Drives G5-series with Built-in EtherCAT Communications User's Manual
1577	AC Servomotors/Servo Drives G5-series with Built-in EtherCAT Communications Linear Motor Type User's Manual

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
04A80000 hex	Control Power Supply Undervoltage	The voltage between the positive and negative terminals in the control power supply converter dropped below the specified value.	 Power supply undervoltage. Or, the power supply voltage dropped because there was inrush current when the main power supply was turned ON. A momentary power interruption occurred. The Servo Drive failed. 			0			1576 1577
04A90000 hex	Overvoltage	The power supply voltage exceeded the allowable input voltage range.	The voltage between the positive and negative terminals in the control power supply converter exceeded the specified value. The voltage was suddenly increased by the phase advance capacitor or the uninterruptible power supply (UPS). The Regeneration Resistor wiring is broken. The External Regeneration Resistor is not suitable.			0			1576 1577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
04AA0000 hex	Main Circuit Power Sup- ply Under- voltage (Un- dervoltage between positive and negative ter- minals)	If the Undervoltage Error Selection (3508 hex) is set to 1, a momentary power interruption occurred between L1 and L3 for longer than the value specified for the Momentary Hold Time. The voltage between the positive and negative terminals in the main power supply converter dropped below the specified value while the Servo was ON.	 Insufficient power supply capacity The electromagnetic contactor in the main circuit power supply was tripped. A momentary power interruption occurred. A Servo Drive with 3-phase input specifications was operated with a single-phase power supply. The Servo Drive failed. 			0			1576 1577
04AB0000 hex	Main Circuit Power Sup- ply Under- voltage (AC Cutoff De- tected)	If the Undervoltage Error Selection (3508 hex) is set to 1, a momentary power interruption occurred between L1 and L3 for longer than the value specified for the Momentary Hold Time. The voltage between the positive and negative terminals in the main power supply converter dropped below the specified value while the Servo was ON.	 Insufficient power supply capacity The electromagnetic contactor in the main circuit power supply was tripped. A momentary power interruption occurred. A Servo Drive with 3-phase input specifications was operated with a single-phase power supply. The Servo Drive failed. 			0			1576 1577
04AC0000 hex	Overcurrent	The current flowing through the converter exceeded the specified value.	 A short-circuit, line-to-ground fault, contact failure, or insulation failure occurred on the U, V, or W motor line. The Servo Drive failed. The relay for the dynamic brake has been welded due to frequent Servo ON/OFF operations. Motor windings are burned out. The Servomotor is not suitable for the Servo Drive. The command input timing is the same as or earlier than the Servo ON timing. 			0			1576 1577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
04AD0000 hex	IPM Error	The current flowing through the converter exceeded the specified value.	 A short-circuit, line-to-ground fault, contact failure, or insulation failure occurred on the U, V, or W motor line. The Servo Drive failed. The relay for the dynamic brake has been welded due to frequent Servo ON/OFF operations. Motor windings are burned out. The Servomotor is not suitable for the Servo Drive. The pulse input timing is the same as or earlier than the Servo ON timing. 			0			1576 1577
04AE0000 hex	Regenera- tion Tr Error	The Servo Drive regeneration drive Tr is faulty.	The Servo Drive regeneration drive Tr is faulty.			0			1576 1577
04AF0000 hex	Encoder Phase-Z Er- ror	A missing serial incremental encoder phase-Z pulse was detected.	The encoder is faulty.			0			1576
04B00000 hex	Encoder CTS Signal Error	A missing serial incremental encoder CTS signal logic error was detected.	The encoder is faulty.			0			1576
04B10000 hex	Node Address Setting Error	The node address that was read from the rotary switches was not between 00 and 99.	The Servo Drive failed.			0			1576 1577
04B20000 hex	Other Errors	The Servo Drive mal- functioned, or an er- ror occurred in the Servo Drive.	 The control circuit malfunctioned temporarily due to excess noise. The Servo Drive's self-diagnosis function detected an error in the Servo Drive. 			0			1577
08080000 hex	Encoder Communica- tions Discon- nection Error	A disconnection was detected because communications between the encoder and the Servo Drive were stopped more frequently than the specified value.	The encoder is not wired correctly.			0			1576
08090000 hex	Encoder Communica- tions Error	There is a communications error for the encoder.	The power supply voltage of the encoder is low.Noise			0			1576

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Event code	Event name	Meaning		Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
080A0000 hex	Encoder Communica- tions Data Error	There is an error in the communications data of the encoder.		The power supply voltage of the encoder is low. Noise			0			1576
080B0000 hex	Safety Input Error	At least one of the in- put photocouplers for safety inputs 1 and 2 turned OFF.	•	The cable is disconnected or broken.			0			1576 1577
080C0000 hex	External Encoder Connection Error	A disconnection was detected because communications between the external encoder and the Servo Drive were stopped more frequently than the specified value.	•	The wiring is incorrect.			0			1576 1577
080D0000 hex	External Encoder Communications Data Error	There was a communications error in data from the external encoder.		There is insufficient external encoder power supply voltage. Noise			0			1576 1577
080E0000 hex	External Encoder Status Error 0	Bit 00 of the external encoder error code (ALMC) was set to 1.	•	Bit 00 of the external encoder error code (ALMC) was set to 1.			0			1576 1577
080F0000 hex	External Encoder Status Error 1	Bit 01 of the external encoder error code (ALMC) was set to 1.	•	Bit 01 of the external encoder error code (ALMC) was set to 1.			0			1576 1577
08100000 hex	External Encoder Status Error 2	Bit 02 of the external encoder error code (ALMC) was set to 1.	•	Bit 02 of the external encoder error code (ALMC) was set to 1.			0			1576 1577
08110000 hex	External Encoder Status Error 3	Bit 03 of the external encoder error code (ALMC) was set to 1.	•	Bit 03 of the external encoder error code (ALMC) was set to 1.			0			1576 1577
08120000 hex	External Encoder Status Error 4	Bit 04 of the external encoder error code (ALMC) was set to 1.	•	Bit 04 of the external encoder error code (ALMC) was set to 1.			0			1576 1577
08130000 hex	External Encoder Status Error 5	Bit 05 of the external encoder error code (ALMC) was set to 1.	•	Bit 05 of the external encoder error code (ALMC) was set to 1.			0			1576 1577
08140000 hex	Phase-A Connection Error	An error such as bro- ken wiring was de- tected in the external encoder phase-A connection.	•	An error such as broken wiring was detected in the external encoder phase-A connection.			0			1576 1577
08150000 hex	Phase-B Connection Error	An error such as bro- ken wiring was de- tected in the external encoder phase-B connection.	•	An error such as broken wiring was detected in the external encoder phase-B connection.			0			1576 1577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
08160000 hex	Phase-Z Connection Error	An error such as bro- ken wiring was de- tected in the external encoder phase-Z connection.	An error such as broken wiring was detected in the external encoder phase-Z connection.			0			1576 1577
08170000 hex	Encoder Da- ta Restora- tion Error	Initialization of inter- nal position data was not processed cor- rectly in Semi-closed Control Mode and Absolute Value Mode.	 There is insufficient power supply voltage for the encoder. Noise is entering on the encoder line. 			0			1576
08180000 hex	External Encoder Data Restoration Error	Initialization of inter- nal position data was not processed cor- rectly in Fully-closed Control Mode and Absolute Value Mode.	 There is insufficient power supply voltage for the external encoder. Noise is entering on the external encoder line. 			0			1576
14A80000 hex	Object Error	The object area data in non-volatile memory is corrupted.	Noise Non-volatile memory failure			0			1576 1577
14A90000 hex	Object Error	The object area data in non-volatile memory is corrupted.	Noise Non-volatile memory failure			0			1576 1577
14AA0000 hex	Object Error	The object area data in non-volatile memory is corrupted.	Noise Non-volatile memory failure			0			1576 1577
14AB0000 hex	Object Cor- rupted	The checksum data in non-volatile memory is corrupted.	Non-volatile memory failure			0			1576 1577
14AC0000 hex	Object Cor- rupted	The checksum data in non-volatile memory is corrupted.	Non-volatile memory failure			0			1576 1577
14AD0000 hex	Object Cor- rupted	The checksum data in non-volatile memory is corrupted.	Non-volatile memory failure			0			1576 1577
18200000 hex	Absolute Encoder Overspeed Error	The Servomotor rotation speed exceeded the specified value when only the battery power supply was used during a power interruption.	 There is insufficient power supply voltage for the encoder. The wiring of the CN2 connector is wrong. An external force is rotating the motor when the Servo is OFF. 			0			1576
18210000 hex	Encoder Initialization Error	An encoder initialization error was detected.	Servomotor failed.			0			1576
18220000 hex	Absolute Encoder Onerotation Counter Error	The encoder detected a one-rotation counter error.	Servomotor failed.			0			1576

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
18230000 hex	Absolute Encoder Multi- rotation Counter Er- ror	The encoder detected a multi-rotation counter error.	Servomotor failed.			0			1576
24680000 hex	Motor Non- conformity	The Servo Drive and Servomotor combination is not correct.	The Servo Drive and motor combination is not correct			0			1576
24690000 hex	Motor Non- conformity	The Servo Drive and Servomotor combination is not correct.	The Servo Drive and motor combination is not correct			0			1576
246A0000 hex	Motor Non- conformity	The Servo Drive and Servomotor combination is not correct.	The Servo Drive and Servomotor combination is not correct.			0			1576
246B0000 hex	Motor Non- conformity	The Servo Drive and Servomotor combination is not correct.	The Servo Drive and Servomotor combination is not correct.			0			1576
246C0000 hex	Motor Non- conformity	The Servo Drive and Servomotor combination is not correct.	The Servo Drive and Servomotor combination is not correct.			0			1576
28010000 hex	Motor Set- ting Error	Settings associated with the motor and external encoder are missing.	Settings associated with the motor and external encoder are missing.			0			1577
28020000 hex	Motor Combination Error 1	The value set for the motor current exceeds the maximum motor capacity allowed for the Servo Drive.	The Motor Rated Rms Current/ Motor Peak Absolute Current exceeds the maximum motor capacity allowed for the Servo Drive.			0			1577
28030000 hex	Motor Combination Error 2	The value set for the motor exceeds the drive range of the motor.	The Motor Rated Rms Current is too low compared with the maximum motor capacity of the Servo Drive. The percentage of the Motor Coil Unit Mass to the Motor Rated Force is too high. The automatically adjusted Current Loop Proportional Gain/Current Loop Integral Gain is too high. The percentage of the Motor Peak Absolute Current to the Motor Rated Rms Current is greater than 500%.			0			1577
34E10000 hex	Servo Drive Overheat	The temperature of the Servo Drive radia- tor or power elements exceeded the speci- fied value.	The ambient temperature of the Servo Drive exceeded the specified value. Overload			0			1576 1577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
34E20000 hex	Overload	When the feedback value for torque/force command exceeds the overload level specified in the Overload Detection Level Setting (3512 hex), overload protection is performed according to the overload characteristics.	Operation was continued for a long time while overloaded. There is incorrect wiring of the motor line or a broken cable.			0			1576 1577
34E30000 hex	Regenera- tion Over- load	The regenerative energy exceeds the processing capacity of the Regeneration Resistor.	The load inertia/load mass is too large. Or, the Servomotor rotation speed/motor speed is too high is too high to absorb the regenerative energy within the specified deceleration time. This Regeneration Resistor cannot be used for continuous regenerative braking. (The operating limit of the external resistor is limited to a 10% duty.)			0			1576 1577
34E40000 hex	Error Counter Overflow	Position error pulses exceeded the setting of the Following error window (6065 hex).	Motor operation does not follow the command. The value of the Following error window (6065 hex) is small. The encoder/external encoder wiring is incorrect.			0			1576 1577
34E50000 hex	Excessive Velocity Er- ror	The difference between the internal position command velocity and the actual velocity (i.e., the velocity error) exceeded the Excessive Velocity Error Setting (3602 hex).	Motor operation does not follow the command. The setting of the Excessive Velocity Error Setting (3602 hex) is too small.			0			1576 1577
34E60000 hex	Overspeed	The Servomotor rotation speed/motor speed exceeded the value set on the Overspeed Detection Level Setting (3513 hex).	 The velocity command value is too large. There is overshooting. The wiring is incorrect. 			0			1576 1577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
383F0000 hex	Excessive Hybrid Fol- lowing Error	During fully-closed control, the difference between the load position from the external encoder and the Servomotor position from the encoder was larger than the number of pulses set as the Hybrid Following Error Counter Overflow Level (3328 hex).	Connections are not correct. The settings are not correct.			0			1576
38400000 hex	Overspeed 2	The Servomotor rotation speed/motor speed exceeded the value set on Overspeed Detection Level Setting at Immediate Stop (3615 hex).	 The velocity command value is too large. There is overshooting. The wiring is incorrect. 			0			1576 1577
38410000 hex	Command Error	The position command variation after the electronic gear exceeded the specified value.	The change in position command is too large. The backlash compensation amount is too large.			0			1576 1577
38420000 hex	Command Generation Error	During position command processing, an error such as a calculation range error occurred.	During position command processing, an error such as a calculation range error occur- red.			0			1576 1577
38430000 hex	Error Counter Overflow	The absolute encoder position/ absolute scale position in pulses divided by the electronic gear ratio exceeded ±2 ³¹ (2,147,483,648).	The absolute encoder position/ absolute scale position in puls- es divided by the electronic gear ratio exceeded ±2 ³¹ (2,147,483,648).			0			1576 1577
38440000 hex	Error Counter Overflow 2	The position following error in pulses exceeded ±2 ²⁹ (536,870,912). Or, the position following error in command units exceeded ±2 ³⁰ (1,073,741,824).	There is insufficient torque/ force. There is insufficient gain. The encoder/external encoder wiring is incorrect.			0			1576 1577
38450000 hex	Interface In- put Dupli- cate Alloca- tion Error 1	There is a duplicate setting in the input signal (IN1, IN2, IN3, and IN4) function allocations.	There is a duplicate setting in the input signal (IN1, IN2, IN3, and IN4) function allocations.			0			1576 1577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
38460000 hex	Interface Input Duplicate Allocation Error 2	There is a duplicate setting in the input signal (IN5, IN6, IN7, and IN8) function allocations.	There is a duplicate setting in the input signal (IN5, IN6, IN7, and IN8) function allocations.			0			1576 1577
38470000 hex	Interface Input Function Number Error 1	There is an undefined number specification in the input signal (IN1, IN2, IN3, and IN4) function alloca- tions. Or, a logic set- ting error was detect- ed.	 There is an undefined number specification in the input signal (IN1, IN2, IN3, and IN4) function allocations. Different logic is set for the same function in the function assignments of the input signals (IN1, IN2, IN3, and IN4). 			0			1576 1577
38480000 hex	Interface In- put Function Number Er- ror 2	There is an undefined number specification in the input signal (IN5, IN6, IN7, and IN8) function allocations. Or, a logic setting error was detected.	 There is an undefined number specification in the input signal (IN5, IN6, IN7, and IN8) function allocations. Different logic is set for the same function in the function assignments of the input signals (IN5, IN6, IN7, and IN8). 			0			1576 1577
38490000 hex	Interface Output Function Number Er- ror 1	There is an undefined number specification in the output signal (OUTM1) function allocation.	There is an undefined number specification in the output sig- nal (OUTM1) function alloca- tion.			0			1576 1577
384A0000 hex	Interface Output Function Number Er- ror 2	There is an undefined number specification in the output signal (OUTM2) function allocation.	There is an undefined number specification in the output sig- nal (OUTM2) function alloca- tion.			0			1576 1577
384B0000 hex	External Latch Input Allocation Error	There is an error in the latch input function allocation.	 The latch input was allocated to an input signal other than IN5, IN6, or IN7. A latch input is assigned to an NC signal. The same latch input is not assigned to the same pin in all Control Modes. 			0			1576 1577
384C0000 hex	Overrun Limit Error	The Servomotor exceeded the allowable operating range set in the Overrun Limit Setting (3514 hex) with respect to the position command input range.	The gain or inertial ratio/mass ratio is not suitable. The set value of the Overrun Limit Setting (3514 hex) is too small.			0			1576 1577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
384D0000 hex	Absolute Encoder System Down Error	The voltage of the built-in capacitor dropped below the specified value because the power supply to the encoder or the battery power supply was down.	The voltage of the built-in capacitor dropped below the specified value because the power supply to the encoder or the battery power supply was down.			0			1576
384E0000 hex	Absolute Encoder Counter Overflow Error	The multi-rotation counter of the encoder exceeded the specified value.	 The set value for switching operation with the absolute encoder is too large. The traveling distance from home of the machine exceeded 32,767 revolutions. 			0			1576
384F0000 hex	Object Set- ting Error 1	The electronic gear ratio exceeded the allowable range.	The electronic gear ratio exceeded the allowable range			0			1576 1577
38500000 hex	Object Set- ting Error 2	External encoder ratio exceeded the allowable range.	External encoder ratio exceed- ed the allowable range.			0			1576 1577
38510000 hex	External Encoder Connection Error	The set value of the External Feedback Pulse Type Selection (3323 hex) differs from the external encoder type that is connected for serial communications.	The set value of the External Feedback Pulse Type Selec- tion (3323 hex) differs from the external encoder type that is connected for serial communi- cations.			0			1576 1577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
38520000 hex	Function Setting Error	The function that was set does not support the communications period.	 The electronic gear object ratio was not 1:1 when the communications period was set to 500 µs. Modes of operation (6060 hex) was set to pp or hm when the communications period was set to 500 µs. More than 12 bytes were mapped for RxPDO in Fully-closed Control Mode (This applies only to Cylinder-type Servomotors.). Modes of operation (6060 hex) was set to pp or hm in Fully-closed Control Mode when the communications period was set to 1 ms and the electronic gear parameter ratio was not set to 1:1 (This applies only to Cylinder-type Servomotors.). No bytes (i.e., no objects) were mapped for RxPDO. More than 10 objects were mapped for RxPDO. More than 11 objects were mapped for TxPDO. CSP Switching Reference Position (4020 hex) was mapped for TxPDO when the communications period was set to 500 µs or when the electronic gear object ratio was not set to 1:1. 			0			1576
38530000 hex	Magnetic Pole Posi- tion Estima- tion Error 1	Magnetic pole position estimation was not completed successfully.	Settings associated with the external encoder are incorrect. The command time or force command value for magnetic pole position estimation is too low. There is a large unbalanced load or friction.			0			1577
38540000 hex	Magnetic Pole Posi- tion Estima- tion Error 2	Magnetic pole position estimation was not completed successfully because the motor did not stop within the Magnetic Pole Position Estimation Time Limit for Stop.	 The value set for the Magnetic Pole Position Estimation Time Limit for Stop (3927 hex) is small compared with the actual stop time of the motor. The motor is moving when no force is applied. 			0			1577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
38550000 hex	Magnetic Pole Posi- tion Estima- tion Error 3	Magnetic pole position restoration was not completed successfully.	 The Magnetic Pole Detection Method (3920 hex) object was set to 3 (Magnetic pole position restoration method), although magnetic pole position estimation had never been executed. The Magnetic Pole Detection Method (3920 hex) was set to 3 (Magnetic pole position restoration method) when a non- absolute type external encoder was used. 			0			1577
38560000 hex	Motor Auto- setting Error	The current exceeded the limit when it was applied to the Motor when the Servo was locked or when FFT measurement preparations were performed.	The Current Loop Proportional Gain or the Current Loop Integral Gain was too large before auto- setting was performed.			0			1577
64E00000 hex	Drive Prohibition Input Error 1	When the Drive Prohibition Input Selection (3504 hex) was set to 0, both the Forward/ Positive Drive Prohibition Input (POT) and Reverse/ Negative Drive Prohibition Input (NOT) turned ON. Or, when the Drive Prohibition Input Selection (3504 hex) was set to 2, either the Forward/ Positive Drive Prohibition Input (POT) or Reverse/Negative Drive Prohibition Input (NOT) turned ON.	A problem occurred with the switches, wires, and power supplies that are connected to the Forward/Positive Drive Prohibition Input (POT) and Reverse/Negative Drive Prohibition Input (NOT).			0			1576 1577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
64E10000 hex	Drive Pro- hibition Input Error 2	An operation command (such as a trial run of FFT) was received from the CX-Drive when the Drive Prohibition Input Selection (3504 hex) was set to 0, Ether-CAT communications was interrupted, and either POT or NOT was ON. Or, POT or NOT turned ON while operation was being performed for a CX-Drive operation command.	A problem occurred with the switches, wires, and power supplies that are connected to the Forward/Positive Drive Prohibition Input (POT) and Reverse/Negative Drive Prohibition Input (NOT).			0			1576 1577
64E20000 hex	Immediate Stop Input Error	An Immediate Stop (STOP) signal was input.	 An Immediate Stop (STOP) signal was input. Incorrect wiring of the immediate stop input (STOP). 			0			1576 1577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
74810000 hex	Command Error	A mistake was made in using a command.	 When bit 09 (Remote) of the Statusword (6041 hex) was set to 1 (remote), and the Servo Drive was in operation enabled state (Servo ON), a command was received that changes the communications state from Operational to another state (Init, Pre-Operational, or Safe-Operational state). When bit 09 (Remote) of the Statusword (6041 hex) was set to 0 (local), a command was received during FFT or test run status that changes the ESM state from Operational, Safe-Operational, or Pre-Operational state to Init state. An unsupported number was set for 6060 hex (Operation Mode). During Fully-closed Control Mode, csv or cst was set for 6060 hex (Operation Mode) (This applies to Cylinder-type Servomotors.). The setting of 6060 hex (Operation Mode) was changed at an interval of less than 2 ms. Homing was started when 6098 hex (Homing Method) was set to a value other than 8, 12, 19, 20, 33, 34, or 35. Data setting warnings (B0 hex) occurred continuously for the number of data setting warnings that is set in 3781 hex (Data Setting Warning Detection Count). 			0			1576
78010000 hex	Operation Command Competition	An attempt was made to establish EtherCAT communications or to turn ON the Servo from the Controller (enable operation) while executing an FFT that operates with the Servo Drive alone or a trial run.	EtherCAT communications (change from Init to Pre-Op- erational state) was established or an attempt to turn ON the Servo from the Controller (enable operation) was made while executing an FFT that operates with the Servo Drive trial run.			0			1576 1577

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
78020000 hex	Absolute Encoder Status Error	The rotation of the encoder was higher than the specified value when the power supply was turned ON.	The rotation of the encoder was higher than the specified value when the power supply was turned ON.			0			1576
84B10000 hex	EtherCAT State Change Er- ror	A communications state change command was received for which the current communications state could not be changed.	A communications state change command was re- ceived for which the current communications state could not be changed			0			1576 1577
84B20000 hex	EtherCAT II- legal State Change Er- ror	An undefined com- munications state change command was received.	An undefined communications state change command was received			0			1576 1577
84B30000 hex	Communications Synchronization Error	The number of consecutive errors in receiving data during the communication sync time exceeded the value specified for the Communications Error Setting (2200 hex).	Power to the host controller was interrupted during PDO communications. An EtherCAT communications cable is disconnected, broken, or incorrectly connected. Noise			0			1576 1577
84B40000 hex	Synchroni- zation Error	A synchronization error occurred.	Noise Control PCB error			0			1576 1577
84B50000 hex	Sync Man- ager WDT Error	PDO communications were stopped for more than the speci- fied period of time.	 The EtherCAT communications cable is disconnected or broken. There is an error in the host controller. 			0			1576 1577
84B60000 hex	ESC Initiali- zation Error	An error occurred in ESC initialization.	Control PCB error			0			1576 1577
84B70000 hex	Slave Unit Verification Error	An error occurred in Slave Unit verification.	Control PCB error			0			1576 1577
84B80000 hex	Communications Setting Error	There is an error in the communications settings.	 An out-of-range value was set from the host controller. A command that changes the communications state to an unsupported state was received. 			0			1576 1577
84B90000 hex	Synchroni- zation Inter- ruption Error	A synchronization interruption error occurred.	Control PCB error			0			1576 1577

				Level			l		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
98010000 hex	Absolute Value Cleared	The multi-rotation counter for the absolute encoder was cleared during USB communications by the CX-Drive.	The multi-rotation counter for the absolute encoder was cleared during USB communi- cations by the CX-Drive.			0			1576
98020000 hex	Position Da- ta Initialized	A Config operation was performed or the multi-rotation counter was cleared for the absolute encoder during EtherCAT communications.	A Config operation was performed during EtherCAT communications. The multi-rotation counter was cleared for the absolute encoder. (This applies only to Cylinder-type Servomotors.)			0			1576 1577
08010000 hex	Battery Warning	The battery voltage is 3.2 V or less.	The battery voltage is 3.2 V or lower.				0		1576
08020000 hex	Fan Warning	The fan stop state continued for 1 second.	There is foreign matter in the fan. The Servo Drive failed.				0		1576 1577
08030000 hex	Encoder Communica- tions Warn- ing	Encoder communications errors occurred in series more frequently than the specified value.	 There is insufficient power supply voltage for the encoder. Noise is entering on the encoder line. 				0		1576
08040000 hex	Encoder/ Serial Con- version Unit Overheating Warning	The encoder temper- ature exceeded the specified value or an overheating warning was detected for the Serial Conversion Unit.	The ambient temperature is too high. Servomotor/Linear Motor failed.				0		1576 1577
08050000 hex	Life Expect- ancy Warn- ing	The remaining life of the capacitor or the fan is shorter than the specified value.	The life expectancy of the ca- pacitor or the fan is shorter than the specified value.				0		I576 I577
08060000 hex	External Encoder Error Warning	The external encoder detected a warning.	 There is insufficient power supply voltage for the external encoder. Noise is entering on the external encoder connector cable. The external encoder failed. 				0		1576 1577
08070000 hex	External Encoder Communications Warning	The external encoder had more communications errors than the specified value.	 There is insufficient power supply voltage for the external encoder. Noise is entering on the external encoder connector cable. 				0		1576 1577
34E00000 hex	Data Setting Warning	An object setting is out of range.	The object set value is out of the range				0		1576 1577
383C0000 hex	Overload Warning	The load ratio is 85% or more of the protection level.	Overload There is incorrect wiring of the motor line or a broken cable.				0		1576 1577

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
383D0000 hex	Excessive Regenera- tion Warning	The regeneration load ratio is 85% or more of the level.	 There is excessive regeneration. This Regeneration Resistor cannot be used for continuous regenerative braking. 				0		1576 1577
383E0000 hex	Vibration De- tection Warning	Vibration was detected.	The gain or inertial ratio/mass ratio setting is not suitable.				0		1576 1577
74800000 hex	Command Warning	A command could not be executed.	 The absolute multi-rotation counter was cleared when the Servo was not OFF when using an absolute encoder for semi-closed control (This applies only to Cylinder-type Servomotors.). A forced brake operation request was sent while the Servo was ON. A Switch ON command was sent when the main power was OFF. (When 3508 hex = 0) An Enable Operation command was sent to request turning ON the Servo when the Servomotor was operating at 30 r/min or 30 mm/s, or higher. A latch operation was started under the following conditions. An absolute external encoder was used and phase Z was selected as the trigger for fully-closed control (This applies only to Cylinder-type Servomotors.). The absolute multi-rotation data was being cleared or the Config operation was being performed. The Statusword (6041 hex) bit 09 (remote) was 0 (local). An operation command is given in the prohibited direction after the motor made an immediate stop due to a drive prohibition input. 				0		1576 1577
84B00000 hex	EtherCAT Communica- tions Warn- ing	An EtherCAT commu- nications error occur- red one or more times.	The EtherCAT communications cable is disconnected or broken. Noise				0		1576 1577

MX2/RX-series Inverters with EtherCAT Communications Units

Cat. No.	Manual name
1574	MX2/RX Series Inverter EtherCAT Communication Unit User's Manual

					L	_eve	l		
Event code Even	Event name	t name Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
04A10000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure Noise			0			I574 W640
04BA0000 hex	Connection Error be- tween Inver- ter and Communica- tions Unit	An error occurred in the connection between the Inverter and the EtherCAT Communications Unit for the Inverter.	Contact failure between the Inverter and the EtherCAT Communications Unit for the Inverter. Inverter trip was reset. The Inverter was initialized or the mode was changed. The EtherCAT Communications Unit for the Inverter failed.			0			1574
04BB0000 hex	Inverter Warning	An Inverter warning was detected.	An Inverter warning was detected.			0			1574
04BC0000 hex	Inverter Trip	An Inverter trip was detected.	An Inverter trip was detected.			0			1574
34F00000 hex	PDO Setting Error	There is an illegal setting value in the PDO mapping.	The PDO mapping or Syn- cManager settings are incor- rect.			0			1574

FH/FZ5 Series Vision System

Cat. No.	Manual name
Z342	FH/FZ5 Vision System FH/FZ5 Series User's Manual for Communications Settings

		ne Meaning		Level					
Event code Even	Event name		Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
08210000 hex	Fan/Power Supply Error	An error occurred in the fan or power supply.	 A foreign object is interfering with fan operation. A suitable power supply voltage is not being used, resulting in an overvoltage or undervoltage. 			0			Z342
08220000 hex	Camera Overcurrent Detected	An overcurrent flowed to the Camera.	There is a short circuit inside the Camera cable or in a cir- cuit inside the Controller.			0			Z342
08230000 hex	Parallel I/O Overcurrent Detected	An overcurrent occurred in the parallel I/O interface.	A parallel I/O interface line is short-circuited.			0			Z342
182D0000 hex	Setting Data Load Error	Loading the scene group data failed.	 The data is corrupted because the power supply was turned OFF while saving the previous scene data. As the result of changing the operation mode, the required amount of memory increased, resulting in insufficient memory. 			0			Z342
38590000 hex	Camera Connection Error	The Camera connection is wrong.	 A Camera is not connected to the Controller. The Camera cable is broken. The Camera Selection settings are not correct in the Camera Image Input and Camera Switching processing items. A Camera is not connected to the Camera port on the Controller according to the Camera Selection settings in the Camera Image Input and Camera Switching processing items. 			0			Z342
385A0000 hex	Change in Connected Camera	The Camera that is connected is different from when data was last saved.	The Camera connection information in the scene data does not agree with the connection information for the Camera connected to the Controller.			0			Z342

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
385B0000 hex	Light instal- lation error	The Light installation is incorrect.	 The power consumption of the light installed onto a camera with a Lighting Controller is incorrect. The lighting mode of the light installed onto a camera with a Lighting Controller is incorrect. No external power supply is connected to the camera with a Lighting Controller. 			0			Z342
48020000 hex	System Er- ror	An error occurred in the system.	A serious error occurred in the system in the Controller.			0			Z342
58210000 hex	Output Control Timeout for Parallel I/O, PLC Link, or EtherNet/ IP	A timeout occurred in data output handshaking control for measurement results.	The data output handshaking controls in the program (i.e., the ON/OFF timing of the DSA signal) are not correct. The output control timeout time is too short in comparison with the program processing time. The parallel I/O DSA or Result Notification signal is not wired correctly.			0			Z342
58220000 hex	Output Control Timeout for EtherCAT	A timeout occurred in data output hand-shaking control for measurement results.	The data output handshaking controls in the program (i.e., the ON/OFF timing of the Result Set Request signal) are not correct. The output control timeout time is too short in comparison with the program processing time.			0			Z342
58230000 hex	Initial scene group error	Initial scene group setting is incorrect.	 The external storage specified as the scene group destination by the Scene Group Saving Destination Settings tool is not connected at the time of startup. The destination directory is not detected at the time of startup. Initial scene group number is not within the range of scene group accepted by the system. 			0			Z342
58240000 hex	Initial scene number error	Initial scene number setting is incorrect.	Initial scene number is not within the range of scenes ac- cepted by the system.			0			Z342
78190000 hex	Image Log- ging Disk Write Error	Writing data to the image logging disk failed.	 A logging disk is not inserted. The available space on the logging disk is not sufficient. There is no logging folder. Security restrictions are set on the logging disk. 			0			Z342

			Level	
Event code	Event name	Meaning	Assumed cause M	erence
781A0000 hex	Setting Data Transfer Er- ror	An error occurred while transferring the scene data.	Scene data was edited when there was little available space on the RAM disk and the operation mode was Double Speed Multiinput. The data transfer button was clicked when there was little available space on the RAM disk and the operation mode was Non-stop Adjustment Mode.	2
781B0000 hex	Output Buf- fer Error (EtherCAT)	The data output buf- fer for measurement data is full.	Data measurements are being performed on a period that is shorter than the time that is required for data output handshake controls in the program.	2
88080000 hex	PLC Link Communica- tions Error	A PLC Link cannot be established.	There is a mistake in the PLC or Vision Sensor communications settings. O The Ethernet or RS-232C cable is damaged.	2

EtherCAT FQ-M-series Specialized Vision Sensors for Positioning

Cat. No.	Manual name
Z314	FQ-M-series Specialized Vision Sensor for Positioning User's Manual

			Level		
Event code	Event name	Meaning	Assumed cause M P M O i b rt n s	I n f o	Reference
78080000 hex	TRIG Input Error	A TRIG signal was input when the BUSY signal for Sensor measurement was ON.	A TRIG signal was input when the BUSY signal for Sensor measurement was ON. Chattering occurred for a contact input.		Z314
780A0000 hex	Scene Data Error	The scene data to switch to is corrupted.	The power supply was inter- rupted when the scene data to switch to was saved.		Z314
780B0000 hex	Model Error	A model was re-registered with an image with low contrast.	A model was re-registered with an image with low contrast.		Z314
780C0000 hex	Logging Er- ror	Some data was not saved when logging data to files on an SD card.	Too much data to log in files occurred in a short period of time, and writing to the SD card could not keep up.		Z314
780D0000 hex	Output Time- out	A timeout occurred in data output hand-shaking control for measurement results.	The data output handshaking controls in the program (i.e., the ON/OFF timing of the DSA signal) are not correct. The output control timeout time is too short in comparison with the program processing time.		Z314
780E0000 hex	Output Size Error	The data output size setting and the PDO mapping setting do not agree.	The EtherCAT data output size setting in the Sensor and the PDO mapping setting in the EtherCAT master do not agree.		Z314

E3X-series Fiber Sensors with EtherCAT Communications Unit for Digital Sensors

Cat. No.	Manual name
E413	EtherCAT Digital-type Sensor Communication Unit Operation Manual

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
04C40000 hex	Sensor Communica- tions Error	An error occurred in a Sensor connection.	The Sensor is disconnected.			0			E413
04C50000 hex	Sensor Communica- tions Has Not Been Established	Communications has not been established with the Sensor.	A Sensor is not connected.			0			E413
14A00000 hex	Non-volatile Memory Checksum Error	An error occurred in the control parameters.	Noise			0			E413 W640
24780000 hex	Number of Sensors Ver- ify Error	The number of Sensors that is connected does not agree with the settings.	The set value does not match the number of Sensors that are actually connected.			0			E413
24790000 hex	Number of Sensors Over Limit	Too many Sensors are connected.	More than the maximum num- ber of Sensors are connected.			0			E413
34F80000 hex	Dummy Sensors Set- ting Error	Too many Dummy Units are set.	There are too many Dummy Units set, so some Sensors are not assigned logical unit numbers.			0			E413
04A10000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure Noise				0		E413 W640

E3NW-ECT EtherCAT Digital Sensor Communications Unit

Cat. No.	Manual name
E429	EtherCAT Digital-type Sensor Communication Unit Operation Manual

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
04C40000 hex	Sensor Communica- tions Error	An error occurred in a Sensor connection.	The Sensor is disconnected.			0			E429
04C50000 hex	Sensor Communica- tions Has Not Been Established	Communications has not been established with the Sensor.	A sensor is not connected.			0			E429
14A00000 hex	Non-volatile Memory Checksum Error	An error occurred in the control parameters.	Noise			0			E429 W640
247A 0000 hex	Number of Distributed Sensor Unit Verify Error	The number of Distributed Sensor Unit that is checked at power up is decreased.	The Distributed Sensor Unit is disconnected			0			E429
247B 0000 hex	Number of Sensors Over Limit	Too many Sensors are connected.	More than the maximum number of Sensors are connected.			0			E429
247C 0000 hex	Number of Sensors Ver- ify Error	The number of Sensors that is connected does not agree with the settings.	The set value does not match the number of Sensors that are actually connected.			0			E429
247D 0000 hex	Number of Sensors Over at Dis- tributed Sen- sor Unit	Too many Sensors are connected at Distributed Sensor Unit.	More than the maximum num- ber of Sensors are connected at Distributed Sensor Unit.			0			E429
34F80000 hex	Dummy Sensors Set- ting Error	Too many Dummy Units are set.	There are too many Dummy Units set, so some Sensors are not assigned logical unit numbers.			0			E429
04A10000 hex	Non-volatile Memory Hardware Error	An error occurred in non-volatile memory.	Non-volatile memory failure Noise				0		E429 W640

ZW-CE1□T Confocal Fiber Type Displacement Sensor

Cat. No.	Manual name
Z332	ZW-CE1□T Confocal Fiber Type Displacement Sensor User's Manual

						L	.eve	ı		
Event code	Event name	Meaning		Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
04D00000 hex	Hardware error	Some abnormality occurred on the displacement sensor hardware.	•	Hardware damage			0			Z332
14B00000 hex	Linearity cor- rection data error	The linearity correction data of the displacement sensor is damaged.	•	Calibration ROM damage			0			Z332
14B10000 hex	Linearity cor- rection data read error	Reading of the dis- placement sensor lin- earity correction data was not executed correctly.	•	Calibration ROM not inserted Calibration ROM damage			0			Z332
14B20000 hex	System set- ting error	The system settings saved to the displacement sensor are corrupt.	•	The displacement sensor power was turned OFF during saving/loading of system settings.			0			Z332
14B30000 hex	Bank data error	The bank data saved to the displacement sensor is corrupt.	•	The displacement sensor power was turned OFF during saving/loading of bank data.			0			Z332
24810000 hex	Ethernet communication parameter error	An invalid IP address is set for the displacement sensor.	•	Invalid IP address setting			0			Z332
74900000 hex	Multiple control signal input error	Multiple control sig- nals turned ON in the same cycle.	•	Multiple control signals turned ON in the same cycle.			0			Z332
74910000 hex	EXE input error	EXE input processing was not executed correctly.		EXE input turned ON in the FUN mode. EXE input turned ON with READY output OFF.			0			Z332
74920000 hex	SYNC input error	SYNC input processing was not executed correctly.	•	SYNC input turned ON in the FUN mode.			0			Z332

					ı	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
74930000 hex	TIMING input error	TIMING input processing was not executed correctly.	TIMINGx input turned ON in the FUN mode. TIMINGx input turned ON or OFF while RESETx input was ON. TIMINGx input turned ON in a non-measurement state. TIMINGx input turned ON before the "delay time + sampling time" elapsed.			0			Z332
74940000 hex	RESET input error	RESET input proc- essing was not exe- cuted correctly.	RESETx input turned ON in the FUN mode.			0			Z332
74950000 hex	ZERO input error	ZERO input processing was not executed correctly.	 ZEROx input turned ON in the FUN mode. ZEROx input turned ON in a non-measurement state. ZEROx input turned ON for a task whose status is OFF. 			0			Z332
74960000 hex	ZEROCLR input error	ZEROCLR input processing was not executed correctly.	ZEROCLRx input turned ON in the FUN mode.			0			Z332

A-2-3 Errors in CJ-series Units

The section provides tables of the errors (events) that can occur in the following CJ-series Units.

- · Analog I/O Units
- · Process I/O Units
- Temperature Control Units
- · ID Sensor Units
- High-speed Counter Units
- · Serial Communications Units
- · DeviceNet Units
- EtherNet/IP Units
- · CompoNet Master Units
- · EtherCAT Slave Units

CJ-series Analog I/O Units

The section provides tables of the errors (events) that can occur in the following Units.

CJ1W-AD041-V1/AD081-V1

CJ1W-AD042

CJ1W-DA021/DA041

CJ1W-DA08V/DA08C

CJ1W-DA042V

CJ1W-MAD42

Cat. No.	Manual name
W490	CJ-series Analog I/O Units Operation Manual for NJ-series CPU Unit

					L	eve			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
04600000 hex	A/D Conversion Error	An error occurred in A/D conversion.	There is a source of noise nearby. A/D converter failed.			0	•		W490
04620000 hex	Non-volatile Memory Er- ror	An error occurred in non-volatile memory.	There is a source of noise nearby. Non-volatile memory failed.			0			W490
34800000 hex	Mean Value Processing Setting Error	There is a mistake in the setting of the number of samplings for mean value proc- essing.	There is a mistake in the set- ting of the number of sam- plings for mean value process- ing.			0			W490

				Level					
Event code Eve	Event name	vent name Meaning	Assumed cause		P rt	M i n	O b s	I n f o	Reference
34830000 hex	Scaling Data Setting Error	There is a mistake in the scaling data settings.	The upper or lower limit data for scaling is outside the set- ting range. Or, the maximum value and minimum value are not 0 and they are the same.			0			W490
34840000 hex	Input Signal Range Set- ting Error or Error in Number of Inputs Set- ting	There is a mistake in the input signal range setting or in the num- ber of inputs setting.	The settings of the input signal range or the setting of the number of analog inputs that are used is incorrect.			0			W490
34850000 hex	Mean Value Processing Setting Error	There is a mistake in the setting of the number of samplings for mean value proc- essing.	There is a mistake in the set- ting of the number of sam- plings for mean value process- ing.			0			W490
34860000 hex	Error in Set- ting of Con- version Mode	There is a mistake is the Conversion Mode setting.	The specification of the Cyclic Conversion Mode or Direct Conversion Mode is not correct.			0			W490
34870000 hex	Output Hold Setting Error	There is a mistake in the output hold setting.	The setting for output status when conversion stops is in- correct.			0			W490
34890000 hex	Conversion Time/Reso- lution or Op- eration Mode Set- ting Error	There is a mistake in the conversion time/ resolution or opera- tion mode setting.	There is a mistake in the conversion time/resolution or operation mode setting.			0			W490
348A0000 hex	Output Sig- nal Range Setting Error or Error In Number of Outputs Used Setting	There is a mistake in the output signal range setting or in the number of outputs setting.	There is a mistake in the output signal range setting or in the number of outputs setting.			0			W490
38010000 hex	Scaling Data Setting Er- ror/Ratio Conversion Use Setting Error	There is an error in the scaling data set- ting or ratio conver- sion use setting.	The upper or lower limit data for scaling is outside the setting range. Or, the maximum value and minimum value are not 0 and they are the same. The I/O number for ratio conversion is set to Not used in the I/O specifications.			0			W490
38020000 hex	Ratio Set Value Error	There is a mistake is the ratio setting for ratio conversion.	A value other than 16#0000 to 16#9999 (0.00 to 99.99) was specified for the ratio conver- sion A constant for ratio conversion.			0			W490

					L	_eve	el .		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
64780000 hex	Input Dis- connection Detected	The input is disconnected.	Input wiring is broken. Input wiring disconnection			0	•		W490
64790000 hex	Output Set Value Error	The output setting is out of range.	An output set value setting is out of range.			0	•		W490
34810000 hex	Input Value Exceeded Adjustment Range in Adjustment Mode	In Adjustment Mode, the input value ex- ceeded the range for which adjustment is possible.	In Adjustment Mode, the input value exceeded the range for which adjustment is possible, so the offset and gain cannot be adjusted.			•	0		W490
34820000 hex	Input Num- ber Specifi- cation Error in Adjust- ment Mode	The input number specified in Adjustment Mode is not enabled or the input number is wrong.	 The input number that was specified in Adjustment Mode is not enabled. The setting of the Adjustment Input Number (device variable *_AdjCh) is incorrect, so adjustment is not possible. 			•	0		W490
34880000 hex	Output Number Specification Error in Adjustment Mode	The output number specified in Adjustment Mode is not enabled or the output number is wrong.	 The output number that was specified in Adjustment Mode is not enabled. The setting of the Adjustment Output Number (device variable *_AdjCh) is incorrect, so adjustment is not possible. 			•	0		W490
348C0000 hex	I/O Number Specification Error in Ad- justment Mode	The I/O numbers specified in Adjustment Mode are not enabled or the I/O numbers are wrong.	 The I/O numbers that were specified in Adjustment Mode are not enabled. The setting of the Adjustment I/O Number (device variable *_AdjCh) is incorrect, so adjustment is not possible. 			•	0		W490

CJ-series Process I/O Units

The section provides tables of the errors (events) that can occur in the following Units.

CJ1W-PDC15

CJ1W-AD04U

CJ1W-PH41U

Cat. No.	Manual name
W498	CJ-series Analog I/O Units Operation Manual for NJ-series CPU Unit

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
04600000 hex	A/D Conversion Error	An error occurred in A/D conversion.	There is a source of noise nearby. A/D converter failed.			0	•		W498
04610000 hex	Cold Junc- tion Sensor Error	An error occurred in the cold junction sensor.	 Faulty connection to the cold junction sensor for the CJ1W- PH41U. The cold junction sensor failed. 			0	•		W498
04620000 hex	Non-volatile Memory Er- ror	An error occurred in non-volatile memory.	There is a source of noise nearby. Non-volatile memory failed.			0			W498
348D0000 hex	Data Range Error	A set value is out of range.	A set value is out of range.			0			W498
647A0000 hex	Input Error	An input error occurred.	 The analog input signal is out of range. Input wiring is broken. Input wiring disconnection or loose terminal 			0	•		W498
647D0000 hex	Zero/Span Adjustment Period End	The zero/span adjust- ment period expired.	The zero/span adjustment period expired.			•	0		W498
647E0000 hex	Zero/Span Adjustment Period No- tice	The zero/span adjust- ment period is close to expiring.	The notification period for the expiration of zero/span adjust- ment occurred.			•	0		W498

CJ-series Temperature Control Units

The section provides tables of the errors (events) that can occur in the following Units.

CJ1W-TC003

CJ1W-TC004

CJ1W-TC103

CJ1W-TC104

Cat. No.	Manual name
W491	CJ-series Temperature Control Units Operation Manual for NJ-series CPU Unit

						L	_eve	el		
Event code	Event name	Meaning		Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
04680000 hex	Cold Junc- tion Sensor	An error occurred in the cold junction sen-	•	Faulty connection to the cold junction sensor.			•	0		W491
	Error	sor.	•	The cold junction sensor failed.						
34940000 hex	Setting Error	There is an illegal setting.	•	The set value is incorrect.			•	0		W491
64840000 hex	Sensor Error	An error occurred in the sensor input.	•	Error in input from the Sensor.			•	0		W491
64850000 hex	CT Overflow	An overflow occurred in the CT input.	•	The heater current exceeded 55.0 A.			•	0		W491
64860000 hex	Heater Burn- out Alarm	A heater burnout occurred.	•	The power supply to the heater is not ON. The heater is burned out or deteriorated.			•	0		W491

CJ-series ID Sensor Units

The section provides tables of the errors (events) that can occur in the following Units. CJ1W-V680C11 CJ1W-V680C12

Cat. No.	Manual name
Z317	CJ-series ID Sensor Units Operation Manual for NJ-series CPU Unit

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
046C0000 hex	Unit Status, Antenna Power Sup- ply Error	An error occurred in the power supply to the Antenna.	An error occurred in the power supply (24 V) to the Antenna.			0			Z317
046D0000 hex	Unit Status, Memory Er- ror	An error occurred when reading non-volatile memory.	There is a source of noise nearby. Non-volatile memory failure			0			Z317
046E0000 hex	Results Information, Antenna Error	An error occurred in the Antenna.	 The Antenna is not connected. Antenna failure The ID Sensor Unit failed.			0			Z317
046F0000 hex	Unit Status, Unit Busy	An error occurred in an ID Sensor Unit.	There is a source of noise nearby. The ID Sensor Unit failed.			0			Z317
24400000 hex	Unit Status, Antenna Er- ror	An error occurred in the Antenna.	The setting of the Connected Antenna Setting (device variable *_Ch#_AntConn) does not agree with the Antenna that is connected. The V680-H01 or V680-H01-V2 was connected to the CJ1WV680C12.			0			Z317
34980000 hex	Results Information, Data Storage Area Specification Error	The data storage area specification is not correct.	The user program specifies addresses in the DM, CIO, AR, EM, or other areas that exceed the ranges defined for the data storage area specifications.			0			Z317
54A00000 hex	Results Information, ID Tag Address Error	The address of the ID Tag is wrong.	The address of an ID Tag specified in a command is in- correct.			0			Z317

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54A10000 hex	Results Information, Write Protection Error	An attempt was made to write to a write-protected area of the ID Tag.	 The specified address or number of bytes is incorrect. Write-protection is enabled for the area you attempted to write to in the ID Tag. 			0			Z317
54A20000 hex	Results Information, Command Error	The command to the ID Sensor Unit is not correct.	The contents of the following external device variables is not data that can be specified (where # is the channel number). *_Ch#_CmdSet *_Ch#_ProcAdr *_Ch#_ProcByte *_Ch#_CmdOption "#" in the variable name is the Antenna (Head) number.			0			Z317
648C0000 hex	Unit Status, Command Error End	A processing error occurred.	A processing error occurred.			0			Z317
648D0000 hex	Results Information, Verification Error	The correct data could not be written to the ID Tag.	 The travel speed of the ID Tag is outside the specified range. The distance between the Antenna and ID Tag is outside the specified range. Noise 			0			Z317
648E0000 hex	Results Information, ID Tag Communications Error	An error occurred in communications with an ID Tag, preventing a normal end.	 The travel speed of the ID Tag is outside the specified range. The distance between the Antenna and ID Tag is outside the specified range. Noise 			0			Z317
648F0000 hex	Results Information, ID Tag Missing Error	There is no ID Tag in the communications area.	 The communications specification is set to trigger, and the ID Tag is not in the communications area when the trigger occurs. The communications specification is set to single auto or repeat auto, and the wait time reached the Auto Wait Time. An Amplifier is connected, but an Antenna is not connected. 			0			Z317
64900000 hex	Results Information, ID System Error 1	ID system error 1 occurred.	System error 1 occurred.			0			Z317
64910000 hex	Results Information, ID System Error 2	ID system error 2 occurred.	System error 2 occurred.			0			Z317

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference	
64920000 hex	Results Information, ID System Error 3	ID system error 3 occurred.	System error 3 occurred.			0			Z317	
64930000 hex	Results Information, ID Tag Status	One of the following occurred. The number of writes was exceeded for a Number of Writes Control command. An overflow or underflow occurred for a Calculation Write command. The data did not verify for a Data Check command. An error occurred in the data for a Read with Error Correction command. An error occurred when writing for a Copy command.	 The number of writes was exceeded for a Number of Writes Control command. An overflow or underflow occurred for a Calculation Write command. The data did not verify for a Data Check command. An error occurred in the data for a Read with Error Correction command. An error occurred when writing for a Copy command. 			0			Z317	
64940000 hex	Results Information, Error Correction	A Write with Error Correction command performed a 1-bit er- ror correction.	There is ambient noise where the ID Tag is used. ID Tag error.			0			Z317	

CJ-series High-speed Counter Units

The section provides tables of the errors (events) that can occur in the following Units. CJ1W-CT021

Cat. No.	Manual name				
W492 CJ-series High-speed Counter Units Operation Manual for NJ-series CPU Unit					

					L	Level			
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
68010000 hex	Unit Error	An error occurred in the High-speed Counter Unit.	 There is an error in the Special Unit Setup. An overflow or underflow error occurred. An illegal preset value was used. A CPU Unit monitor error or bus error occurred. The start delay time at startup was set to more than 10 seconds for the the CPU Unit. 			0			W492

CJ-series Serial Communications Units

The section provides tables of the errors (events) that can occur in the following Units.

CJ1W-SCU22

CJ1W-SCU32

CJ1W-SCU42

Cat. No.	Manual name
W494 CJ-series Serial Communications Units Operation Manual for NJ-series CPU L	

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
04740000 hex	Error Log Data Error	An error occurred in the error log data.	There is a source of noise nearby. Non-volatile memory failure			0			W494
14800000 hex	Protocol Da- ta Error	A protocol data checksum error has occurred.	The communications connector with the CX-Protocol was disconnected or the power supply to the Controller was interrupted during transfer of the protocol data from the CX-Protocol. The Serial Communications Unit failed.			0			W494
34A40000 hex	System Set- up Error	There is an error in the system settings for the Serial Com- munications Unit.	There is an error in the system settings for the Serial Commu- nications Unit.			0			W494
04750000 hex	DTR Check Error	An error was found during the DTR check.	Loopback test jig failure. Noise The communications circuits in the Serial Communications Unit are faulty.				0		W494
04760000 hex	CTS Check Error	An error was found during the CTS check.	Loopback test jig failure. Noise The communications circuits in the Serial Communications Unit are faulty.				0		W494
54A80000 hex	Command Error	A command error occurred.	The constant in the expected receive message that is set in the protocol macro is different from the constant in the message that was received.				0		W494

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54A90000 hex	Sequence Abort Com- pleted	The sequence was ended by an Abort setting for the next processing or error processing.	The protocol macro data is not set correctly. The baud rate, frame format, or other system setting does not agree with the remote node.				0		W494
54AA0000 hex	Protocol Macro Error	An error occurred in the protocol macro.	 Sequence No. Error: An unregistered number was specified for SeqNo (communications sequence number) of the ExecPMCR instruction (no indicators light). Data read/write area exceeded error: The specified area range was exceeded when data was written to or read from the CPU Unit. (The ERC indicator and ERR/ALM indicator will flash.) Protocol data syntax error: There was a code that cannot be executed during protocol execution. (The ERC indicator and ERR/ALM indicator will flash.) The total of the areas specified for link words O1, O2, I1, and I2 exceeded 500 words. The same link word is used by both ports 1 and 2. Writing was specified with a constant. Interrupt notification was specified for a Serial Communications Unit. Thirty one or more items were set for the write attribute data for one message. A length of 0 bytes was specified for a message that was sent or received. The length of a message to be sent or received exceeds the maximum send/receive bytes. A message is not registered for matrix reception. The transmission control is set to both RTS/CTS flow control and Xon/Xoff flow control. 				0		W494

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
64A00000 hex	Tfs (Send Finished Monitoring Time) Ex- ceeded	The time required to complete a send operation exceeded the Send Finished Monitoring Time.	Noise The monitoring time is shorter than the actual completion time.				0		W494
64A10000 hex	Tfr (Receive Finished Monitoring Time) Ex- ceeded	The time required to complete a reception operation exceeded the Receive Finished Monitoring Time.	Noise The monitoring time is shorter than the actual completion time.				0		W494
64A20000 hex	Tr (Receive Wait Moni- toring Time) Exceeded	The receive waiting time exceeded the Receive Wait Monitoring Time.	Noise The monitoring time is shorter than the actual completion time.				0		W494
64A30000 hex	FCS Check Error	One of the following errors occurred in the converted protocol at the serial gateway. • When converting to CompoWay/F command: BCC error • When converting to Modbus-RTU command: CRC error • When converting to Modbus-ASCII command: CRC error • When converting to Host Link FINS command: FCS error Protocol Macros • The check code attached to the received message does not match the check code that was calculated from the received message.	Noise There was a mistake in the CRC code that was attached to the command frame.				0		W494

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
64A40000 hex	Timeout Error	A timeout error occurred.	 The steps in the communications sequence of a protocol macro are not progressing. There is no remote device to receive the command. The command frame is incorrect. The remote device is not using the same serial communications settings. Wiring is not correct or terminating resistance is not set correctly. The remote device could not interpret the protocol command. The response from the remote device was sent too soon. The response timeout monitoring time of the serial gateway is too short. The loopback test jig failed. The communications circuits in the Serial Communications Unit are faulty. A serial gateway interrupted processing between protocol macro steps. Noise occurred. The Serial Communications Mode setting is incorrect. 				0		W494
64A50000 hex	Comparison Error	A comparison error occurred.	Loopback test jig failure. Noise The communications circuits in the Serial Communications Unit are faulty.				0		W494
64A60000 hex	Reception Overflow	More than the speci- fied amount of re- ceive data was re- ceived in No-protocol Mode.	One or more bytes of data was received after the completion the reception.				0		W494
64A70000 hex	Command Format Error	An illegal function code or address was specified in a received Modbus-RTU command.	An illegal function code, address, or data was specified in a received Modbus-RTU command.				0		W494

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
84680000 hex	Transmission Error	A transmission error occurred.	One of the following errors occurred. Tfs (Send Finished Monitoring Time) Exceeded Tfr (Receive Finished Monitoring Time) Exceeded Tr (Receive Wait Monitoring Time) Exceeded FCS Check Error Command Error Timeout Error Overrun Error Framing Error Parity Error				0		W494
84690000 hex	Overrun Error	An overrun occurred.	In Serial Gateway Mode or Protocol Macro Mode: The reception circuits in the Serial Communications Unit are faulty. A transmission error occurred due to noise or other factors. No-protocol Mode: The reception buffer received more than 259 bytes of data before the SerialRcv/Serial- RcvNoClear instruction was executed. During Loopback Test Loopback test jig failure. Noise The communications circuits in the Serial Communications Unit are faulty.				0		W494
846A0000 hex	Framing Error	A frame error occurred.	In Serial Gateway Mode or Protocol Macro Mode: The reception circuits in the Serial Communications Unit are faulty. A transmission error occurred due to noise or other factors. During Loopback Test Loopback test jig failure. Noise The communications circuits in the Serial Communications Unit are faulty.				0		W494

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
846B0000 hex	Parity Error	A parity error occurred.	In Serial Gateway Mode or Protocol Macro Mode: The reception circuits in the Serial Communications Unit are faulty. A transmission error occurred due to noise or other factors. During Loopback Test Loopback test jig failure. Noise The communications circuits in the Serial Communications Unit are faulty.				0		W494
846C0000 hex	Overrun Error, Framing Error, or Parity Error (Transmission Error)	An overrun error, framing error, or parity error occurred.	 The communications conditions and baud rate settings do not match the host. Noise or other external interference. The baud rate is outside the allowable range or there are bit errors due to different stop bit settings or other parameters. The communications cable wiring is faulty. Terminating resistance is not set correctly for the RS-422A/485 ports. Wiring is faulty or terminating resistance is not set correctly on an NT-AL001 or other Adapter. 				0		W494
846D0000 hex	Transmis- sion Error (CRC Error)	A CRC error occur- red.	Noise CRC calculation method does not match the device.				0		W494

CJ-series DeviceNet Units

The section provides tables of the errors (events) that can occur in the following Units. CJ1W-DRM21

Cat. No. Manual name						
W497	CJ-series DeviceNet Units Operation Manual for NJ-series CPU Unit					

				Level					
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
04880000 hex	Unit Memory Error	An error occurred when writing to internal memory where the error history is saved.	There is a source of noise nearby. Non-volatile memory failure			0	•		W497
04890000 hex	Network Power Error	Network power is not being supplied.	Communications power is not being supplied normally from the network.			0			W497
148D0000 hex	Invalid Scan List Data	There is an error in the contents of the slave scan list or master scan list stored in non-volatile memory.	The power was interrupted during writing the scan list to the non-volatile memory.			0			W497
148E0000 hex	Invalid Setup Data	There is illegal data in the settings for the slave function.	The power was interrupted while the system was writing the parameters. Non-volatile memory life			0			W497
24480000 hex	Node Ad- dress Dupli- cated Error	An error was discovered during the node address duplication check when starting the DeviceNet Unit.	The node address of the Devi- ceNet Unit is also set for an- other node.			0			W497
34BC0000 hex	Routing Ta- ble Error	There is illegal data in the routing tables set in the CPU Unit.	 The local DeviceNet Unit is not in the routing tables. The routing table format is incorrect. Reading the routing tables timed out. 			0	•		W497

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
34BD0000 hex	Verification Error	The slave information registered in the scan list does not agree with the actual slave information.	 A slave that is in the scan list does not exist. The node address of the local Unit, which is the master, is registered in the scan list. If the system is set to check the vendor in the detailed verification settings, the vendor of the slave does not match the registration in the scan list. If the connection path is set in the detailed verification settings, then setting the connection path that is set in the scan list failed. The size of the slave I/O data does not match the registration in the scan list. If the device type is set in the detailed verification settings, then setting the device type that is set in the scan list failed. If the product code is set in the detailed verification settings, then setting the product code that is set in the scan list failed. The device does not support the I/O service specified in the scan list. 			0			W497
34BE0000 hex	Structure Error	The scan list is disabled and an error occurred that prevented making I/O allocations.	 The I/O words allocated to slave overlap. The I/O words allocated to the slave exceed the valid range. The I/O size of the slave exceeds 200 bytes for outputs or 200 bytes for inputs. 			0			W497
34BF0000 hex	Master I/O Refresh Er- ror	The I/O memory in the destination CPU Unit for I/O refreshing could not be found when refreshing the master function data in the CPU Unit.	I/O words are allocated in an EM bank that does not exist.			0			W497

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
34C00000 hex	Master User- set Alloca- tions User Setting Failed	An error occurred in the following operation for user allocation of the master.	 The master function is not enabled. There is a mistake in the user allocations in the master. CPU Unit is not in PROGRAM mode. More than one software switch changed to TRUE at the same time. Or, another software switch changed to TRUE before processing was completed for a previous software switch. 			0			W497
34C10000 hex	Communications Cycle Time Setting Failed	An error occurred in one of the following operations when setting the communications cycle time.	 There is an error in the set information. CPU Unit is not in PROGRAM mode. 			0			W497
34C20000 hex	Slave I/O Refresh Er- ror	The I/O memory in the destination CPU Unit for I/O refreshing could not be found when refreshing the slave function data in the CPU Unit.	I/O words are allocated in an EM bank that does not exist.			0			W497
34C30000 hex	Slave User Allocation Area Setting Failed	An error occurred in the following operation for user allocation of the slave.	 The slave function is not disabled. There is a mistake in the user allocations to a slave. CPU Unit is not in PROGRAM mode. More than one software switch changed to TRUE at the same time. Or, another software switch changed to TRUE before processing was completed for a previous software switch. 			0			W497
64AC0000 hex	Send Time- out Error	A send timeout occurred.	 There is no slave or other device on the network. The same baud rate is not set for all nodes. Communications cable lengths (trunk line and branch lines) are unsuitable. A communications cable is disconnected or loose. The terminating resistance is somewhere other than the ends of the trunk line. Noise There is an error in the CAN controller. 			0			W497

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
74600000 hex	Master Function En- able/Disable Failed	An operating error occurred when enabling or disabling the master function.	An attempt was made to enable the master function when it was already enabled. An attempt was made to disable the master function when it was already disabled. CPU Unit is not in PROGRAM mode. More than one software switch changed to TRUE at the same time. Or, another software switch changed to TRUE before processing was completed for a previous software switch.			0			W497
74610000 hex	Master Fixed Allocation Area Setting Failed	An error occurred in one of the following operations for fixed allocation of the master.	The master function is not enabled. The scan list is not disabled. CPU Unit is not in PROGRAM mode. More than one software switch changed to TRUE at the same time. Or, another software switch changed to TRUE before processing was completed for a previous software switch.			0			W497

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
74620000 hex	Scan List Register/ Clear Failed	An operating error occurred when registering or clearing the scan list by performing one of the following operations.	 CPU Unit is not in PROGRAM mode. Request processing is not possible in this status or the request was made when the operation was already in progress. The following are the main causes of Unit status errors. A software switch operation for the master function was executed when the master function was disabled. A switch that can be used only when the scan list is disabled was used when the scan list was enabled. A switch that can be used only when the scan list is enables was used when the scan list was disabled. A software switch operation for the slave function was executed when the slave function was executed when the slave function was disabled. A configuration error has occurred. There is an error in the parameters specified in the user settings, and the requested setting could not be made. More than one software switch changed to TRUE at the same time. Or, another software switch. rance processing was completed for a previous software switch. 			0			W497
74630000 hex	Slave Function Enable/ Disable Failed	An error occurred in one of the following operations in the slave function.	 An attempt was made to enable the slave function when it was already enabled. An attempt was made to disable the slave function when it was already disabled. CPU Unit is not in PROGRAM mode. More than one software switch changed to TRUE at the same time. Or, another software switch changed to TRUE before processing was completed for a previous software switch. 			0			W497

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
74640000 hex	Slave Fixed Allocation Area Setting Failed	An error occurred in one of the following operations for fixed allocation of the slave.	The slave function is not disabled. CPU Unit is not in PROGRAM mode. More than one software switch changed to TRUE at the same time. Or, another software switch changed to TRUE before processing was completed for a previous software switch.			0			W497
84740000 hex	Bus Off Detected	A Bus Off error occur- red (i.e., communica- tions stopped be- cause there were too many communica- tions errors).	 The master and slaves have different baud rates. Communications cable lengths (trunk line and branch lines) are unsuitable. A communications cable is disconnected or loose. The terminating resistance is somewhere other than the ends of the trunk line. Noise 			0			W497
84750000 hex	Remote I/O Communica- tions Error	A timeout occurred in remote I/O communications.	The master and slaves have different baud rates. Communications cable lengths (trunk line and branch lines) are unsuitable. A communications cable is disconnected or loose. The terminating resistance is somewhere other than the ends of the trunk line. Noise			0	•		W497
84760000 hex	Remote I/O Communica- tions Error (during Slave Oper- ation)	An error occurred in remote I/O communications.	 The master is not in operation. The master and slaves have different baud rates. Communications cable lengths (trunk line and branch lines) are unsuitable. A communications cable is disconnected or loose. The terminating resistance is somewhere other than the ends of the trunk line. Noise 			0			W497

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
84770000 hex	Slave COS Send Failed	An attempt was made to send COS data to the master using the Slave COS Send Switch (software switch 2, device variable *_Sw2SlavCOSSend Cmd), but the send failed.	 A COS connection to the master is not open. A Bus Off state occurred. A network power error occurred. A send timeout occurred. 			0			W497
048A0000 hex	File Read/ Write Error	An error occurred when user setup data was read from an SD Memory Card in the CPU Unit or when data was written as a file to an SD Memory Card.	The available capacity on the SD Memory Card was insufficient to write a file. Write-protection is set on the SD Memory Card when you write to a file. Noise The SD Memory Card is damaged. The CPU Unit has failed.			•	0		W497
148C0000 hex	Invalid Mes- sage Timer List Error	The data in the message monitoring timer list is not correct.	The power supply was inter- rupted while writing the mes- sage-monitoring timer list to the non-volatile memory.			•	0		W497

CJ-series EtherNet/IP Unit

The section provides tables of the errors (events) that can occur in the following Units. CJ1W-EIP21

CJ1W-EIP21S

Cat. No.	Manual name
W495	CJ-series EtherNet/IP Units Operation Manual for NJ-series CPU Unit

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
047A0000 hex	Unit Memory Error (De- vice Error)	An error occurred when writing to the error history or device parameters in non-volatile memory in the EtherNet/IP Unit.	There is a source of noise nearby. Non-volatile memory failure			0			W495
047B0000 hex	Non-volatile Memory Er- ror	An error occurred in non-volatile memory.	There is a source of noise nearby. Non-volatile memory failure			0			W495
047C0000 hex	Communica- tions Con- troller Error	An error occurred in the communications controller.	Noise Communications Controller hardware error			0			W495
14840000 hex	Invalid Com- munications Parameter	An error was found in the validation check of the parameters for tag data links that are saved in non-volatile memory.	 The power was interrupted during a download. A communications error occurred during a download. Non-volatile memory failure 			0			W495
14850000 hex	Tag Data- base Error	A tag database error occurred in the CPU Unit when using variables for tag data links, status layout, etc.	 The power was interrupted during a download. A communications error occurred during a download. 			0			W495
34A80000 hex	Verification Error	The information registered for a target node in the tag data link parameters is different from the actual node information.	 The specified target does not exist. Variable names do not match. The connection size is incorrect. Insufficient connection resources 			0			W495

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
34A90000 hex	Tag Data Link Error	There were two or more errors in a connection as an originator. The following are excluded. Connections as a target Connection timeouts due to a Link OFF Error with the Ethernet switch.	 The power supply to the target node is OFF. Communications with the target node stop. The Ethernet cable for EtherNet/IP is disconnected. The Ethernet cable for EtherNet/IP is disconnected. Noise 			0			W495
34AA0000 hex	Tag Refresh Error	An unsupported data area or address range is specified for the tag data links.	An unsupported data area or address range was specified for the tag data links.			0			W495
34AB0000 hex	Basic Ether- net Setting Error	There is an illegal TCP/IP setting.	The power was interrupted during a download. A communications error occurred during a download.			0			W495
34AC0000 hex	IP Address Table Error	The IP address table information is incorrect.	The power was interrupted during a download. A communications error occurred during a download.			0			W495
34AD0000 hex	IP Router Table Error	The IP router table information is incorrect.	The power was interrupted during a download. A communications error occurred during a download.			0			W495
34AE0000 hex	Routing Ta- ble Error	The routing table information is incorrect.	The power was interrupted during a download. A communications error occurred during a download.			0			W495
34AF0000 hex	Ethernet Advanced Setting Error	There is an illegal FINS setting.	The power was interrupted during a download. A communications error occurred during a download.			0			W495
34B00000 hex	Address Mismatch	The host ID of the local IP address is inconsistent with the FINS node address. Or, the last segment of the local IP address is inconsistent with the setting on the node address switches.	The IP address conversion method is set to automatic generation, but the host ID of the local IP address is inconsistent with the FINS node address or the last segment of the local IP address is inconsistent with the setting on the node address switch.			0			W495
381C0000 hex	Status Area Layout Set- ting Error	An error occurred in the layout setting of the EtherNet/IP Unit.	There is an error in the layout settings of the EtherNet/IP Unit.			0			W495

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
54AE0000 hex	Multiple Switches ON Error	More than one soft- ware switch changed to TRUE at the same time.	More than one software switch changed to TRUE at the same time. Or, another software switch changed to TRUE be- fore processing was completed for a previous software switch.			0	•		W495
84E00000 hex	IP Address Duplication Error	The same IP address is used more than once.	The IP address of the Ether- Net/IP port is also used as the IP address of another node.			0			W495
84E10000 hex	BOOTP Server Error	Connection with the BOOTP server failed.	 Server setting error (The acquired IP address is illegal.) The server went down. An error occurred in the communications path. 			0			W495
54AF0000 hex	Access Detected Outside Range of Variable	Accessing a value that is out of range was detected for a tag variable that is used in a tag data link.	An out-of-range value was written by an EtherNet/IP tag data link for a variable with a specified range. A value that does not specify an enumerator was written by an EtherNet/IP tag data link for an enumeration variable.				0		W495
84E20000 hex	Link OFF Error	The Ethernet link status turned OFF.	 The Ethernet cable is disconnected. An Ethernet cable is disconnected or loose. The switching hub power supply is turned OFF. Baud rate mismatch. Noise 			•	0		W495

CJ-series CompoNet Master Unit

The section provides a table of the errors (events) that can occur in the following Unit. CJ1W-CRM21

Cat. No. Manual name						
W493	CJ-series CompoNet Master Units Operation Manual for NJ-series CPU Unit					

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
349C0000 hex	Registration Table Verifi- cation Error	An inconsistency was found when verifying the slave registration table.	There is at least one entry in the slave registration table where the node address and Slave Unit model are inconsistent.			0			W493
349D0000 hex	Slave Unit Duplicated Address Er- ror	The same address is used by more than one Slave Unit or the same word has been allocated to more than one Slave Unit.	 The same node address is set for more than one Slave Unit. There are no duplicated node addresses set for the Slave Units, but allocated words overlap. A Slave Unit was disconnected from the network, and then another Slave Unit with the same node address but a different I/O capacity joined the network. 			0			W493
349E0000 hex	Repeater Unit Node Duplicated Address Er- ror	The node address of the Repeater Unit is also set for another node.	The node address of the Repeater Unit is also used for anther node.			0			W493
84600000 hex	Communications Error	A Slave Unit was disconnected from the network.	Cable lengths (trunk line and branch lines) are unsuitable. A cable is disconnected or loose. A terminating resistance is not connected. Or, the terminating resistance is somewhere other than the end of the trunk line. Noise The Slave Unit does not respond to communications from the Master Unit because the Slave Unit is faulty, the line is disconnected, or the communications power supply is interrupted.			0	•		W493

			Level	
Event code	Event name	Meaning	a rt i b j rt n s	Reference
84610000 hex	Repeater Unit Com- munications Error	An error occurred in Repeater Unit communications.	Cable lengths (trunk line and branch lines) are unsuitable. A cable is disconnected or loose. A terminating resistance is not connected. Or, the terminating resistance is somewhere other than the end of the trunk line. Noise The Repeater Unit does not respond to communications from the Master Unit because the Repeater Unit is faulty, the line is disconnected, or the communications power is interrupted.	W493
64980000 hex	Representa- tive Warning	A warning has occur- red in at least one Slave Unit.	A warning has occurred in at least one Slave Unit.	W493
64990000 hex	Representa- tive Alarm	An alarm has occur- red in at least one Slave Unit.	An alarm has occurred in at least one Slave Unit.	W493

CJ-series EtherCAT Slave Unit

The section provides a table of the errors (events) that can occur in the following Unit. CJ1W-ECT21

Cat. No. Manual name						
W542	CJ-series EtherCAT Slave Units Operation Manual for NJ-series CPU Unit					

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Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
05400000 hex	ESC Error	An error occurred in the EtherCAT slave communications controller.	An error occurred in the Ether- CAT slave communications controller.			0			W542
05410000 hex	Special Unit Memory Er- ror	An error occurred when writing to internal memory where the error log is saved.	Non-volatile memory failure			0			W542
05420000 hex	SII Unit Veri- fication Error	An error occurred in Slave Unit verification.	An error occurred in Slave Unit information.			0			W542
35680000 hex	I/O Refresh Error	The I/O memory in the destination CPU Unit for I/O refreshing could not be found when refreshing in the CPU Unit.	 The data area type, data area size and first word in the data area were outside of the specified range. I/O words are allocated in an EM bank that does not exist. 			0			W542
35690000 hex	Mailbox Set- ting Error	An incorrect mailbox setting was detected for the Sync Manag- er. (AL-Status Code:0016hex)	An incorrect mailbox setting was detected for the Sync Manager.			0			W542
356A0000 hex	Verification Error	An error was detected in the RxPDO settings. (AL-Status Code:001Dhex) An error was detected in the TxPDO settings. (AL-Status Code:001E hex)	An error was detected in the PDO settings.			0			W542

					L	_eve	el		
Event code	Event name	Meaning	Assumed cause	M a j	P rt	M i n	O b s	I n f o	Reference
356B0000 hex	Illegal State Transition Request Re- ceived	An incorrect state transition request was received. (AL-Status Code:0011hex) An unclear state transition request was received. (AL-Status Code:0012hex)	 An incorrect state transition request was received. An unclear state transition request was received. 			0			W542
852C0000 hex	II/O Communication Error	Process data commu- nications were stop- ped for more than the specified period of time.	 The EtherCAT communications cable is disconnected or broken. There is an error in the Ether-CAT master. 			0			W542

A-3 An Error Log Table for CJ-series Special Units

Error logs for CJ-series Special Units are also displayed with event logs. If the upper four digits of the event code are 0000, the lower four digits of the event code give the error code for error logs from CJ-series Special Units.

For descriptions of error codes for the relevant error logs, refer to the manual of models that are displayed in Source Details on the Sysmac Studio or in Source on the HMI. The following table gives the corresponding manuals for models.

Model	Manual name	Cat. No.
CJ1W-AD0□□-□□	CJ-series Analog I/O Units Operation Manual for NJ-series	W490
CJ1W-DA0□□□	CPU Unit	
CJ1W-MAD42		
CJ1W-TC003	CJ-series Temperature Control Units Operation Manual for	W491
CJ1W-TC004	NJ-series CPU Unit	
CJ1W-TC103		
CJ1W-TC104		
CJ1W-CT021	CJ-series High-speed Counter Units Operation Manual for	W492
	NJ-series CPU Unit	
CJ1W-PDC15	CJ-series Analog I/O Units Operation Manual for NJ-series	W498
CJ1W-PH41U	CPU Unit	
CJ1W-AD04U		
CJ1W-CRM21	CJ-series CompoNet Master Units Operation Manual for	W493
	NJ-series CPU Unit	
CJ1W-SCU22	CJ-series Serial Communications Units Operation Manual	W494
CJ1W-SCU32	for NJ-series CPU Unit	
CJ1W-SCU42		
CJ1W-EIP21	CJ-series EtherNet/IP Units Operation Manual for NJ-series	W495
CJ1W-EIP21S	CPU Unit	
CJ1W-DRM21	CJ-series DeviceNet Units Operation Manual for NJ-series	W497
	CPU Unit	
CJ1W-ECT21	CJ-series EtherCAT Slave Units Operation Manual for NJ-	W542
	series CPU Unit	
CJ1W-V680C11	CJ-series ID Sensor Units Operation Manual for NJ-series	Z317
CJ1W-V680C12	CPU Unit	

For example, if the following information is displayed on the Sysmac Studio, refer to descriptions for the error code 000E in the *CJ-series EtherNet/IP Units Operation Manual for NJ-series CPU Unit (Cat. No. W495)*, which is the manual for the CJ1W-EIP21/EIP21S.

Source	Source details	Event name	Event code
I/O bus	Rack 0, Slot 3 CJ1W-EIP21/EIP21S	I/O Bus Error	0x0000000E

The following table gives error logs for CJ-series Special Units. The level of all errors is Observation. The Controller errors do not occur because they are not events.

Event code	Error name
00000001 hex	CPU Unit watchdog timer error
00000002 hex	CPU Unit service monitor error, or Cyclic refresh Time-out
00000003 hex	CPU Unit shared RAM error
00000004 hex	CPU Bus Unit ID number error
00000005 hex	Unit number error
00000006 hex	CPU Unit error
00000007 hex	PF Return
00000008 hex	System setting error
00000009 hex	System setting read error
0000000A hex	Routing table lost
0000000B hex	Routing Table Error
0000000C hex	Routing table read error
0000000D hex	PLC model error
0000000E hex	I/O Bus Error
0000000F hex	PLC Initialization error
00000010 hex	Insufficient system setup area
00000011 hex	Event timeout
00000012 hex	CPU Unit memory error
00000013 hex	CPU Unit protected
00000014 hex	Inner bus error
00000015 hex	CPU fatal error
00000016 hex	CPU Unit non-fatal error
00000017 hex	Tag database error
00000101 hex	Transmission failed (local node not in network)
00000102 hex	Transmission failed (Time out with token)
00000103 hex	Transmission failed (retry count exceeded)
00000104 hex	Transmission failed (max. number of frames exceeded)
00000105 hex	Transmission failed (node address setting error)
00000106 hex	Transmission failed (node address duplication error)
00000107 hex	Transmission failed (destination node not in network)
00000108 hex	Transmission failed (specified Unit does not exist)
00000109 hex	Transmission failed (destination busy)
0000010A hex	Transmission failed (communication controller error)
0000010B hex	Transmission failed (PLC error)
0000010C hex	Transmission failed (unit number incorrect)
0000010D hex	Transmission failed (no destination address in routing table)
0000010E hex	Transmission failed (routing table not registered)
0000010F hex	Transmission failed (routing table error)
00000110 hex	Transmission failed (too many relay points)
00000111 hex	Transmission failed (command packet too long)
00000112 hex	Transmission failed (header error)
00000113 hex	Transmission failed (I/O setting error)
00000114 hex	Transmission failed (CPU Bus error)
00000115 hex	Transmission failed (redundant I/O allocations)
00000116 hex	Transmission failed (CPU Bus Unit error)

Event code	Error name
00000117 hex	Internal buffer full
00000118 hex	Illegal packet discarded
00000119 hex	Transmission failed (local node busy)
0000011A hex	Packets discarded due to initialization
0000011B hex	Packets discarded due to parity error
0000011C hex	Packets discarded due to framing error
0000011D hex	Packets discarded due to overrun error
0000011E hex	Packets discarded due to FCS error
0000011F hex	Packets discarded due to break detection
00000120 hex	Unexpected routing error
00000121 hex	Packet discarded (no setting in IP address table)
00000122 hex	Packet discarded (service not supported in current mode)
00000123 hex	Packet discarded (internal send buffer full)
00000124 hex	Routing failed (maximum frame size exceeded)
00000125 hex	Packet discarded (response timeout)
00000201 hex	Network parameter file loss
00000202 hex	Network parameter file destroyed
00000203 hex	EEPROM error
00000206 hex	Participating nodes decreased (local node still participating)
00000207 hex	Participating nodes decreased (local node not participating)
00000208 hex	Polling node changed
00000209 hex	Inconsistent network parameter
0000020A hex	RESET error
0000020B hex	SELF-TEST error completed
0000020C hex	Time out with token
0000020D hex	Time out with polling
0000020E hex	Communication chip controller WDT error
0000020F hex	Communication chip controller chip error
00000210 hex	Communications controller send error
00000211 hex	Duplicate address error
00000212 hex	Transceiver error
00000213 hex	Server demon startup error
00000214 hex	Node address setting error
00000215 hex	Network participation failed
00000216 hex	Backup power supply error (optical Units only)
00000217 hex	Loop error
00000218 hex	Message send error
00000219 hex	Network status unstable
0000021A hex	Logic error in setting table
0000021B hex	Hardware error
0000021C hex	Datalink error inactive
0000021D hex	Datalink table communications cycle time setting error
0000021E hex	Network disconnection occurred
00000220 hex	Participating nodes reduced (removed node information)
00000221 hex	Participating nodes reduced (removed node information)
00000222 hex	Participating nodes reduced (removed node information)
00000223 hex	Participating nodes reduced (removed node information)

Event code	Error name
00000230 hex	Data link stop requested
000002B0 hex	FALS detected
00000300 hex	Packet Discarded (Parameter Error), Out of Range, or Flash failure
00000301 hex	Protocol macro operation error
00000301 hex	Packet discarded due to protocol violation
00000002 hex	Invalid DM setting
00000303 hex 00000304 hex	Sensor error
00000004 hex	Invalid Unit type
00000310 hex	Invalid BCD-code, or System parameter destroyed
00000311 hex	Program destroyed
00000312 hex	G unjust instruction
00000313 hex	Program range exceeded
00000314 hex	Origin signal
00000315 hex	Deviation counter over flow
00000316 hex	ABS data error
00000317 hex	No origin proximity
00000318 hex	CW direction over travelled
00000319 hex	CCW direction over travelled
0000031A hex	Both direction over travelled
0000031B hex	Current position counter over flow
0000031C hex	ABS multiple rotation error
0000031D hex	Field back pulse error
00000320 hex	PARUSU RE-TO RENJI FUSEI
00000330 hex	Invalid Range Limits(s)/Comparison Value, or Low battery
00000331 hex	Duplicate Target Error
00000335 hex	Duplicate Rate Range Error
00000340 hex	Bus Off detected
00000341 hex	Network power supply error
00000342 hex	Transmission timeout
00000343 hex	Structure error
00000344 hex	Verification error
00000345 hex	Remote I/O communications error
00000346 hex	Remote I/O communications stopped (remote I/O communications error)
00000347 hex	I/O refreshing error
00000348 hex	Message discarded (new request was received)
00000350 hex	Invalid Control Code, or NC Unit error
00000351 hex	X-axis error
00000352 hex	Y-axis error
00000353 hex	Z-axis error
00000354 hex	U-axis error
00000360 hex	Invalid number of words, or Unit system error
00000370 hex	Verification error (OUT slave missing)
00000371 hex	Verification error (IN slave missing)
00000372 hex	Verification error (Unregistered OUT slave participating)
00000373 hex	Verification error (Unregistered IN slave participating)
00000374 hex	Communications error
00000375 hex	Communication stopped due to communications error

Event code	Error name
00000376 hex	Address duplication error
00000378 hex	Illegal Repeater Unit/configuration error
000003B0 hex	DM system setting read error
000003B1 hex	Commands error
000003B2 hex	GP-IB I/F error
000003B3 hex	GP-IB send time out error
000003B4 hex	GP-IB receive time out error
000003C0 hex	Lower-Level Communication Error or FINS/TCP settings error
000003C1 hex	Server settings error
000003C2 hex	FINS/TCP packets discarded
000003C3 hex	FINS/UDP packets discarded
000003C4 hex	Server connection error
000003C5 hex	Mail maintenance function error
000003C6 hex	Clock information write error
000003D0 hex	Ethernet basic setting error
000003D1 hex	Ethernet advanced setting error
000003D2 hex	Packet discarded
000003D3 hex	Link OFF error
000003D4 hex	Verification error (Tag data link)
000003D5 hex	Tag data link error
00000400 hex	Setting of Reset with Z-Phase
00000412 hex	Invalid Count Range
00000413 hex	Invalid Counter Present Value
00000420 hex	Invalid Rate Range Limits
00000430 hex	Invalid Range Limits(s) / Comparison Value
00000431 hex	Duplicate Target Error
00000435 hex	Duplicate Rate Range Error
00000450 hex	Overflow
00000460 hex	Underflow
00000470 hex	Invalid Preset Value
00000480 hex	External Interrupt Task Buffer Full
00000490 hex	Parity error/Not Ready/Time-out
00000500 hex	System call error (address error)
00000501 hex	System call error (parameter error)
00000502 hex	System call error (error in the board)
00000503 hex	System call error (block error)
00000504 hex	System call error (command error)
00000505 hex	Message send failed
00000510 hex	Comm server startup condition file loss
00000511 hex	Comm server startup condition file undefined
00000512 hex	Comm server startup failed
00000513 hex	Temperature error
00000514 hex	Low battery voltage
00000515 hex	HDD-0 error
00000516 hex	HDD-1 error
00000517 hex	Message send failed
00000601 hex	CPU Bus Unit error

Event code	Error name
00000602 hex	CPU Bus Unit memory error
00000701 hex	Configuration error
00000702 hex	I/O area overlap
00000703 hex	I/O area range exceeded
00000704 hex	Unsupported slave
00000705 hex	Verification error (slave missing)
00000706 hex	Verification error (slave I/O size differs)
00000707 hex	Communication error
00000708 hex	Scan list operation failed
00000709 hex	PLC mounting error
00000781 hex	Node address duplication
00000782 hex	Bus Off detected
00000783 hex	No communications power supply
00000784 hex	Send timeout

A-4 Events in Order of Event Codes

This section provides a table of all events in order of the event codes.

Events that are not errors are also given in the tables.

A-4-1 Interpreting Error Descriptions

The contents of the error tables are described below.

Item	Description
Event code	The event code of the error in the NJ/NX-series Controller is given. The codes are given in eight hexadecimal digits.
	eight hexadecimal digits.
Event name	The name of the error is given
Functional classi-	A functional classification of the source is given.
fication	
Reference	The catalog number of the manual that provides details on the event are given.

Refer to information for the specified functional classification of the error in the error descriptions in the manual given in the Reference column in the tables for detailed information on an error.

The manual names are given below for the catalog numbers.

Cat. No.	Manual name
W503	NJ/NX-series Troubleshooting Manual
W521	NX-series Digital I/O Units User's Manual
W522	NX-series Analog I/O Units User's Manual for Analog Input Units and Analog Output Units
W523	NX-series System Unit User's Manual
W527	NJ/NX-series Database Connection CPU Units User's Manual
W528	NJ-series SECS/GEM CPU Units User's Manual (NJ501-1340)
W539	NJ-series NJ Robotics CPU Unit User's Manual
W540	NX-series Communications Interface Units User's Manual
W565	NX-series Load Cell Input Unit User's Manual
W566	NX-series Analog I/O Units User's Manual for Temperature Input Units and Heater Burnout
	Detection Units
W490	CJ-series Analog I/O Units Operation Manual for NJ-series CPU Unit
W491	CJ-series Temperature Control Units Operation Manual for NJ-series CPU Unit
W492	CJ-series High-speed Counter Units Operation Manual for NJ-series CPU Unit
W498	CJ-series Analog I/O Units Operation Manual for NJ-series CPU Unit
W488	GX-series EtherCAT Slave Units User's Manual
W493	CJ-series CompoNet Master Units Operation Manual for NJ-series CPU Unit
W494	CJ-series Serial Communications Units Operation Manual for NJ-series CPU Unit
W495	CJ-series EtherNet/IP Units Operation Manual for NJ-series CPU Unit
W497	CJ-series DeviceNet Units Operation Manual for NJ-series CPU Unit
W519	NX-series EtherCAT Coupler Unit User's Manual
W542	CJ-series EtherCAT Slave Units Operation Manual for NJ-series CPU Unit
W570	IO-Link System User's Manual
W588	NJ/NX-series CPU Unit OPC UA User's Manual
1574	MX2/RX Series Inverter EtherCAT Communication Unit User's Manual

Cat. No.	Manual name
1576	AC Servomotors/Servo Drives G5-series with Built-in EtherCAT Communications User's Manual
1577	AC Servomotors/Servo Drives G5-series with Built-in EtherCAT Communications Linear Motor Type User's Manual
W524	NX-series Position Interface Units User's Manual
1586	AC Servomotors/Servo Drives 1S-series with Built-in EtherCAT Communications User's Manual
O030	NJ/NY-series NC Integrated Controller User's Manual
O037	NJ-series Robot Integrated CPU Unit User's Manual
1621	AC Servomotors/Servo Drives 1S-series with Built-in EtherCAT Communications and Safety Functionality User's Manual
E413	EtherCAT Digital-type Sensor Communications Unit Operation Manual
E429	EtherCAT Digital Sensor Communications Unit Operation Manual
Z317	CJ-series ID Sensor Units Operation Manual for NJ-series CPU Unit
Z314	FQ-M-series Specialized Vision Sensor for Positioning User's Manual
Z342	FH/FZ5 Vision System FH/FZ5 Series User's Manual for Communications Settings
Z332	ZW-CE1□T Confocal Fiber Type Displacement Sensor User's Manual
Z930	NX-series Safety Control Unit User's Manual
H228	NX-series Temperature Control Units User's Manual
W627	NX-series EtherNet/IP Unit User's Manual

A-4-2 Error Table

Event code	Event name	Functional classification	Reference
00070000 hex	Real-Time Clock Stopped	Errors for Self Diagnosis	W503
00080000 hex	Real-Time Clock Failed	Errors for Self Diagnosis	W503
00090000 hex	DIP Switch Setting Error	Errors for Self Diagnosis	W503
000B0000 hex	Low Battery Voltage	Errors for Self Diagnosis	W503
000C0000 hex	CPU Unit Overheat	Errors for Self Diagnosis	W503
000D00000 hex	Internal Bus Check Error	Errors for Self Diagnosis	W503
000E0000 hex	Non-volatile Memory Life Ex-	Errors for Self Diagnosis	W503
OOOLOOOO NCX	ceeded	End's for our blagnosis	VV303
000F0000 hex	SD Memory Card Invalid Type	Errors for Self Diagnosis	W503
00100000 hex	SD Memory Card Life Exceeded	Errors for Self Diagnosis	W503
001100000 hex	CPU Unit Overheat (Operation	Errors for Self Diagnosis	W503
00110000110	Stopped)	Litors for Och Diagnosis	VV303
00120000 hex	Slow Fan	Errors for Self Diagnosis	W503
00130000 hex	Main Memory Check Error	Errors for Self Diagnosis	W503
00150000 hex	Non-volatile Memory Life Warn- ing	Errors for Self Diagnosis	W503
00200000 hex	Non-volatile Memory Hardware	NX-series Digital I/O Units, NX-	W521
	Error	series Analog I/O Units, NX-ser-	W522
		ies System Units, NX-series Po-	W566
		sition Interface Units, NX-series	W523
		Communications Interface Units,	W524
		NX-series Load Cell Input Units,	W540
		NX-series IO-Link Master Units,	W565
		and NX-series Temperature	W570
		Control Units	H228
00210000 hex	Bus Controller Error	NX-series EtherCAT Coupler Unit	W519
00220000 hex	Non-volatile Memory Hardware Error	NX-series EtherCAT Coupler Unit	W519
00640000 hex	Main Memory Check Error	X Bus Unit	W503
00650000 hex	Non-volatile Memory Life Warn-ing	X Bus Unit	W503
04010000 hex	I/O Bus Check Error	Errors Related to CJ-series Unit Configuration	W503
04020000 hex	PLC System Information	Errors Related to CJ-series Unit Configuration	W503
04100000 hex	NX Bus Controller Error	NX Bus	W503
04110000 hex	NX Bus Hardware Error	NX Bus	W503
04200000 hex	Communications Controller Error	EtherNet/IP	W503
04210000 hex	Communications Controller Error	EtherNet/IP	W503
04310000 hex	Communications Controller Error	NX-series EtherNet/IP Unit	W627
04400000 hex	Communications Controller Error	EtherCAT Master	W503
04600000 hex	A/D Conversion Error	CJ-series Analog I/O Units and	W490
-		CJseries Process I/O Units	W498

Event code	Event name	Functional classification	Reference
04610000 hex	Cold Junction Sensor Error	CJ-series Process I/O Units	W498
04620000 hex	Non-volatile Memory Error	CJ-series Analog I/O Units and	W490
010200001100	Trent relatine internet y Errer	CJseries Process I/O Units	W498
04680000 hex	Cold Junction Sensor Error	CJ-series Temperature Control	W491
		Units	
046C0000 hex	Unit Status, Antenna Power	CJ-series ID Sensor Units	Z317
	Supply Error		
046D0000 hex	Unit Status, Memory Error	CJ-series ID Sensor Units	Z317
046E0000 hex	Results Information, Antenna Er-	CJ-series ID Sensor Units	Z317
	ror		
046F0000 hex	Unit Status, Unit Busy	CJ-series ID Sensor Units	Z317
04740000 hex	Error Log Data Error	CJ-series Serial Communica-	W494
		tions Units	
04750000 hex	DTR Check Error	CJ-series Serial Communica-	W494
		tions Units	
04760000 hex	CTS Check Error	CJ-series Serial Communica-	W494
		tions Units	
047A0000 hex	Unit Memory Error (Device Er-	CJ-series EtherNet/IP Units	W495
0.47000001	ror)	01 : 50 N (//51) :	14405
047B0000 hex	Non-volatile Memory Error	CJ-series EtherNet/IP Units	W495
047C0000 hex	Communications Controller Error	CJ-series EtherNet/IP Units	W495
04880000 hex	Unit Memory Error	CJ-series DeviceNet Units	W497
04890000 hex	Network Power Error	CJ-series DeviceNet Units	W497
048A0000 hex	File Read/Write Error	CJ-series DeviceNet Units	W497
04A00000 hex	Expansion Unit Hardware Error	GX-series EtherCAT Slave Units	W488
04A10000 hex	Non-volatile Memory Hardware	GX-series EtherCAT Slave	W488
	Error	Units, MX2/RX-series Inverters	1574
		with Ether- CAT Communica-	E413
		tions Units, Ether- CAT M3X	E429
		Photoelectric Fiber Amplifiers, E3X-series Fiber Sensors with	W570 W640
		EtherCAT Communications Unit	VV040
		for Digital Sensors, and Ether-	
		CAT Digital Sensor Communica-	
		tions Units	
04A20000 hex	Slave Hardware Error	GX-series EtherCAT Slave Units	W488
			W570
04A80000 hex	Control Power Supply Under-	Servo G5 and G5 Linear	1576
	voltage		1577
04A90000 hex	Overvoltage	Servo G5 and G5 Linear	1576
			1577
04AA0000 hex	Main Circuit Power Supply Un-	Servo G5 and G5 Linear	1576
	dervoltage (Undervoltage be-		1577
	tween positive and negative ter- minals)		
04AB0000 hex	Main Circuit Power Supply Un-	Servo G5 and G5 Linear	1576
O 17 (DOUGO HEX	dervoltage (AC Cutoff Detected)	COIVO CO GIIU CO LIIIGAI	1577
04AC0000 hex	Overcurrent	Servo G5 and G5 Linear	1576
			1577

Event code	Event name	Functional classification	Reference
04AD0000 hex	IPM Error	Servo G5 and G5 Linear	1576 1577
04AE0000 hex	Regeneration Tr Error	Servo G5 and G5 Linear	1576 1577
04AF0000 hex	Encoder Phase-Z Error	Servo G5	1576
04B00000 hex	Encoder CTS Signal Error	Servo G5	1576
04B10000 hex	Node Address Setting Error	Servo G5 and G5 Linear	1576
0.2.0000			1577
04B20000 hex	Other Errors	G5 Linear	1577
04B30000 hex	Regeneration Circuit Error Detected during Power ON	Servo 1S	1586
04B50000 hex	Inrush Current Prevention Circuit Error	Servo 1S	1586
04B60000 hex	Regeneration Circuit Error	Servo 1S	I586 I621
04BA0000 hex	Connection Error between Inverter and Communications Unit	MX2/RX-series Inverters with EtherCAT Communications Units	1574
04BB0000 hex	Inverter Warning	MX2/RX-series Inverters with EtherCAT Communications Units	1574
04BC0000 hex	Inverter Trip	MX2/RX-series Inverters with EtherCAT Communications Units	1574
04C40000 hex	Sensor Communications Error	E3X-series Fiber Sensors with EtherCAT Communications Unit for Digital Sensors and Ether- CAT Digital Sensor Communica- tions Units	E413 E429
04C50000 hex	Sensor Communications Has Not Been Established	E3X-series Fiber Sensors with EtherCAT Communications Unit for Digital Sensors and Ether- CAT Digital Sensor Communica- tions Units	E413 E429
04D00000 hex	Hardware error	ZW-CE1□T Confocal Fiber Type Displacement Sensor	Z332
05010000 hex	ESC Error	NX-series EtherCAT Coupler Unit	W519
05020000 hex	ESC Initialization Error	NX-series EtherCAT Coupler Unit	W519
05030000 hex	Slave Unit Verification Error	NX-series EtherCAT Coupler Unit	W519
05100000 hex	A/D Converter Error	NX-series Analog I/O Units and NX-series Temperature Control Units	W566 H228
05110000 hex	Cold Junction Sensor Error	NX-series Analog I/O Units and NX-series Temperature Control Units	W566 H228
05120000 hex	A/D Conversion Error	NX-series Load Cell Input Units	W565
05200000 hex	System Error	NX-series Safety Control Unit	Z930

Event code	Event name	Functional classification	Reference
05210000 hex	Internal Circuit Error at Safety Input	NX-series Safety Control Unit	Z930
05220000 hex	Internal Circuit Error at Test Output	NX-series Safety Control Unit	Z930
05230000 hex	Internal Circuit Error at Safety Output	NX-series Safety Control Unit	Z930
05400000Hex	ESC Error	CJ-series EtherCAT Slave Unit	W542
05410000Hex	Special Unit Memory Error	CJ-series EtherCAT Slave Unit	W542
05420000Hex	SII Unit Verification Error	CJ-series EtherCAT Slave Unit	W542
05430000 hex	ESC Error	Servo 1S	I586 I621
05440000 hex	Option Board Error	Built-in I/O and Option Boards	W503
08010000 hex	Battery Warning	Servo G5	1576
08020000 hex	Fan Warning	Servo G5 and G5 Linear	1576 1577
08030000 hex	Encoder Communications Warning	Servo G5	1576
08040000 hex	Encoder/Serial Conversion Unit Overheating Warning	Servo G5 and G5 Linear	1576 1577
08050000 hex	Life Expectancy Warning	Servo G5 and G5 Linear	1576 1577
08060000 hex	External Encoder Error Warning	Servo G5 and G5 Linear	I576 I577
08070000 hex	External Encoder Communications Warning	Servo G5 and G5 Linear	1576 1577
08080000 hex	Encoder Communications Disconnection Error	Servo G5	1576
08090000 hex	Encoder Communications Error	Servo G5	1576
080A0000 hex	Encoder Communications Data Error	Servo G5	1576
080B0000 hex	Safety Input Error	Servo G5 and G5 Linear	1576 1577
080C0000 hex	External Encoder Connection Error	Servo G5 and G5 Linear	I576 I577
080D0000 hex	External Encoder Communica- tions Data Error	Servo G5 and G5 Linear	I576 I577
080E0000 hex	External Encoder Status Error 0	Servo G5 and G5 Linear	I576 I577
080F0000 hex	External Encoder Status Error 1	Servo G5 and G5 Linear	I576 I577
08100000 hex	External Encoder Status Error 2	Servo G5 and G5 Linear	I576 I577
08110000 hex	External Encoder Status Error 3	Servo G5 and G5 Linear	I576 I577
08120000 hex	External Encoder Status Error 4	Servo G5 and G5 Linear	I576 I577
08130000 hex	External Encoder Status Error 5	Servo G5 and G5 Linear	1576 1577
08140000 hex	Phase-A Connection Error	Servo G5 and G5 Linear	1576 1577

Event code	Event name	Functional classification	Reference
08150000 hex	Phase-B Connection Error	Servo G5 and G5 Linear	1576
00.00000	1.11200 2 0011110011011 211101	33173 33 4174 33 2117541	1577
08160000 hex	Phase-Z Connection Error	Servo G5 and G5 Linear	1576
			1577
08170000 hex	Encoder Data Restoration Error	Servo G5	1576
08180000 hex	External Encoder Data Restora-	Servo G5	1576
	tion Error		
081C0000 hex	Capacitor Lifetime Warning	Servo 1S	1586 1621
081D0000 hex	Inrush Current Prevention Relay Lifetime Warning	Servo 1S	I586 I621
081F0000 hex	Brake Interlock Output Relay	Servo 1S	1586
	Lifetime Warning		
08210000 hex	Fan/Power Supply Error	FH/FZ5 Series Vision System	Z342
08220000 hex	Camera Overcurrent Detected	FH/FZ5 Series Vision System	Z342
08230000 hex	Parallel I/O Overcurrent Detected	FH/FZ5 Series Vision System	Z342
08390000 hex	Power Module Error	Servo 1S	1586
			1621
083A0000 hex	Encoder Communications Warning	Servo 1S	1586
083B0000 hex	Self-diagnosis Error	Servo 1S	I586 I621
083C0000 hex	Main Circuit Temperature Moni-	Servo 1S	1586
	toring Circuit Failure		1621
083D0000 hex	Fan Error	Servo 1S	I586 I621
083F0000 hex	Regeneration Processing Error	Servo 1S	1586
			1621
08410000 hex	Overvoltage Error	Servo 1S	1586
			l621
08420000 hex	Motor Overheat Error	Servo 1S	1586
08430000 hex	1-rotation Counter Error	Servo 1S	1586
			1621
08440000 hex	Overspeed Error	Servo 1S	1586
08450000 hex	Encoder Memory Error	Servo 1S	I586 I621
08460000 hex	Absolute Position Detection Er-	Servo 1S	1586
COTOCOO HEX	ror	00170 10	1621
08470000 hex	Encoder Lifetime Warning	Servo 1S	1586
	9		1621
08480000 hex	Main Power Supply Undervolt-	Servo 1S	1586
	age (insufficient voltage between P and N)		1621
08490000 hex	Overcurrent Error	Servo 1S	1586
			I621
084A0000 hex	Encoder Communications Disconnection Error	Servo 1S	1586
084B0000 hex	Encoder Communications Error	Servo 1S	1586
			1621

Event code	Event name	Functional classification	Reference
084C0000 hex	Fan Rotation Warning	Servo 1S	1586
			I621
084D0000 hex	Non-volatile Memory Hardware	Servo 1S	1586
	Error		l621
084E0000 hex	Absolute Encoder Counter Over-	Servo 1S	1586
	flow Warning		1621
086D0000 hex	Motor Temperature Error	Servo 1S	1621
086E0000 hex	Encoder Error	Servo 1S	I621
086F0000 hex	Encoder Power Supply Error	Servo 1S	I621
08700000 hex	Encoder Self-diagnosis Error	Servo 1S	I621
08710000 hex	Internal Circuit Error at SF Input	Servo 1S	l621
08720000 hex	Internal Circuit Error at SOPT Input	Servo 1S	1621
08730000 hex	Internal Circuit Error at Test Output	Servo 1S	1621
08740000 hex	Internal Circuit Error at SBC Output	Servo 1S	1621
08750000 hex	Overspeed Error	Servo 1S	l621
08760000 hex	Absolute Encoder Multirotation Counter Error	Servo 1S	1621
08770000 hex	Safety Relay Lifetime Warning	Servo 1S	I621
08780000 hex	Encoder Communications Disconnection Error	Servo 1S	1621
10010000 hex	Non-volatile Memory Restored or Formatted	Errors for Self Diagnosis	W503
10020000 hex	Non-volatile Memory Data Corrupted	Errors for Self Diagnosis	W503
10030000 hex	SD Memory Card Invalid Format	Errors for Self Diagnosis	W503
10040000 hex	SD Memory Card Restored or Formatted	Errors for Self Diagnosis	W503
10060000 hex	SD Memory Card Data Corrupt- ed	Errors for Self Diagnosis	W503
10070000 hex	SD Memory Card Access Power OFF Error	Errors for Self Diagnosis	W503
10080000 hex	Main Memory Check Error	Errors for Self Diagnosis	W503
10090000 hex	Battery-backup Memory Check Error	Errors for Self Diagnosis	W503
100A0000 hex	Data Not Saved to Battery-back- up Memory	Errors for Self Diagnosis	W503
100B0000 hex	Non-volatile Memory Data Corrupted	Errors for Self Diagnosis	W503
100C0000 hex	Event Level Setting Error	Errors for Self Diagnosis	W503
100F0000 hex	Present Values of Retained Variables Restoration Error	Errors for Self Diagnosis	W503
10100000 hex	Present Values of Retained Variables Not Saved	Errors for Self Diagnosis	W503
10130000 hex	PLC System Information	Errors for Self Diagnosis	W503
10200000 hex	User Program/Controller Configurations and Setup Transfer Error	Errors Related to Controller Operation	W503

Event code	Event name	Functional classification	Reference
10210000 hex	Illegal User Program Execution	Errors Related to Controller Op-	W503
	ID	eration	
10230000 hex	Event Log Save Error	Errors Related to Controller Op-	W503
		eration	
10240000 hex	Illegal User Program	Errors Related to Controller Op-	W503
		eration	
10250000 hex	Illegal User Program/Controller	Errors Related to Controller Op-	W503
40000001	Configurations and Setup	eration	14/500
10260000 hex	Trace Setting Transfer Failure	Errors Related to Controller Operation	W503
10270000 hex	Error in Starting Automatic	Errors Related to Controller Op-	W503
1027 0000 HCX	Transfer	eration	VV303
10280000 hex	Error in Executing Automatic	Errors Related to Controller Op-	W503
	Transfer	eration	
10290000 hex	Backup Failed to Start	Errors Related to Controller Op-	W503
		eration	
102A0000 hex	Backup Failed	Errors Related to Controller Op-	W503
		eration	
102B0000 hex	Restore Operation Failed to	Errors Related to Controller Op-	W503
	Start	eration	
102C0000 hex	Restore Operation Failed	Errors Related to Controller Op-	W503
102D0000 box	C Lagrica Unit Paglyun Failed	eration Errors Related to CJ-series Unit	W503
102D0000 hex	CJ-series Unit Backup Failed	Configuration	VV503
102E0000 hex	CJ-series Unit Restore Opera-	Errors Related to CJ-series Unit	W503
10220000 1100	tion Failed	Configuration	11000
102F0000 hex	EtherCAT Slave Backup Failed	EtherCAT Master	W503
10300000 hex	EtherCAT Slave Restore Opera-	EtherCAT Master	W503
	tion Failed		
10310000 hex	Incorrect SD Memory Card Re-	Errors for Self Diagnosis	W503
	moval		
10320000 hex	SD Memory Card Program	Errors Related to Controller Op-	W503
	Transfer Failed to Start	eration	
10330000 hex	SD Memory Card Program	Errors Related to Controller Op-	W503
	Transfer Pre-execution Check Error	eration	
10340000 hex	Error in Executing SD Memory	Errors Related to Controller Op-	W503
100 10000 1100	Card Program Transfer	eration	11000
103C0000 hex	NX Unit Backup Failed	NX Bus	W503
103D0000 hex	NX Unit Restore Operation	NX Bus	W503
	Failed		
103E0000 hex	Restore Pre-execution Check	Errors Related to Controller Op-	W503
	Failure	eration	
103F0000 hex	Online Edits Transfer Failure	Errors Related to Controller Op-	W503
		eration	
10400000 hex	Analog Unit Calibration Parame-	NX-series Analog I/O Units	W522
	ter Error		

Event code	Event name	Functional classification	Reference
10410000 hex	Control Parameter Error in Mas-	NX-series Digital I/O Units, NX-	W521
	ter	series Analog I/O Units, NX-ser-	W522
		ies Position Interface Units, NX-	W566
		series Communications Inter-	W524
		face Units, NX-series Load Cell	W540
		Input Units, NX-series IO-Link	W565
		Master Units, and NX-series	W570
40420000 hav	New volatile Manager Countrel De	Temperature Control Units	H228
10420000 hex	Non-volatile Memory Control Parameter Error	NX-series EtherCAT Coupler Unit	W519
10430000 hex	Memory Corruption Detected	NX-series EtherCAT Coupler Unit	W519
10440000 hex	Unit Calibration Value Error	NX-series Load Cell Input Units	W565
10450000 hex	Actual Load Calibration Value Error	NX-series Load Cell Input Units	W565
10460001 hex	EtherCAT Slave Backup Failed	EtherCAT Master	W503
10470002 hex	EtherCAT Slave Restore Operation Failed	EtherCAT Master	W503
10500000 hex	NX Bus Communications Set- tings Read Error	NX-series Safety Control Unit	Z930
10510000 hex	Safety Application Data Read Error	NX-series Safety Control Unit	Z930
10520000 hex	NX Bus Communications Set- tings and Safety Application Da- ta Mismatch	NX-series Safety Control Unit	Z930
10530000 hex	Non-volatile Memory Access Error	NX-series Safety Control Unit	Z930
10600000 hex	NX Bus Memory Check Error	NX Bus	W503
10610000 hex	Failed to Read NX Unit Operation Settings	NX Bus	W503
10620000 hex	NX Unit Event Log Save Error	NX Bus	W503
10630000 hex	Safety Data Logging Failed to Start	Errors Related to Controller Operation	W503
10640000 hex	Safety Data Log File Save Failed	Errors Related to Controller Operation	W503
11000000 hex	X Bus Unit Settings Transfer Error	X Bus Unit	W503
11010000 hex	Event Log Save Error	X Bus Unit	W503
110C0000 hex	Incorrect X Bus Unit Settings	X Bus Unit	W503
110D0000 hex	Present Values of Retained Variables Not Saved	X Bus Unit	W503
110E0000 hex	Non-volatile Memory Restored or Formatted	X Bus Unit	W503
110F0000 hex	Non-volatile Memory Data Corrupted	X Bus Unit	W503
11100000 hex	Main Memory Check Error	X Bus Unit	W503
11110000 hex	X Bus Common System Information	X Bus Unit	W503
14010000 hex	CPU Bus Unit Setup Area Error	Errors Related to FINS Communications	W503

Event code	Event name	Functional classification	Reference
14200000 hex	MAC Address Error	EtherNet/IP	W503
14210000 hex	Identity Error	EtherNet/IP	W503
14220000 hex	EtherNet/IP Processing Error	EtherNet/IP	W503
14230000 hex	MAC Address Error	EtherNet/IP	W503
	MAC Address Error	NX-series EtherNet/IP Unit	
14310000 hex	111110111111111111111111111111111111111		W627
14340000 hex	Ethernet Processing Error	NX-series EtherNet/IP Unit	W627
14400000 hex	MAC Address Error	EtherCAT Master	W503
14600000 hex	Absolute Encoder Home Offset Read Error	General Motion Control	W503
14610000 hex	Motion Control Parameter Set- ting Error	General Motion Control	W503
14620000 hex	Cam Data Read Error	General Motion Control	W503
14630000 hex	Cam Table Save Error	General Motion Control	W503
14800000 hex	Protocol Data Error	CJ-series Serial Communications Units	W494
14840000 hex	Invalid Communications Parameter	CJ-series EtherNet/IP Units	W495
14850000 hex	Tag Database Error	CJ-series EtherNet/IP Units	W495
148C0000 hex	Invalid Message Timer List Error	CJ-series DeviceNet Units	W497
148D0000 hex	Invalid Scan List Data	CJ-series DeviceNet Units	W497
148E0000 hex	Invalid Setup Data	CJ-series DeviceNet Units	W497
14A00000 hex	Non-volatile Memory Checksum	GX-series EtherCAT Slave	W488
	Error	Units, E3X-series Fiber Sensors	E413
		with EtherCAT Communications	E429
		Unit for Digital Sensors, and	W570
		EtherCAT Digital Sensor Com-	W640
		munications Units	
14A80000 hex	Object Error	Servo G5 and G5 Linear	1576
			1577
14A90000 hex	Object Error	Servo G5 and G5 Linear	1576
			1577
14AA0000 hex	Object Error	Servo G5 and G5 Linear	1576
444 50000 1		0 05 1051:	1577
14AB0000 hex	Object Corrupted	Servo G5 and G5 Linear	1576 1577
14AC0000 hex	Object Corrupted	Servo G5 and G5 Linear	1576
11/100000110/	object corrupted	Corve do ana do Emean	1577
14AD0000 hex	Object Corrupted	Servo G5 and G5 Linear	1576
			1577
14B00000 hex	Linearity Correction Data Error	ZW-CE1□T Confocal Fiber Type	Z332
-		Displacement Sensor	
14B10000 hex	Linearity Correction Data Read	ZW-CE1□T Confocal Fiber Type	Z332
	Error	Displacement Sensor	
14B20000 hex	System Setting Error	ZW-CE1□T Confocal Fiber Type Displacement Sensor	Z332
14B30000 hex	Bank Data Error	ZW-CE1□T Confocal Fiber Type	Z332
		Displacement Sensor	
14C00000 hex	Unit Calibration Value Parity Error	NX-series Analog I/O Units	W522

Event code	Event name	Functional classification	Reference
			1101010100
14C10000 hex	Invalid Tuning Parameters Saved in the Unit	NX-series Temperature Control Units	H228
14D00000 hex	Spool Memory Corrupted	DB Connection Service	W527
14D20000 hex	Execution Log Save Failed	DB Connection Service	W527
14D30000 hex	SQL Execution Failure Log Save Failed	DB Connection Service	W527
14E00000 hex	Invalid GEM Setting Data	GEM Services	W528
14E10000 hex	GEM Service Log Save Failed	GEM Services	W528
14E20000 hex	Spool Data Discarded	GEM Services	W528
14E30000 hex	Spool Save Failed	GEM Services	W528
14E40000 hex	Invalid SD Memory Card	GEM Services	W528
15000000 hex	Execution Log Save Failed	OPC UA Server Function	W503
15020000 hex	Server Certificate Mismatch	OPC UA Server Function	W503
15100000 hex	X Bus Unit Configuration Setting Error	X Bus	W503
15110000 hex	X Bus Unit Backup Failed	X Bus	W503
15120000 hex	X Bus Unit Restore Operation Failed	X Bus	W503
152C0000 hex	Variable Log Save Failed	Errors Related to Controller Operation	W503
17800000 hex	CNC Parameter Setting Error	CNC Function	O030
17810000 hex	Absolute Encoder Home Offset Read Error	CNC Function	O030
17820000 hex	CNC Motor Compensation Table Read Error	CNC Function	O030
17C00000 hex	Robot Control Parameter Setting Error	General Robot Control	O037
17C10000 hex	Remove SD Memory Card with Robot Control Function Enabled	General Robot Control	O037
17C20000 hex	Robot Control Function Enabled without SD Memory Card	General Robot Control	O037
18200000 hex	Absolute Encoder Overspeed Error	Servo G5	1576
18210000 hex	Encoder Initialization Error	Servo G5	1576
18220000 hex	Absolute Encoder One-rotation Counter Error	Servo G5	1576
18230000 hex	Absolute Encoder Multi-rotation Counter Error	Servo G5 and Servo 1S	I576 I586
182D0000 hex	Setting Data Load Error	FH/FZ5 Series Vision System	Z342
18380000 hex	System Error	Servo 1S	I586 I621
18390000 hex	Lifetime Information Corruption Warning	Servo 1S	1586
183A0000 hex	Non-volatile Memory Data Error	Servo 1S	I586 I621
24010000 hex	Unsupported Unit Detected	Errors Related to CJ-series Unit Configuration	W503
24020000 hex	Too Many I/O Points	Errors Related to CJ-series Unit Configuration	W503

Event code	Event name	Functional classification	Reference
24030000 hex	End Cover Missing	Errors Related to CJ-series Unit Configuration	W503
24040000 hex	Incorrect Unit/Expansion Rack Connection	Errors Related to CJ-series Unit Configuration	W503
24050000 hex	Duplicate Unit Number	Errors Related to CJ-series Unit Configuration	W503
24200000 hex	Slave Node Address Duplicated	EtherCAT Master	W503
24400000 hex	Unit Status, Antenna Error	CJ-series ID Sensor Units	Z317
24480000 hex	Node Address Duplicated Error	CJ-series DeviceNet Units	W497
24610000 hex	Switch Setting Error	GX-series EtherCAT Slave Units	W488
24680000 hex	Motor Non-conformity	Servo G5	1576
24690000 hex	Motor Non-conformity	Servo G5	1576
246A0000 hex	Motor Non-conformity	Servo G5	1576
246B0000 hex	Motor Non-conformity	Servo G5	1576
246C0000 hex	Motor Non-conformity	Servo G5	1576
246D0000 hex	Motor Non-conformity	Servo 1S	1586
	,, ,		1621
24780000 hex	Number of Sensors Verify Error	E3X-series Fiber Sensors with EtherCAT Communications Unit for Digital Sensors	E413
24790000 hex	Number of Sensors Over Limit	E3X-series Fiber Sensors with EtherCAT Communications Unit for Digital Sensors	E413
247A 0000 hex	Number of Distributed Sensor Unit Verify Error	EtherCAT Digital Sensor Communications Units	E429
247B 0000 hex	Number of Sensors Over Limit	EtherCAT Digital Sensor Communications Units	E429
247C 0000 hex	Number of Sensors Verify Error	EtherCAT Digital Sensor Communications Units	E429
247D 0000 hex	Number of Sensors Over at Dis- tributed Sensor Unit	EtherCAT Digital Sensor Communications Units	E429
24810000 hex	Ethernet Communications Parameter Error	ZW-CE1□T Confocal Fiber Type Displacement Sensor	Z332
24A00000 hex	Unit Configuration Error, Too Many Units	NX-series EtherCAT Coupler Unit	W519
24A10000 hex	Unit Configuration Error, Unsupported Configuration	NX-series EtherCAT Coupler Unit	W519
24AA0000 hex	Incorrect DIP Switch Setting	NX-series Safety Control Unit	Z930
24C00000 hex	Number of Mountable X Bus Units Exceeded	X Bus	W503
24C10000 hex	Unsupported X Bus Unit Mounted	X Bus	W503
24D00000 hex	Number of Mountable NX Units Exceeded	NX Bus	W503
24D20000 hex	Total I/O Data Size in NX Units Excessive	NX Bus	W503
28010000 hex	Motor Setting Error	G5 Linear	1577
28020000 hex	Motor Combination Error 1	G5 Linear	1577
28030000 hex	Motor Combination Error 2	G5 Linear	1577

Event code	Event name	Functional classification	Reference
28080000 hex	Main Circuit Power Supply	Servo 1S	1586
	Phase Loss Error		I621
280D0000 hex	Runaway Detected	Servo 1S	1586
			1621
30200000 hex	Unsupported Unit Setting	Errors Related to CJ-series Unit	W503
	<u> </u>	Configuration	
34010000 hex	I/O Setting Check Error	Errors Related to CJ-series Unit	W503
24400000 hav	ID Address Table Cattings Funci	Configuration	MEOO
34100000 hex	IP Address Table Setting Error	Errors Related to FINS Communications	W503
34110000 hex	Unknown Destination Node	Errors Related to FINS Commu-	W503
o i i i o o o i i o x	Children Bookmater Nedo	nications	***************************************
34130000 hex	FINS/TCP Connection Table	Errors Related to FINS Commu-	W503
	Setting Error	nications	
34200000 hex	Tag Data Link Setting Error	EtherNet/IP	W503
34210000 hex	Basic Ethernet Setting Error	EtherNet/IP	W503
34220000 hex	IP Address Setting Error	EtherNet/IP	W503
34230000 hex	IP Route Table Setting Error	EtherNet/IP	W503
34240000 hex	FTP Server Setting Error	EtherNet/IP	W503
34250000 hex	NTP Client Setting Error	EtherNet/IP	W503
34260000 hex	SNMP Setting Error	EtherNet/IP	W503
34270000 hex	Tag Name Resolution Error	EtherNet/IP	W503
34280000 hex	Basic Ethernet Setting Error	EtherNet/IP	W503
34290000 hex	IP Address Setting Error	EtherNet/IP	W503
342A0000 hex	DNS Setting Error	EtherNet/IP	W503
342B0000 hex	Link Setting Not Supported	EtherNet/IP	W503
342C0000 hex	Unit Configuration Error, Com-	EtherNet/IP	W627
	bined Use of CIP Safety and Tag		
	Data Link		
34400000 hex	Network Configuration Information Error	EtherCAT Master	W503
34410000 hex	EtherCAT Communications Cy-	EtherCAT Master	W503
	cle Exceeded		
34420000 hex	Parameters Not Transferred	EtherCAT Master	W503
34600000 hex	Required Process Data Object Not Set	General Motion Control	W503
34610000 hex	Process Data Object Setting	Motion Control Instructions	W503
0 10 10000 110X	Missing	Weden Centrel mondetene	***************************************
34630000 hex	Axis Slave Disabled	General Motion Control	W503
34640000 hex	Network Configuration Informa-	General Motion Control	W503
	tion Missing for Axis Slave		
34800000 hex	Mean Value Processing Setting Error	CJ-series Analog I/O Units	W490
34810000 hex	Input Value Exceeded Adjust-	CJ-series Analog I/O Units	W490
01010000 HeX	ment Range in Adjustment Mode	oo conce / manag we conte	
34820000 hex	Input Number Specification Error in Adjustment Mode	CJ-series Analog I/O Units	W490
34830000 hex	Scaling Data Setting Error	CJ-series Analog I/O Units	W490
34030000 HEX	Jocanny Data Setting Entit	Co-series Arialog I/O Utilis	VV43U

Event code	Event name	Functional classification	Reference
34840000 hex	Input Signal Range Setting Error	CJ-series Analog I/O Units	W490
	or Error in Number of Inputs Set-		
34850000 hex	ting Mean Value Processing Setting	C Lagrica Angles I/O Unite	W490
34650000 flex	Error	CJ-series Analog I/O Units	VV490
34860000 hex	Error in Setting of Conversion	CJ-series Analog I/O Units	W490
	Mode		
34870000 hex	Output Hold Setting Error	CJ-series Analog I/O Units	W490
34880000 hex	Output Number Specification Er-	CJ-series Analog I/O Units	W490
34890000 hex	ror in Adjustment Mode Conversion Time/Resolution or	CJ-series Analog I/O Units	W490
34690000 flex	Operation Mode Setting Error	CJ-series Arialog I/O Offics	VV490
348A0000 hex	Output Signal Range Setting Er-	CJ-series Analog I/O Units	W490
	ror or Error In Number of Out-	_	
	puts Used Setting		
348C0000 hex	I/O Number Specification Error	CJ-series Analog I/O Units	W490
0.4000000 b	in Adjustment Mode	CJ-series Process I/O Units	14/400
348D0000 hex	Data Range Error Setting Error	CJ-series Process I/O Units CJ-series Temperature Control	W498 W491
34940000 hex	Setting Error	Units	VV491
34980000 hex	Results Information, Data Stor-	CJ-series ID Sensor Units	Z317
	age Area Specification Error		
349C0000 hex	Registration Table Verification	CJ-series CompoNet Master	W493
	Error	Unit	
349D0000 hex	Slave Unit Duplicated Address Error	CJ-series CompoNet Master Unit	W493
349E0000 hex	Repeater Unit Node Duplicated	CJ-series CompoNet Master	W493
0.4.4.40000.1	Address Error	Unit	14404
34A40000 hex	System Setup Error	CJ-series Serial Communications Units	W494
34A80000 hex	Verification Error	CJ-series EtherNet/IP Units	W495
34A90000 hex	Tag Data Link Error	CJ-series EtherNet/IP Units	W495
34AA0000 hex	Tag Refresh Error	CJ-series EtherNet/IP Units	W495
34AB0000 hex	Basic Ethernet Setting Error	CJ-series EtherNet/IP Units	W495
34AC0000 hex	IP Address Table Error	CJ-series EtherNet/IP Units	W495
34AD0000 hex	IP Router Table Error	CJ-series EtherNet/IP Units	W495
34AE0000 hex	Routing Table Error	CJ-series EtherNet/IP Units	W495
34AF0000 hex	Ethernet Advanced Setting Error	CJ-series EtherNet/IP Units	W495
34B00000 hex	Address Mismatch	CJ-series EtherNet/IP Units	W495
34BC0000 hex	Routing Table Error	CJ-series DeviceNet Units	W497
34BD0000 hex	Verification Error	CJ-series DeviceNet Units	W497
34BE0000 hex	Structure Error	CJ-series DeviceNet Units	W497
34BF0000 hex	Master I/O Refresh Error	CJ-series DeviceNet Units	W497
34C00000 hex	Master User-set Allocations User Setting Failed	CJ-series DeviceNet Units	W497
34C10000 hex	Communications Cycle Time Setting Failed	CJ-series DeviceNet Units	W497
34C20000 hex	Slave I/O Refresh Error	CJ-series DeviceNet Units	W497

Event code	Event name	Functional classification	Reference
34C30000 hex	Slave User Allocation Area Set- ting Failed	CJ-series DeviceNet Units	W497
34E00000 hex	Data Setting Warning	Servo G5, G5 Linear, and Servo 1S	1576 1577 1586
34E10000 hex	Servo Drive Overheat	Servo G5 and G5 Linear	1576 1577
34E20000 hex	Overload	Servo G5 and G5 Linear	1576 1577
34E30000 hex	Regeneration Overload	Servo G5 and G5 Linear	1576 1577
34E40000 hex	Error Counter Overflow	Servo G5 and G5 Linear	1576 1577
34E50000 hex	Excessive Velocity Error	Servo G5 and G5 Linear	1576 1577
34E60000 hex	Overspeed	Servo G5 and G5 Linear	I576 I577
34F00000 hex	PDO Setting Error	MX2/RX-series Inverters with EtherCAT Communications Units	1574
34F80000 hex	Dummy Sensors Setting Error	E3X-series Fiber Sensors with EtherCAT Communications Unit for Digital Sensors and Ether- CAT Digital Sensor Communica- tions Units	E413 E429
35000000 hex	Unit Configuration Information Error	NX-series EtherCAT Coupler Unit	W519
35010000 hex	Unit Configuration Verification Error	NX-series EtherCAT Coupler Unit	W519
35020000 hex	NX Unit Minor Fault	NX-series EtherCAT Coupler Unit	W519
35030000 hex	NX Unit Observation	NX-series EtherCAT Coupler Unit	W519
35040000 hex	Mailbox Setting Error	NX-series EtherCAT Coupler Unit	W519
35050000 hex	RxPDO Setting Error	NX-series EtherCAT Coupler Unit	W519
35060000 hex	TxPDO Setting Error	NX-series EtherCAT Coupler Unit	W519
35070000 hex	PDO WDT Setting Error	NX-series EtherCAT Coupler Unit	W519
35080000 hex	SM Event Mode Setting Error	NX-series EtherCAT Coupler Unit	W519
35090000 hex	TxPDO Mapping Error	NX-series EtherCAT Coupler Unit	W519
350A0000 hex	RxPDO Mapping Error	NX-series EtherCAT Coupler Unit	W519
350B0000 hex	Illegal State Transition Request Received	NX-series EtherCAT Coupler Unit	W519
350C0000 hex	Error State Transition Received	NX-series EtherCAT Coupler Unit	W519

Event code	Event name	Functional classification	Reference
350D0000 hex	Synchronization Cycle Setting	NX-series EtherCAT Coupler	W519
	Error	Unit	
350E0000 hex	NX Bus Cycle Delay Detected	NX-series EtherCAT Coupler	W519
		Unit	
35100000 hex	External Input Setting Error	NX-series Position Interface	W524
35110000 hex	SSI Data Satting Error	Units NX-series Position Interface	W524
33110000 flex	SSI Data Setting Error	Units	VV324
35200000 hex	Safety Process Data Communi-	NX-series Safety Control Unit	Z930
	cations Not Established Error		
35210000 hex	Safety Process Data Communi-	NX-series Safety Control Unit	Z930
	cations Not Established - Incor-		
	rect Unit Parameter Error		
35230000 hex	Safety Process Data Communi-	NX-series Safety Control Unit	Z930
	cations Not Established, Incor- rect FSoE Slave Address Error		
35240000 hex	Safety Process Data Communi-	NX-series Safety Control Unit	Z930
	cations Not Established, Incor-	,	
	rect Frame Error		
35250000 hex	Safety Unit Restore Operation	NX-series Safety Control Unit	Z930
	Failed to Start (SD Memory		
25260000 box	Card Access Failed)	NV porios Safaty Control Unit	Z930
35260000 hex	Safety Unit Restore Operation Failed to Start (Safety Unit Re-	NX-series Safety Control Unit	2930
	store File Read Failure)		
35270000 hex	Safety Unit Restore Operation	NX-series Safety Control Unit	Z930
	Failed to Start (Model Mismatch)		
35280000 hex	Safety Unit Restore Operation	NX-series Safety Control Unit	Z930
	Failed to Start (Version Mis-		
35290000 hex	match) Safety Unit Restore Operation	NX-series Safety Control Unit	Z930
33290000 Hex	Failed to Start (Node Name Mis-	NA-series Galety Control Offic	2930
	match)		
352A0000 hex	Safety Unit Restore Operation	NX-series Safety Control Unit	Z930
	Failed to Start (Safety Password		
	Mismatch)		
352B0000 hex	Safety Unit Restore Operation Failed	NX-series Safety Control Unit	Z930
35300000 hex	DB Connection Setting Error	DB Connection Service	W527
35310000 hex	DB Server Certificate Error	DB Connection Service	W527
3540000 hex	Illegal Variable Allocation	GEM Services	W528
35410000 hex	Illegal TCP Port Number	GEM Services	W528
35600000 hex	X Bus Unit Version Not Matched	X Bus	W503
35610000 hex	Unregistered X Bus Unit Mount-	X Bus	W503
	ed		
35620000 hex	Registered X Bus Unit Not	X Bus	W503
	Mounted		
35630000 hex	X Bus Unit Serial Number Mis-	X Bus	W503
250000011	match	C Leaving F45 - CAT CL LL "	WEAD
35680000Hex	I/O Refresh Error	CJ-series EtherCAT Slave Unit	W542
35690000Hex	Mailbox Setting Error	CJ-series EtherCAT Slave Unit	W542

Event code	Event name	Functional classification	Reference
356A0000Hex	Verification Error	CJ-series EtherCAT Slave Unit	W542
356B0000Hex	Illegal State Transition Request Received	CJ-series EtherCAT Slave Unit	W542
356D0000 hex	Parameters Not Transferred	NX Bus	W503
357D0000 hex	DC Setting Error	Servo 1S	I586 I621
357E0000 hex	Synchronization Cycle Setting Error	Servo 1S	1586 1621
357F0000 hex	Mailbox Setting Error	Servo 1S	I586 I621
35800000 hex	RxPDO Setting Error	Servo 1S	I586 I621
35810000 hex	TxPDO Setting Error	Servo 1S	I586 I621
35820000 hex	RxPDO Mapping Error	Servo 1S	I586 I621
35830000 hex	TxPDO Mapping Error	Servo 1S	I586 I621
35840000 hex	PDO WDT Setting Error	Servo 1S	I586 I621
35850000 hex	Node Address Updated	Servo 1S	I586 I621
35860000 hex	SM Event Mode Setting Error	Servo 1S	I586 I621
35900000 hex	NX Unit Version Not Matched	NX Bus	W503
35910000 hex	Unregistered NX Unit Mounted	NX Bus	W503
35920000 hex	Registered NX Unit Not Mount- ed	NX Bus	W503
35930000 hex	NX Unit Serial Number Mis- match	NX Bus	W503
35940000 hex	Option Board Configuration Verification Error	Built-in I/O and Option Boards	W503
35950000 hex	Unsupported Option Board Mounted	Built-in I/O and Option Boards	W503
35D00000 hex	OPC UA Server Setting Error	OPC UA Server Function	W503
35D10000 hex	Server Certificate Expired	OPC UA Server Function	W503
35D20000 hex	Server Certificate Expiration Notice	OPC UA Server Function	W503
35D30000 hex	Too Many Public Variables	OPC UA Server Function	W503
35D40000 hex	Unsupported Data Type/Invalid Data	OPC UA Server Function	W503
35D50000 hex	Too Many Public Value Attributes	OPC UA Server Function	W503
35D60000 hex	Too Many Structure Definitions	OPC UA Server Function	W503
35EF0000 hex	Automation Playback Startup Error	Errors Related to Controller Operation	W503
36010000 hex	Basic Ethernet Setting Error	NX-series EtherNet/IP Unit	W627
36020000 hex	IP Address Settings Error	NX-series EtherNet/IP Unit	W627
36030000 hex	IP Rout Table Setting Error	NX-series EtherNet/IP Unit	W627
36060000 hex	SNMP Setting Error	NX-series EtherNet/IP Unit	W627

Event code	Event name	Functional classification	Reference
36080000 hex	DNS Setting Error	NX-series EtherNet/IP Unit	W627
37800000 hex	Required Process Data Object Not Set	CNC Function	O030
37810000 hex	Process Data Object Setting Missing	CNC Function	O030
37C20000 hex	Robot Setting Mismatch	General Robot Control	O037
38010000 hex	Scaling Data Setting Error/Ratio Conversion Use Setting Error	CJ-series Analog I/O Units	W490
38020000 hex	Ratio Set Value Error	CJ-series Analog I/O Units	W490
381C0000 hex	Status Area Layout Setting Error	CJ-series EtherNet/IP Units	W495
383C0000 hex	Overload Warning	Servo G5 and G5 Linear	I576 I577
383D0000 hex	Excessive Regeneration Warning	Servo G5 and G5 Linear	1576 1577
383E0000 hex	Vibration Detection Warning	Servo G5 and G5 Linear	I576 I577
383F0000 hex	Excessive Hybrid Following Error	Servo G5	1576
38400000 hex	Overspeed 2	Servo G5 and G5 Linear	1576 1577
38410000 hex	Command Error	Servo G5 and G5 Linear	1576 1577
38420000 hex	Command Generation Error	Servo G5 and G5 Linear	1576 1577
38430000 hex	Error Counter Overflow 1	Servo G5 and G5 Linear	1576 1577
38440000 hex	Error Counter Overflow 2	Servo G5 and G5 Linear	1576 1577
38450000 hex	Interface Input Duplicate Allocation Error 1	Servo G5 and G5 Linear	1576 1577
38460000 hex	Interface Input Duplicate Allocation Error 2	Servo G5 and G5 Linear	I576 I577
38470000 hex	Interface Input Function Number Error 1	Servo G5 and G5 Linear	1576 1577
38480000 hex	Interface Input Function Number Error 2	Servo G5 and G5 Linear	1576 1577
38490000 hex	Interface Output Function Number Error 1	Servo G5 and G5 Linear	1576 1577
384A0000 hex	Interface Output Function Number Error 2	Servo G5 and G5 Linear	1576 1577
384B0000 hex	External Latch Input Allocation Error	Servo G5 and G5 Linear	1576 1577
384C0000 hex	Overrun Limit Error	Servo G5 and G5 Linear	1576 1577
384D0000 hex	Absolute Encoder System Down Error	Servo G5	1576
384E0000 hex	Absolute Encoder Counter Over- flow Error	Servo G5	1576
384F0000 hex	Object Setting Error 1	Servo G5 and G5 Linear	1576
38500000 hex	Object Setting Error 2	Servo G5 and G5 Linear	1576

Event code	Event name	Functional classification	Reference
38510000 hex	External Encoder Connection Error	Servo G5 and G5 Linear	1576
38520000 hex	Function Setting Error	Servo G5 and G5 Linear	1576
38530000 hex	Magnetic Pole Position Estimation Error 1	G5 Linear	1577
38540000 hex	Magnetic Pole Position Estimation Error 2	G5 Linear	1577
38550000 hex	Magnetic Pole Position Estimation Error 3	G5 Linear	1577
38560000 hex	Motor Auto-setting Error	G5 Linear	1577
38570000 hex	Function Setting Error	Servo 1S	1586
			1621
38590000 hex	Camera Connection Error	FH/FZ5 Series Vision System	Z342
385A0000 hex	Change in Connected Camera	FH/FZ5 Series Vision System	Z342
385B0000 hex	Light installation error	FH/FZ5 Series Vision System	Z342
38780000 hex	General Input Allocation Duplicate Error	Servo 1S	1586 1621
38790000 hex	General Output Allocation Duplicate Error	Servo 1S	1586 1621
387A0000 hex	Overload Warning	Servo 1S	1586
387B0000 hex	Pulse Output Setting Error	Servo 1S	I586 I621
387C0000 hex	Motor Replacement Detected	Servo 1S	I586 I621
387D0000 hex	Regeneration Overload Warning	Servo 1S	1586
387E0000 hex	Motor Vibration Warning	Servo 1S	1586
387F0000 hex	Electronic Gear Setting Error	Servo 1S	I586 I621
38800000 hex	Servo Drive Overheat	Servo 1S	I586 I621
38810000 hex	Overload Error	Servo 1S	I586 I621
38820000 hex	Regeneration Overload Error	Servo 1S	I586 I621
38830000 hex	Excessive Position Deviation Error	Servo 1S	I586 I621
38840000 hex	Excessive Speed Deviation Error	Servo 1S	I586 I621
38850000 hex	Excessive Speed Error	Servo 1S	I586 I621
38860000 hex	Following Error Counter Over-	Servo 1S	I586 I621
38870000 hex	Absolute Encoder Counter Over- flow Error	Servo 1S	I586 I621
38880000 hex	Safety Communications Setting Error	Servo 1S	I586 I621
38890000 hex	Safety Frame Error	Servo 1S	I586 I621
388A0000 hex	Safety Parameter Error	Servo 1S	1586

Event code	Event name	Functional classification	Reference
388B0000 hex	FSoE Slave Address Error	Servo 1S	1586
			I621
38980000 hex	Safety Function Setting Error	Servo 1S	I621
38990000 hex	Safety Parameter Error	Servo 1S	I621
40010000 hex	PLC System Processing Error	Errors for Self Diagnosis	W503
40020000 hex	PLC System Processing Error	Errors for Self Diagnosis	W503
40030000 hex	PLC System Processing Error	Errors for Self Diagnosis	W503
40040000 hex	PLC System Processing Error	Errors for Self Diagnosis	W503
40050000 hex	PLC System Processing Error	Errors for Self Diagnosis	W503
40110000 hex	PLC Function Processing Error	Errors Related to Controller Operation	W503
40120000 hex	PLC Function Processing Error	Errors Related to Controller Operation	W503
40130000 hex	PLC Function Processing Error	Errors Related to Controller Operation	W503
40140000 hex	PLC System Information	Errors Related to Controller Operation	W503
40150000 hex	PLC System Information	Errors Related to Controller Operation	W503
40160000 hex	Safe Mode	Errors Related to Controller Operation	W503
40170000 hex	Safe Mode	Errors Related to Controller Operation	W503
40200000 hex	NX Unit Processing Error	NX-series EtherCAT Coupler	W519
		Units, NX-series Analog I/O	W566
		Units, NX-series Position Inter-	W524
		face Units, NX-series Communi-	W540
		cations Interface Units, NX-ser-	W565
		ies Load Cell Input Units, NX-	W570
		NX-series Temperature Control Units	H228
41000000 hex	X Bus Unit Common Function Processing Error	X Bus Unit	W503
41010000 hex	X Bus Unit Common Function Processing Error	X Bus Unit	W503
41020000 hex	X Bus Unit Common Function Processing Error	X Bus Unit	W503
41030000 hex	X Bus Unit System Information	X Bus Unit	W503
41040000 hex	X Bus Unit System Information	X Bus Unit	W503
41050000 hex	X Bus Unit Common Function Processing Error	X Bus Unit	W503
41060000 hex	X Bus Unit Common Function Processing Error	X Bus Unit	W503
44010000 hex	EtherCAT Fault	EtherCAT Master	W503
44180000 hex	OPC UA System Processing Error	OPC UA Server Function	W503
44190000 hex	OPC UA Server Insufficient Memory Capacity	OPC UA Server Function	W503

Event code	Event name	Functional classification	Reference
441C0000 hex	DB Connection Service System Error	DB Connection Instructions	W527
44200000 hex	Motion Control Initialization Error	General Motion Control	W503
44210000 hex	Motion Control Function Processing Error	General Motion Control	W503
44300000 hex	X Bus Function Processing Error	X Bus	W503
44400000 hex	PLC Function Processing Error	Errors Related to CJ-series Unit Configuration	W503
44410000 hex	PLC System Information	Errors Related to CJ-series Unit Configuration	W503
44420000 hex	PLC Function Processing Error	Errors Related to Controller Operation	W503
44430000 hex	PLC System Information	Errors Related to Controller Operation	W503
44440000 hex	NX Bus Function Processing Error	NX Bus	W503
44450000 hex	NX Bus System Information	NX Bus	W503
47800000 hex	CNC Initialization Error	CNC Function	O030
47810000 hex	CNC Parameter Setting Invalid	CNC Function	O030
47C00000 hex	Robot Control Initialization Error	General Robot Control	O037
47C10000 hex	Robot Control Function Module System Error	General Robot Control	O037
47C20000 hex	Robot Control Function Module Processing Error	General Robot Control	O037
48020000 hex	System Error	FH/FZ5 Series Vision System	Z342
48080000 hex	FPGA WDT Error	Servo 1S	I586 I621
50010000 hex	Controller Insufficient Memory Warning	EtherCAT Master, EtherNet/IP	W503
54010400 hex	Input Value Out of Range	Instructions	W503
54010401 hex	Input Mismatch	Instructions	W503
54010402 hex	Floating-point Error	Instructions	W503
54010403 hex	BCD Error	Instructions	W503
54010404 hex	Signed BCD Error	Instructions	W503
54010405 hex	Illegal Bit Position Specified	Instructions	W503
54010406 hex	Illegal Data Position Specified	Instructions	W503
54010407 hex	Data Range Exceeded	Instructions	W503
54010409 hex	No Errors to Clear	Instructions	W503
5401040B hex	No User Errors to Clear	Instructions	W503
5401040C hex	Limit Exceeded for User-defined Errors	Instructions	W503
5401040D hex	Illegal Unit Specified	Instructions	W503
5401040F hex	Unit Restart Failed	Instructions	W503
54010410 hex	Text String Format Error	Instructions	W503
54010411 hex	Illegal Program Specified	Instructions	W503
54010413 hex	Undefined CJ-series Memory Address	Instructions	W503
54010414 hex	Stack Underflow	Instructions	W503
54010415 hex	Firmware Error	Instructions	W503

Event code	Event name	Functional classification	Reference
54010416 hex	Illegal Number of Array Ele- ments or Dimensions	Instructions	W503
54010417 hex	Specified Task Does Not Exist	Instructions	W503
54010418 hex	Unallowed Task Specification	Instructions	W503
54010419 hex	Incorrect Data Type	Instructions	W503
5401041A hex	Multi-execution of Instructions	Instructions	W503
5401041B hex	Data Capacity Exceeded	Instructions	W503
5401041C hex	Different Data Sizes	Instructions	W503
5401041D hex	Exceeded Simultaneous Instruction Executed Resources	Instructions	W503
54010421 hex	Failed to Get The Program Hash Code	Instructions	W503
54010800 hex	FINS Error	Instructions	W503
54010801 hex	FINS Port Already in Use	Instructions	W503
54010C00 hex	Illegal Serial Communications Mode	Instructions	W503
54010C02 hex	Port Setup Already Busy	Instructions	W503
54010C03 hex	Full Reception Buffer	Instructions	W503
54010C04 hex	Multi-execution of Ports	Instructions	W503
54010C05 hex	Parity Error	Instructions	W503
54010C06 hex	Framing Error	Instructions	W503
54010C07 hex	Overrun Error	Instructions	W503
54010C08 hex	CRC Mismatch	Instructions	W503
54010C0B hex	Serial Communications Timeout	Instructions	W503
54010C0C hex	Instruction Executed to Inapplicable Port	Instructions	W503
54010C0D hex	CIF Unit Initialized	Instructions	W503
54010C10 hex	Exceptional Modbus Response	Instructions	W503
54010C11 hex	Invalid Modbus Response	Instructions	W503
54011400 hex	SD Memory Card Access Failure	Instructions	W503
54011401 hex	SD Memory Card Write-protected	Instructions	W503
54011402 hex	SD Memory Card Insufficient Capacity	Instructions	W503
54011403 hex	File Does Not Exist	Instructions	W503
54011404 hex	Too Many Files/Directories	Instructions	W503
54011405 hex	File Already in Use	Instructions	W503
54011406 hex	Open Mode Mismatch	Instructions	W503
54011407 hex	Offset Out of Range	Instructions	W503
54011408 hex	Directory Not Empty	Instructions	W503
54011409 hex	That File Name Already Exists	Instructions	W503
5401140A hex	Write Access Denied	Instructions	W503
5401140B hex	Too Many Files Open	Instructions	W503
5401140C hex	Directory Does Not Exist	Instructions	W503
5401140D hex	File or Directory Name Is Too Long	Instructions	W503
5401140E hex	SD Memory Card Access Failed	Instructions	W503

Event code	Event name	Functional classification	Reference
5401140F hex	Backup Operation Already in Progress	Instructions	W503
54011410 hex	Cannot Execute Backup	Instructions	W503
54011411 hex	Unit/Slave Backup Failed	Instructions	W503
54011800 hex	EtherCAT Communications Error	Instructions	W503
54011801 hex	EtherCAT Slave Does Not Re-	Instructions	W503
	spond		
54011802 hex	EtherCAT Timeout	Instructions	W503
54011803 hex	Reception Buffer Overflow	Instructions	W503
54011804 hex	SDO Abort Error	Instructions	W503
54011805 hex	Saving Packet Monitor File	Instructions	W503
54011806 hex	Packet Monitoring Function Not Started	Instructions	W503
54011807 hex	Packet Monitoring Function in Operation	Instructions	W503
54011808 hex	Communications Resource Overflow	Instructions	W503
54011809 hex	Packet Monitoring Function Not Supported	Instructions	W503
5401180A hex	Cannot Execute Instruction for Slave	Instruction	W503
5401180D hex	Diagnosis/Statistics Log Executing	Instructions	W503
5401180E hex	Master Diagnostic and Statistical Information Instruction Multi-ex- ecution Disabled	Instructions	W503
5401180F hex	Slave Diagnostic and Statistical Information Instruction Multi-ex- ecution Disabled	Instructions	W503
54011C00 hex	Explicit Message Error	Instructions	W503
54011C01 hex	Incorrect Route Path	Instructions	W503
54011C02 hex	CIP Handle Out of Range	Instructions	W503
54011C03 hex	CIP Communications Resource Overflow	Instructions	W503
54011C04 hex	CIP Timeout	Instructions	W503
54011C05 hex	Class-3 Connection Not Estab- lished	Instructions	W503
54011C06 hex	CIP Communications Data Size Exceeded	Instructions	W503
54012000 hex	Local IP Address Setting Error	Instructions	W503
54012001 hex	TCP/UDP Port Already in Use	Instructions	W503
54012002 hex	Address Resolution Failed	Instructions	W503
54012003 hex	Socket Status Error	Instructions	W503
54012004 hex	Local IP Address Not Set	Instructions	W503
54012006 hex	Socket Timeout	Instructions	W503
54012007 hex	Socket Handle Out of Range	Instructions	W503
54012008 hex	Socket Communications Resource Overflow	Instructions	W503
5401200A hex	Invalid TLS Session Name	Instructions	W503

Event code	Event name	Functional classification	Reference
5401200B hex	Access to the Certificate Failed	Instructions	W503
5401200C hex	TLS Session Establishment Error	Instructions	W503
5401200E hex	Invalid TLS Session Handle	Instructions	W503
5401200F hex	TLS Error	Instructions	W503
54012400 hex	No Execution Right	Instructions	W503
54012401 hex	Settings Update Failed	Instructions	W503
54012402 hex	Too Many Simultaneous Instruction Executions	Instructions	W503
54012403 hex	FTP Client Execution Limit Exceeded	Instructions	W503
54012404 hex	File Number Limit Exceeded	Instructions	W503
54012405 hex	Directory Does Not Exist (FTP)	Instructions	W503
54012406 hex	FTP Server Connection Error	Instructions	W503
54012407 hex	Destination FTP Server Execution Failure	Instructions	W503
54012408 hex	SD Memory Card Access Failed for FTP	Instructions	W503
54012409 hex	Specified File Does Not Exist	Instructions	W503
5401240A hex	Specified File Is Write Protected	Instructions	W503
5401240B hex	Failed To Delete Specified File	Instructions	W503
5401240C hex	Specified File Access Failed	Instructions	W503
5401240D hex	IP Address Setting Invalid	Instructions	W503
54012C00 hex	NX Message Error	Instructions	W503
54012C01 hex	NX Message Resource Overflow	Instructions	W503
54012C02 hex	NX Message Timeout	Instructions	W503
54012C03 hex	Incorrect NX Message Length	Instructions	W503
54012C05 hex	NX Message EtherCAT Network Error	Instructions	W503
54012C06 hex	External Restart Already Executed for Specified NX Units	Instructions	W503
54012C07 hex	Unapplicable Unit Specified for Instruction	Instructions	W503
54012C08 hex	Invalid Total Power ON Time Record	Instructions	W503
54013000 hex	DB Connection Service Not Started	DB Connection Instructions	W527
54013001 hex	DB Connection Service Run Mode Change Failed	DB Connection Instructions	W527
54013002 hex	DB Connection Service Shut- down or Shutting Down	DB Connection Instructions	W527
54013003 hex	Invalid DB Connection Name	DB Connection Instructions	W527
54013004 hex	DB Connection Rejected	DB Connection Instructions	W527
54013005 hex	DB Connection Failed	DB Connection Instructions	W527
54013006 hex	DB Connection Already Established	DB Connection Instructions	W527
54013007 hex	Too Many DB Connections	DB Connection Instructions	W527
54013008 hex	Invalid DB Connection	DB Connection Instructions	W527
54013009 hex	Invalid DB Map Variable	DB Connection Instructions	W527

Event code	Event name	Functional classification	Reference
5401300A hex	Unregistered DB Map Variable	DB Connection Instructions	W527
5401300B hex	SQL Execution Error	DB Connection Instructions	W527
5401300C hex	Spool Capacity Exceeded	DB Connection Instructions	W527
5401300E hex	Invalid Extraction Condition	DB Connection Instructions	W527
54013010 hex	Log Code Out of Range	DB Connection Instructions	W527
54013011 hex	DB Connection Disconnected	DB Connection Instructions	W527
	Error Status	DD Connection matricularis	***************************************
54013012 hex	DB Connection Instruction Execution Timeout	DB Connection Instructions	W527
54013013 hex	DB Connection Service Error Stop	DB Connection Instructions	W527
54013014 hex	Data Already Spooled	DB Connection Instructions	W527
54013015 hex	DB Connection Service Initializing	DB Connection Instructions	W527
54013016 hex	DB in Process	DB Connection Instructions	W527
54013017 hex	Operation Log Disabled	DB Connection Instructions	W527
54013018 hex	Invalid Procedure Handle	DB Connection Instructions	W527
54013019 hex	Instruction Executed for Unsupported Database Type	DB Connection Instructions	W527
5401301A hex	Invalid Stored Procedure Name	DB Connection Instructions	W527
5401301B hex	Invalid Stored Procedure Argument	DB Connection Instructions	W527
5401301C hex	Invalid Number of Columns for Stored Procedure Result Set	DB Connection Instructions	W527
5401301E hex	DB Connection Service Not Used	DB Connection Instructions	W527
54013461 hex	Process Data Object Setting Missing	Instructions	W503
54013781 hex	Process Data Object Setting Missing	CNC Instructions	O030
54013810 hex	GEM Service Status in Initializing	GEM Instructions	W528
54013811 hex	GEM Service Status in EQStart-ing	GEM Instructions	W528
54013812 hex	GEM Service Status in EQInitializing	GEM Instructions	W528
54013813 hex	GEM Service Status in EQRun	GEM Instructions	W528
54013814 hex	GEM Service Status in Stop	GEM Instructions	W528
54013815 hex	GEM Service Status in Error	GEM Instructions	W528
54013816 hex	GEM Service Status in Shutting-	GEM Instructions	W528
54013817 hex	Down GEM Service Status in Shut- down	GEM Instructions	W528
54013818 hex	No Message Received	GEM Instructions	W528
54013819 hex	Multi-execution of Instructions	GEM Instructions	W528
5401381A hex 5401381B hex	State Transition in Progress Insufficient Transaction Re-	GEM Instructions GEM Instructions	W528 W528
	source		

Event code	Event name	Functional classification	Reference
54013821 hex	Invalid Size	GEM Instructions	W528
54013822 hex	Set to Disable	GEM Instructions	W528
54013824 hex	Undefined CEID	GEM Instructions	W528
54013825 hex	Undefined ALID	GEM Instructions	W528
54013826 hex	Undefined CCODE	GEM Instructions	W528
54013827 hex	Undefined Message Number	GEM Instructions	W528
54013828 hex	HSMS Communications Setting	GEM Instructions	W528
	Out of Range		
54013829 hex	TID Out of Range	GEM Instructions	W528
5401382C hex	Undefined ECID	GEM Instructions	W528
5401382D hex	Type Mismatch	GEM Instructions	W528
5401382E hex	ECV Out of Range	GEM Instructions	W528
5401382F hex	Illegal CPNAME	GEM Instructions	W528
54013830 hex	HCACK Out of Range	GEM Instructions	W528
54013831 hex	CPACK Out of Range	GEM Instructions	W528
54013832 hex	CEPACK Out of Range	GEM Instructions	W528
54013833 hex	ACKC7 Out of Range	GEM Instructions	W528
54013834 hex	ACKC7A Out of Range	GEM Instructions	W528
54013835 hex	ACKC10 Out of Range	GEM Instructions	W528
54013836 hex	EAC Out of Range	GEM Instructions	W528
54013838 hex	Illegal SECS Message	GEM Instructions	W528
54014800 hex	Device Error Received	Instructions	W503
54014801 hex	Specified Unit Does Not Exist	Instructions	W503
54014802 hex	Message Processing Limit Exceeded	Instructions	W503
54014803 hex	Specified Unit Status Error	Instructions	W503
54014804 hex	Too Many Simultaneous Instruction Executions	Instructions	W503
54014805 hex	Communications Timeout	Instructions	W503
54014806 hex	Invalid Mode	Instructions	W503
54014807 hex	I/O Power OFF Status	Instructions	W503
54014808 hex	Verification Error	Instructions	W503
54014809 hex	Incorrect Device Port Setting	Instructions	W503
54015000 hex	OPC UA Server Shutdown or Shutting Down	OPC UA Instructions	W503
54015001 hex	OPC UA Server Being Initialized	OPC UA Instructions	W503
54015002 hex	OPC UA Server Not Started	OPC UA Instructions	W503
54015420 hex	Electronic Gear Ratio Numerator Setting Out of Range	Instructions	W503
54015421 hex	Electronic Gear Ratio Denominator Setting Out of Range	Instructions	W503
54015422 hex	Target Velocity Setting Out of	Instructions and Robot Instruc-	W503
	Range	tions	W539
54015423 hex	Acceleration Setting Out of Range	Instructions and Robot Instruc- tions	W503 W539
54015424 hex	Deceleration Setting Out of	Instructions and Robot Instruc-	W503
	Range	tions	W539
54015425 hex	Jerk Setting Out of Range	Instructions	W503

Event code	Event name	Functional classification	Reference
54015427 hex	Torque Ramp Setting Out of Range	Instructions	W503
54015428 hex	Master Coefficient Scaling Out of Range	Instructions	W503
54015429 hex	Slave Coefficient Scaling Out of Range	Instructions	W503
5401542A hex	Feeding Velocity Setting Out of Range	Instructions	W503
5401542B hex	Buffer Mode Selection Out of Range	Instructions and Robot Instruc- tions	W503 W539
5401542C hex	Coordinate System Selection Out of Range	Instructions and Robot Instruc-	W503 W539
5401542D hex	Circular Interpolation Mode Selection Out of Range	Instructions	W503
5401542E hex	Direction Selection Out of Range	Instructions and Robot Instructions	W503 W539
5401542F hex	Path Selection Out of Range	Instructions	W503
54015430 hex	Position Type Selection Out of Range	Instructions	W503
54015431 hex	Travel Mode Selection Out of Range	Instructions	W503
54015432 hex	Transition Mode Selection Out of Range	Instructions and Robot Instructions	W503 W539
54015433 hex	Continue Method Selection Out of Range	Instructions	W503
54015434 hex	Combine Mode Selection Out of Range	Instructions	W503
54015435 hex	Synchronization Start Condition Selection Out of Range	Instructions	W503
54015436 hex	Master and Slave Defined as Same Axis	Instructions	W503
54015437 hex	Master and Auxiliary Defined as Same Axis	Instructions	W503
54015438 hex	Master/Slave Axis Numbers Not in Ascending Order	Instructions	W503
54015439 hex	Incorrect Cam Table Specification	Instructions	W503
5401543A hex	Synchronization Stopped	Instructions	W503
5401543B hex	Motion Control Instruction Re- execution Disabled	Instructions and Robot Instructions	W503 W539
5401543C hex	Motion Control Instruction Multi- execution Disabled	Instructions and Robot Instructions	W503 W539
5401543D hex	Instruction Not Allowed for Encoder Axis Type	Instructions	W503
5401543E hex	Instruction Cannot Be Executed during Multi-axes Coordinated Control	Instructions and Robot Instructions	W503 W539
5401543F hex	Multi-axes Coordinated Control Instruction Executed for Disa- bled Axes Group	Instructions and Robot Instructions	W503 W539

Event code	Event name	Functional classification	Reference
54015440 hex	Axes Group Cannot Be Enabled	Instructions	W503
54015441 hex	Impossible Axis Operation Specified when the Servo is OFF	Instructions and Robot Instructions	W503 W539
54015442 hex	Composition Axis Stopped Error	Instructions and Robot Instructions	W503 W539
54015443 hex	Motion Control Instruction Multi- execution Buffer Limit Exceeded	Instructions and Robot Instructions	W503 W539
54015444 hex	Insufficient Travel Distance	Instructions	W503
54015445 hex	Insufficient Travel Distance to Achieve Blending Transit Velocity	Instructions	W503
54015446 hex	Move Link Constant Velocity Insufficient Travel Distance	Instructions	W503
54015447 hex	Positioning Gear Operation Insufficient Target Velocity	Instructions	W503
54015448 hex	Same Start Point and End Point for Circular Interpolation	Instructions	W503
54015449 hex	Circular Interpolation Center Specification Position Out of Range	Instructions	W503
5401544A hex	Instruction Execution Error Caused by Count Mode Setting	Instructions	W503
5401544C hex	Parameter Selection Out of Range	Instructions	W503
5401544D hex	Stop Method Selection Out of Range	Instructions	W503
5401544E hex	Latch ID Selection Out of Range for Trigger Input Condition	Instructions	W503
5401544F hex	Setting Out of Range for Writing MC Setting	Instructions	W503
54015450 hex	Trigger Input Condition Mode Selection Out of Range	Instructions	W503
54015451 hex	Drive Trigger Signal Selection Out of Range for Trigger Input Condition	Instructions	W503
54015453 hex	Motion Control Instruction Re- execution Disabled (Axis Speci- fication)	Instructions	W503
54015454 hex	Motion Control Instruction Re- execution Disabled (Buffer Mode Selection)	Instructions	W503
54015455 hex	Motion Control Instruction Re- execution Disabled (Direction Selection)	Instructions	W503
54015456 hex	Motion Control Instruction Re- execution Disabled (Execution Mode)	Instructions	W503
54015457 hex	Motion Control Instruction Re- execution Disabled (Axes Group Specification)	Instructions	W503

Event code	Event name	Functional classification	Poforonoo
Event code	Event name		Reference
54015458 hex	Motion Control Instruction Re- execution Disabled (Jerk Set- ting)	Instructions	W503
54015459 hex	Motion Control Instruction Re- execution Disabled (Master Ax- is)	Instructions	W503
5401545A hex	Motion Control Instruction Re- execution Disabled (MasterOff- set)	Instructions	W503
5401545B hex	Motion Control Instruction Re- execution Disabled (MasterScal- ing)	Instructions	W503
5401545C hex	Motion Control Instruction Re- execution Disabled (Master- StartDistance)	Instructions	W503
5401545D hex	Motion Control Instruction Re- execution Disabled (Continuous)	Instructions	W503
5401545E hex	Motion Control Instruction Re- execution Disabled (MoveMode)	Instructions	W503
5401545F hex	Illegal Auxiliary Axis Specification	Instructions	W503
54015460 hex	Illegal Axis Specification	Instructions	W503
54015461 hex	Illegal Axes Group Specification	Instructions and Robot Instructions	W503 W539
54015462 hex	Illegal Master Axis Specification	Instructions	W503
54015463 hex	Motion Control Instruction Re- execution Disabled (SlaveOffset)	Instructions	W503
54015464 hex	Motion Control Instruction Re- execution Disabled (SlaveScal- ing)	Instructions	W503
54015465 hex	Motion Control Instruction Re- execution Disabled (StartPosi- tion)	Instructions	W503
54015466 hex	Instruction Execution Error with Undefined Home	Instructions and Robot Instructions	W503 W539
54015467 hex	Motion Control Instruction Re- execution Disabled (Position Type)	Instructions	W503
54015468 hex	Unused Axis Specification for Master Axis	Instructions	W503
54015469 hex	First Position Setting Out of Range	Instructions	W503
5401546A hex	Last Position Setting Out of Range	Instructions	W503
5401546B hex	Illegal First/Last Position Size Relationship (Linear Mode)	Instructions	W503
5401546C hex	Master Sync Start Position Set- ting Out of Range	Instructions	W503
5401546D hex	Slave Sync Start Position Set- ting Out of Range	Instructions	W503

Event code	Event name	Functional classification	Reference
5401546E hex	Duplicate Latch ID for Trigger Input Condition	Instructions	W503
5401546F hex	Jerk Override Factor Out of Range	Instructions	W503
54015470 hex	Acceleration/Deceleration Over-ride Factor Out of Range	Instructions	W503
54015471 hex	First Position Method Specification Out of Range	Instructions	W503
54015472 hex	Motion Control Instruction Re- execution Disabled (First Posi- tion Method)	Instructions	W503
54015474 hex	Unused Axis Specification for Auxiliary Axis	Instructions	W503
54015475 hex	Position Gear Value Error	Instructions	W503
54015476 hex	Position Gear Master Axis Zero Velocity	Instructions	W503
54015478 hex	Target Position Setting Out of Range	Instructions and Robot Instructions	W503 W539
54015479 hex	Travel Distance Out of Range	Instructions	W503
5401547A hex	Cam Table Start Point Setting Out of Range	Instructions	W503
5401547B hex	Cam Master Axis Following First Position Setting Out of Range	Instructions	W503
5401547C hex	Circular Interpolation Radius Setting Error	Instructions	W503
5401547D hex	Circular Interpolation Radius Overflow	Instructions	W503
5401547E hex	Circular Interpolation Setting Out of Range	Instructions	W503
5401547F hex	Auxiliary/Slave Axis Numbers Not in Ascending Order	Instructions	W503
54015480 hex	Cam Table Property Ascending Data Error at Update	Instructions	W503
54015481 hex	MC_Write Target Out of Range	Instructions	W503
54015482 hex	Master Travel Distance Specification Out of Range	Instructions	W503
54015483 hex	Master Distance in Acceleration Specification Out of Range	Instructions	W503
54015484 hex	Master Distance in Deceleration Specification Out of Range	Instructions	W503
54015487 hex	Execution Mode Selection Out of Range	Instructions	W503
54015488 hex	Permitted Following Error Out of Range	Instructions	W503
54015489 hex	Border Point/Center Position/ Radius Specification Out of Range	Instructions	W503
5401548A hex	End Point Specification Out of Range	Instructions	W503

Event code	Event name	Functional classification	Reference
5401548B hex	Slave Travel Distance Specification Out of Range	Instructions	W503
5401548C hex	Phase Shift Amount Out of Range	Instructions	W503
5401548D hex	Feeding Distance Out of Range	Instructions	W503
5401548E hex	Auxiliary and Slave Defined as Same Axis	Instructions	W503
5401548F hex	Relative Position Selection Out of Range	Instructions	W503
54015490 hex	Cam Transition Specification Out of Range	Instructions	W503
54015491 hex	Synchronized Control End Mode Selection Out of Range	Instructions	W503
54015492 hex	Enable External Latch Instruction Execution Disabled	Instructions	W503
54015493 hex	Master Axis Offset Out of Range	Instructions	W503
54015494 hex	Slave Axis Offset Out of Range	Instructions	W503
54015495 hex	Command Current Position Count Selection Out of Range	Instructions	W503
54015496 hex	Master Axis Gear Ratio Numerator Out of Range	Instructions	W503
54015497 hex	Master Axis Gear Ratio Denominator Out of Range	Instructions	W503
54015498 hex	Auxiliary Axis Gear Ratio Numerator Out of Range	Instructions	W503
54015499 hex	Auxiliary Axis Gear Ratio De- nominator Out of Range	Instructions	W503
5401549A hex	Master Axis Position Type Selection Out of Range	Instructions	W503
5401549B hex	Auxiliary Axis Position Type Selection Out of Range	Instructions	W503
5401549C hex	Target Position Ring Counter Out of Range	Instructions	W503
5401549D hex	Axes Group Composition Axis Setting Out of Range	Instructions	W503
5401549E hex	Axis Use Setting Out of Range	Instructions	W503
54015510 hex	Robot Control Instruction Re-ex- ecution Disabled	Robot Control Instructions	O037
54015511 hex	V+ Task Number Setting Out of Range	Robot Control Instructions	O037
54015512 hex	Illegal Robot Specification	Robot Control Instructions	O037
54015513 hex	Illegal Parameter List Specification	Robot Control Instructions	O037
54015514 hex	Starting Step Setting Out of Range	Robot Control Instructions	O037
54015515 hex	Target Position Setting Out of Range	Robot Control Instructions	O037
54015516 hex	Lefty and Righty Setting Out of Range	Robot Control Instructions	O037

Event code	Event name	Functional classification	Reference
54015517 hex	Above and Below Setting Out of Range	Robot Control Instructions	O037
54015518 hex	Flip Setting Out of Range	Robot Control Instructions	O037
54015519 hex	Velocity Profile Selection Out of Range	Robot Control Instructions	O037
5401551A hex	Velocity Mode Selection Out of Range	Robot Control Instructions	O037
5401551B hex	Velocity Ratio Setting Out of Range	Robot Control Instructions	O037
5401551C hex	Rotation Velocity Ratio Setting Out of Range	Robot Control Instructions	O037
5401551D hex	Velocity Setting Out of Range	Robot Control Instructions	O037
5401551E hex	Acceleration Ratio Setting Out of Range	Robot Control Instructions	O037
5401551F hex	Deceleration Ratio Setting Out of Range	Robot Control Instructions	O037
54015520 hex	Positioning Accuracy Selection Out of Range	Robot Control Instructions	O037
54015521 hex	Rotation Limit Selection Out of Range	Robot Control Instructions	O037
54015522 hex	Buffer Mode Selection Out of Range	Robot Control Instructions	O037
54015523 hex	Target Position Specification Method Setting Out of Range	Robot Control Instructions	O037
54015533 hex	Robot Control Instruction Exe- cuted while Robot is not Attach- ed	Robot Control Instructions	O037
54015535 hex	Tool Coordination Transform Setting Out of Range	Robot Control Instructions	O037
54015536 hex	Robot Control Instruction Multi- execution Disabled	Robot Control Instructions	O037
5401553C hex	Robot Control Instruction Multi- execution Buffer Limit Exceeded	Robot Control Instructions	O037
5401553D hex	Robot Control Instruction Exe- cuted with Calibration Not Com- pleted	Robot Control Instructions	O037
5401553E hex	Robot Control Instruction Executed while Robot High Power is OFF	Robot Control Instructions	O037
5401553F hex	Robot Already Attached	Robot Control Instructions	O037
54015540 hex	Robot Control Instruction Exe- cuted while Robot is MANUAL Mode or is not COMP Mode	Robot Control Instructions	O037
54015544 hex	Cannot Execute Robot Control Instruction	Robot Control Instructions	O037
54015548 hex	Illegal Program Name Specification	Robot Control Instructions	O037
54015600 hex	Illegal CNC Coordinate System Specification	CNC Instructions	O030
54015601 hex	Deceleration Setting Out of Range	CNC Instructions	O030

Event code	Event name	Functional classification	Reference
54015602 hex	Jerk Setting Out of Range	CNC Instructions	0030
54015603 hex	CNC Instruction Re-execution Disabled	CNC Instructions	O030
54015604 hex	CNC Multi-execution Disabled	CNC Instructions	O030
54015605 hex	Unassigned Logical CNC Motor Number Specified	CNC Instructions	O030
54015606 hex	Logical CNC Motor Number Out of Range	CNC Instructions	O030
54015607 hex	Target Position Setting Out of Range	CNC Instructions	O030
54015608 hex	Impossible CNC Motor Operation Specified when the Servo is OFF	CNC Instructions	O030
54015609 hex	Target Velocity Setting Out of Range	CNC Instructions	O030
5401560A hex	Acceleration/Deceleration Set- ting Out of Range	CNC Instructions	O030
5401560B hex	Travel Mode Selection Out of Range	CNC Instructions	O030
5401560D hex	Parameter Selection Out of Range	CNC Instructions	O030
5401560E hex	CNC Parameter Setting Read/ Write Setting Value Out of Range	CNC Instructions	O030
5401560F hex	CNC Parameter Setting Read/ Write Target Out of Range	CNC Instructions	O030
54015611 hex	Homing Parameter Setting Out of Range	CNC Instructions	O030
54015612 hex	M Code Number Out of Range	CNC Instructions	O030
54015613 hex	CNC Instruction Re-execution Disabled (CNC Coordinate System Specification)	CNC Instructions	O030
54015614 hex	CNC Instruction Re-execution Disabled (Logical CNC Motor Number)	CNC Instructions	O030
5401561D hex	SD Memory Card Access Failure	CNC Instructions	O030
5401561E hex	File Does Not Exist	CNC Instructions	O030
5401561F hex	Illegal Load NC Program Number Specification	CNC Instructions	O030
54015620 hex	Too Many Files Open	CNC Instructions	O030
54015621 hex	File or Directory Name Is Too Long	CNC Instructions	O030
54015622 hex	SD Memory Card Access Failed	CNC Instructions	O030
54015623 hex	Load NC Program Capacity Exceeded	CNC Instructions	O030
54015624 hex	Number of NC Program Exceeded	CNC Instructions	O030
54015625 hex	Illegal CNC Motor Specification	CNC Instructions	O030

Event code	Event name	Functional classification	Reference
54015626 hex	Illegal CNC Motor Compensa- tion Table Specification	CNC Instructions	O030
54015628 hex	Illegal Load NC Program	CNC Instructions	O030
54015700 hex	Homing Parameter Setting Out of Range	Instructions	W503
54015702 hex	Axis Use Change Error	Instructions	W503
54015703 hex	Cannot Change Axis Use	Instructions	W503
54015706 hex	Axes Group Mismatch with Kinematics	Robot Instructions	W539
54015707 hex	Kinematics Type Out of Range	Robot Instructions	W539
54015708 hex	Kinematics Parameter Out of Range	Robot Instructions	W539
54015709 hex	Workspace Type Out of Range	Robot Instructions	W539
5401570A hex	Workspace Parameter Out of Range	Robot Instructions	W539
5401570B hex	Invalid Coordinate System Number	Robot Instructions	W539
5401570C hex	Coordinate Transformation Parameter Out of Range	Robot Instructions	W539
5401570D hex	Transition parameters out of range	Robot Instructions	W539
54015710 hex	Kinematics Transform Not Set	Robot Instructions	W539
54015711 hex	Target Position Out of Range	Robot Instructions	W539
54015712 hex	Velocity Error Detection Value Out of Range	Robot Instructions	W539
54015713 hex	Acceleration Error Detection Val- ue Out of Range	Robot Instructions	W539
54015714 hex	Trajectory Target Time Out of Range	Robot Instructions	W539
54015715 hex	Trajectory Type Out of Range	Robot Instructions	W539
54015716 hex	Trajectory Transition Out of Range	Robot Instructions	W539
54015717 hex	Trajectory Travel Distance Out of Range	Robot Instructions	W539
54015719 hex	Initial Workpiece Position Outside Workspace	Robot Instructions	W539
5401571A hex	Invalid Conveyor Axis Specified	Robot Instructions	W539
5401571B hex	Target Position Outside Workspace	Robot Instructions	W539
5401571C hex	Cannot Cancel Synchronization	Robot Instructions	W539
5401571E hex	Too Many Kinematics	Robot Instructions	W539
5401571F hex	Kinematics Initialization Error	Robot Instructions	W539
54015720 hex	Motion Control Parameter Set- ting Error When Changing Axis Use	Instructions	W503
54015721 hex	Required Process Data Object Not Set When Changing Axis Use	Instructions	W503
54015722 hex	Actual Position Overflow/Under-flow	Instructions	W503

Event code	Event name	Functional classification	Reference
54015723 hex	Switch Structure Track Number Setting Out of Range	Instructions	W503
54015724 hex	Switch Structure First ON Position Setting Out of Range	Instructions	W503
54015725 hex	Switch Structure Last ON Position Setting Out of Range	Instructions	W503
54015726 hex	Switch Structure Axis Direction Out of Range	Instructions	W503
54015727 hex	Switch Structure Cam Switch Mode Out of Range	Instructions	W503
54015728 hex	Switch Structure Duration Set- ting Out of Range	Instructions	W503
54015729 hex	Track Option Structure ON Compensation Setting Out of Range	Instructions	W503
5401572A hex	Track Option Structure OFF Compensation Setting Out of Range	Instructions	W503
5401572B hex	Number of Array Elements in Switch Structure Variable Out of Range	Instructions	W503
5401572C hex	Number of Array Elements in Output Signal Structure Variable Out of Range	Instructions	W503
5401572D hex	Number of Array Elements in Track Option Structure Variable Out of Range	Instructions	W503
5401572E hex	Numbers of Elements in Output Signals and Track Option Arrays Not Matched	Instructions	W503
5401572F hex	Motion Control Instruction Multi- execution Disabled (Master Ax- is)	Instructions	W503
54015730 hex	Motion Control Instruction Multi- execution Disabled (Position Type Selection)	Instructions	W503
54015731 hex	Same Track Number Setting in Switch Structure Out of Range	Instructions	W503
54015732 hex	Invalid Tool Number	Robot Instructions	W539
54015733 hex	Tool Parameter Out of Range	Robot Instructions	W539
54015736 hex	Offset Not Allowed	Robot Instructions	W539
5401573A hex	Cannot Write Axis Parameters	Instructions	W503
5401573B hex	Axis Parameter Setting Out of Range	Instructions	W503
5401573C hex	Cam Property Setting Out of Range	Instructions	W503
5401573D hex	Cam Node Setting Out of Range	Instructions	W503
5401573E hex	Incorrect Cam Node Type Specification	Instructions	W503
5401573F hex	Insufficient Nodes in Cam Table	Instructions	W503
54015740 hex	Cam Node Master Axis Phase Not in Ascending Order	Instructions	W503

Event code	Event name	Functional classification	Reference
54015741 hex	Too Many Data Points in Cam Table	Instructions	W503
54015742 hex	Cam Table Displacement Over-flow	Instructions	W503
54015743 hex	Aborted Cam Table Used	Instructions	W503
54015744 hex	Jog Mode Out of Range	Robot Instructions	W539
54015745 hex	Initial Workpiece Position Out of Range	Robot Instructions	W539
54015746 hex	Maximum Interpolation Velocity Out of Range	Robot Instructions	W539
54015747 hex	Maximum Interpolation Acceleration Out of Range	Robot Instructions	W539
54015748 hex	Maximum Interpolation Deceleration Out of Range	Robot Instructions	W539
54015749 hex	Execution ID Setting Out of Range	Instructions	W503
5401574A hex	Position Offset Out of Range	Instructions	W503
5401574B hex	PDS State Transition Command Selection Out of Range	Instructions	W503
5401574C hex	Single-axis Position Control Axis Motion Control Instruction Exe- cution Disabled	Instructions	W503
54015751 hex	Cam Monitor Mode Selection Out of Range	Instructions	W503
54015752 hex	Data Type of Cam Monitor Values Mismatch	Instructions	W503
54015800 hex	X Bus Unit Does Not Exist	Instructions	W503
54015801 hex	Response Timeout	Instructions	W503
54015C00 hex	Cannot Execute at Specified Unit/Port	Instructions	W503
54015C01 hex	Too Many Simultaneous Instruction Executions	Instructions	W503
54015C03 hex	Target Node IP Address Does Not Exist	Instructions	W503
54015C04 hex	Connection Communications Error	Instructions	W503
54015C05 hex	Connection Setting Error	Instructions	W503
54016440 hex	Target Position Positive Soft- ware Limit Exceeded	Instructions	W503
54016441 hex	Target Position Negative Soft- ware Limit Exceeded	Instructions	W503
54016442 hex	Command Position Overflow/ Underflow	Instructions	W503
54016443 hex	Positive Limit Input	Instructions and Robot Instructions	W503 W539
54016444 hex	Negative Limit Input	Instructions and Robot Instructions	W503 W539
54016701 hex	Current Position Outside Workspace	Robot Instructions	W539

Event code	Event name	Functional classification	Reference
54016783 hex	Target Position Positive Soft- ware Limit Exceeded	CNC Instructions	O030
54016784 hex	Target Position Negative Soft- ware Limit Exceeded	CNC Instructions	O030
54016785 hex	Command Position Overflow/ Underflow	CNC Instructions	O030
54016786 hex	Positive Limit Input	CNC Instructions	O030
54016787 hex	Negative Limit Input	CNC Instructions	O030
54017422 hex	Servo Main Circuits OFF	Instructions	W503
54017784 hex	Servo Main Circuits OFF	CNC Instructions	O030
54200000 hex	Electronic Gear Ratio Numerator Setting Out of Range	Motion Control Instructions	W503
54210000 hex	Electronic Gear Ratio Denominator Setting Out of Range	Motion Control Instructions	W503
54220000 hex	Target Velocity Setting Out of	Motion Control Instructions	W503
	Range	NJ Robotics Function	W539
54230000 hex	Acceleration Setting Out of	Motion Control Instructions	W503
	Range	NJ Robotics Function	W539
54240000 hex	Deceleration Setting Out of	Motion Control Instructions	W503
F.4050000 I	Range	NJ Robotics Function	W539
54250000 hex	Jerk Setting Out of Range	Motion Control Instructions	W503
54270000 hex	Torque Ramp Setting Out of Range	Motion Control Instructions	W503
54280000 hex	Master Coefficient Scaling Out of Range	Motion Control Instructions	W503
54290000 hex	Slave Coefficient Scaling Out of Range	Motion Control Instructions	W503
542A0000 hex	Feeding Velocity Setting Out of Range	Motion Control Instructions	W503
542B0000 hex	Buffer Mode Selection Out of	Motion Control Instructions	W503
	Range	NJ Robotics Function	W539
542C0000 hex	Coordinate System Selection	Motion Control Instructions	W503
	Out of Range	NJ Robotics Function	W539
542D0000 hex	Circular Interpolation Mode Selection Out of Range	Motion Control Instructions	W503
542E0000 hex	Direction Selection Out of	Motion Control Instructions	W503
	Range	NJ Robotics Function	W539
542F0000 hex	Path Selection Out of Range	Motion Control Instructions	W503
54300000 hex	Position Type Selection Out of Range	Motion Control Instructions	W503
54310000 hex	Travel Mode Selection Out of Range	Motion Control Instructions	W503
54320000 hex	Transition Mode Selection Out of Range	Motion Control Instructions NJ Robotics Function	W503 W539
54330000 hex	Continue Method Selection Out of Range	Motion Control Instructions	W503
54340000 hex	Combine Mode Selection Out of Range	Motion Control Instructions	W503
54350000 hex	Synchronization Start Condition Selection Out of Range	Motion Control Instructions	W503

Event code	Event name	Functional classification	Reference
54360000 hex	Master and Slave Defined as Same Axis	Motion Control Instructions	W503
54370000 hex	Master and Auxiliary Defined as Same Axis	Motion Control Instructions	W503
54380000 hex	Master/Slave Axis Numbers Not in Ascending Order	Motion Control Instructions	W503
54390000 hex	Incorrect Cam Table Specification	Motion Control Instructions	W503
543A0000 hex	Synchronization Stopped	Motion Control Instructions	W503
543B0000 hex	Motion Control Instruction Re- execution Disabled	Motion Control Instructions NJ Robotics Function	W503 W539
543C0000 hex	Motion Control Instruction Multi- execution Disabled	Motion Control Instructions NJ Robotics Function	W503 W539
543D0000 hex	Instruction Not Allowed for Encoder Axis Type	Motion Control Instructions	W503
543E0000 hex	Instruction Cannot Be Executed during Multi-axes Coordinated	Motion Control Instructions NJ Robotics Function	W503 W539
	Control		
543F0000 hex	Multi-axes Coordinated Control Instruction Executed for Disa- bled Axes Group	Motion Control Instructions NJ Robotics Function	W503 W539
54400000 hex	Axes Group Cannot Be Enabled	Motion Control Instructions	W503
54410000 hex	Impossible Axis Operation	Motion Control Instructions	W503
orrioded liex	Specified when the Servo is OFF	NJ Robotics Function	W539
54420000 hex	Composition Axis Stopped Error	Motion Control Instructions NJ Robotics Function	W503 W539
54430000 hex	Motion Control Instruction Multi- execution Buffer Limit Exceeded	Motion Control Instructions NJ Robotics Function	W503 W539
54440000 hex	Insufficient Travel Distance	Motion Control Instructions	W503
54450000 hex	Insufficient Travel Distance to Achieve Blending Transit Velocity	Motion Control Instructions	W503
54460000 hex	Move Link Constant Velocity Insufficient Travel Distance	Motion Control Instructions	W503
54470000 hex	Positioning Gear Operation Insufficient Target Velocity	Motion Control Instructions	W503
54480000 hex	Same Start Point and End Point for Circular Interpolation	Motion Control Instructions	W503
54490000 hex	Circular Interpolation Center Specification Position Out of Range	Motion Control Instructions	W503
544A0000 hex	Instruction Execution Error Caused by Count Mode Setting	Motion Control Instructions	W503
544C0000 hex	Parameter Selection Out of Range	Motion Control Instructions	W503
544D0000 hex	Stop Method Selection Out of Range	Motion Control Instructions	W503
544E0000 hex	Latch ID Selection Out of Range for Trigger Input Condition	Motion Control Instructions	W503

Event code	Event name	Functional classification	Reference
544F0000 hex	Setting Out of Range for Writing MC Setting	Motion Control Instructions	W503
54500000 hex	Trigger Input Condition Mode Selection Out of Range	Motion Control Instructions	W503
54510000 hex	Drive Trigger Signal Selection Out of Range for Trigger Input Condition	Motion Control Instructions	W503
54530000 hex	Motion Control Instruction Re- execution Disabled (Axis Speci- fication)	Motion Control Instructions	W503
54540000 hex	Motion Control Instruction Re- execution Disabled (Buffer Mode Selection)	Motion Control Instructions	W503
54550000 hex	Motion Control Instruction Re- execution Disabled (Direction Selection)	Motion Control Instructions	W503
54560000 hex	Motion Control Instruction Re- execution Disabled (Execution Mode)	Motion Control Instructions	W503
54570000 hex	Motion Control Instruction Re-	Motion Control Instructions NJ Robotics Function	W503
	execution Disabled (Axes Group Specification)	NJ RODOLICS FUNCTION	W539
54580000 hex	Motion Control Instruction Re- execution Disabled (Jerk Set- ting)	Motion Control Instructions	W503
54590000 hex	Motion Control Instruction Re- execution Disabled (Master Ax- is)	Motion Control Instructions	W503
545A0000 hex	Motion Control Instruction Re- execution Disabled (MasterOff- set)	Motion Control Instructions	W503
545B0000 hex	Motion Control Instruction Re- execution Disabled (MasterScal- ing)	Motion Control Instructions	W503
545C0000 hex	Motion Control Instruction Re- execution Disabled (Master- StartDistance)	Motion Control Instructions	W503
545D0000 hex	Motion Control Instruction Re- execution Disabled (Continuous)	Motion Control Instructions	W503
545E0000 hex	Motion Control Instruction Re- execution Disabled (MoveMode)	Motion Control Instructions	W503
545F0000 hex	Illegal Auxiliary Axis Specification	Motion Control Instructions	W503
54600000 hex	Illegal Axis Specification	Motion Control Instructions	W503
54610000 hex	Illegal Axes Group Specification	Motion Control Instructions NJ Robotics Function	W503 W539
54620000 hex	Illegal Master Axis Specification	Motion Control Instructions	W503
54630000 hex	Motion Control Instruction Re- execution Disabled (SlaveOffset)	Motion Control Instructions	W503

Event code	Event name	Functional classification	Reference
54640000 hex	Motion Control Instruction Re- execution Disabled (SlaveScal- ing)	Motion Control Instructions	W503
54650000 hex	Motion Control Instruction Re- execution Disabled (StartPosi- tion)	Motion Control Instructions	W503
54660000 hex	Instruction Execution Error with Undefined Home	Motion Control Instructions NJ Robotics Function	W503 W539
54670000 hex	Motion Control Instruction Re- execution Disabled (Position Type)	Motion Control Instructions	W503
54680000 hex	Unused Axis Specification for Master Axis	Motion Control Instructions	W503
54690000 hex	First Position Setting Out of Range	Motion Control Instructions	W503
546A0000 hex	Last Position Setting Out of Range	Motion Control Instructions	W503
546B0000 hex	Illegal First/Last Position Size Relationship (Linear Mode)	Motion Control Instructions	W503
546C0000 hex	Master Sync Start Position Set- ting Out of Range	Motion Control Instructions	W503
546D0000 hex	Slave Sync Start Position Set- ting Out of Range	Motion Control Instructions	W503
546E0000 hex	Duplicate Latch ID for Trigger Input Condition	Motion Control Instructions	W503
546F0000 hex	Jerk Override Factor Out of Range	Motion Control Instructions	W503
54700000 hex	Acceleration/Deceleration Over- ride Factor Out of Range	Motion Control Instructions	W503
54710000 hex	First Position Method Specification Out of Range	Motion Control Instructions	W503
54720000 hex	Motion Control Instruction Re- execution Disabled (First Posi- tion Method)	Motion Control Instructions	W503
54740000 hex	Unused Axis Specification for Auxiliary Axis	Motion Control Instructions	W503
54750000 hex	Position Gear Value Error	Motion Control Instructions	W503
54760000 hex	Position Gear Master Axis Zero Velocity	Motion Control Instructions	W503
54770000 hex	Cam Table Data Error during Cam Motion	General Motion Control	W503
54780000 hex	Target Position Setting Out of Range	Motion Control Instructions NJ Robotics Function	W503 W539
54790000 hex	Travel Distance Out of Range	Motion Control Instructions	W503
547A0000 hex	Cam Table Start Point Setting Out of Range	Motion Control Instructions	W503
547B0000 hex	Cam Master Axis Following First Position Setting Out of Range	Motion Control Instructions	W503
547C0000 hex	Circular Interpolation Radius Setting Error	Motion Control Instructions	W503

Event code	Event name	Functional classification	Reference
547D0000 hex	Circular Interpolation Radius Overflow	Motion Control Instructions	W503
547E0000 hex	Circular Interpolation Setting Out of Range	Motion Control Instructions	W503
547F0000 hex	Auxiliary/Slave Axis Numbers Not in Ascending Order	Motion Control Instructions	W503
54800000 hex	Cam Table Property Ascending Data Error at Update	Motion Control Instructions	W503
54810000 hex	MC_Write Target Out of Range	Motion Control Instructions	W503
54820000 hex	Master Travel Distance Specification Out of Range	Motion Control Instructions	W503
54830000 hex	Master Distance in Acceleration Specification Out of Range	Motion Control Instructions	W503
54840000 hex	Master Distance in Deceleration Specification Out of Range	Motion Control Instructions	W503
54850000 hex	Immediate Stop Instruction Executed	General Motion Control	W503
54860000 hex	Axes Group Immediate Stop Instruction Executed	General Motion Control	W503
54870000 hex	Execution Mode Selection Out of Range	Motion Control Instructions	W503
54880000 hex	Permitted Following Error Out of Range	Motion Control Instructions	W503
54890000 hex	Border Point/Center Position/ Radius Specification Out of Range	Motion Control Instructions	W503
548A0000 hex	End Point Specification Out of Range	Motion Control Instructions	W503
548B0000 hex	Slave Travel Distance Specification Out of Range	Motion Control Instructions	W503
548C0000 hex	Phase Shift Amount Out of Range	Motion Control Instructions	W503
548D0000 hex	Feeding Distance Out of Range	Motion Control Instructions	W503
548E0000 hex	Auxiliary and Slave Defined as Same Axis	Motion Control Instructions	W503
548F0000 hex	Relative Position Selection Out of Range	Motion Control Instructions	W503
54900000 hex	Cam Transition Specification Out of Range	Motion Control Instructions	W503
54910000 hex	Synchronized Control End Mode Selection Out of Range	Motion Control Instructions	W503
54920000 hex	Enable External Latch Instruction Execution Disabled	Motion Control Instructions	W503
54930000 hex	Master Axis Offset Out of Range	Motion Control Instructions	W503
54940000 hex	Slave Axis Offset Out of Range	Motion Control Instructions	W503
54950000 hex	Command Current Position Count Selection Out of Range	Motion Control Instructions	W503
54960000 hex	Master Axis Gear Ratio Numerator Out of Range	Motion Control Instructions	W503

Event code	Event name	Functional classification	Reference
54970000 hex	Master Axis Gear Ratio Denominator Out of Range	Motion Control Instructions	W503
54980000 hex	Auxiliary Axis Gear Ratio Nu- merator Out of Range	Motion Control Instructions	W503
54990000 hex	Auxiliary Axis Gear Ratio De- nominator Out of Range	Motion Control Instructions	W503
549A0000 hex	Master Axis Position Type Selection Out of Range	Motion Control Instructions	W503
549B0000 hex	Auxiliary Axis Position Type Selection Out of Range	Motion Control Instructions	W503
549C0000 hex	Target Position Ring Counter Out of Range	Motion Control Instructions	W503
549D0000 hex	Axes Group Composition Axis Setting Out of Range	Motion Control Instructions	W503
549E0000 hex	Axis Use Setting Out of Range	Motion Control Instructions	W503
54A00000 hex	Results Information, ID Tag Address Error	CJ-series ID Sensor Units	Z317
54A10000 hex	Results Information, Write Protection Error	CJ-series ID Sensor Units	Z317
54A20000 hex	Results Information, Command Error	CJ-series ID Sensor Units	Z317
54A80000 hex	Command Error	CJ-series Serial Communications Units	W494
54A90000 hex	Sequence Abort Completed	CJ-series Serial Communications Units	W494
54AA0000 hex	Protocol Macro Error	CJ-series Serial Communications Units	W494
54AE0000 hex	Multiple Switches ON Error	CJ-series EtherNet/IP Units	W495
54AF0000 hex	Access Detected Outside Range of Variable	CJ-series EtherNet/IP Units	W495
54E00000 hex	Access Detected Outside Range of Variable	EtherNet/IP	W503
55000000 hex	Division by Zero	NX-series Safety Control Unit	Z930
55010000 hex	Cast Error	NX-series Safety Control Unit	Z930
55020000 hex	MUX Error	NX-series Safety Control Unit	Z930
55100000 hex	Robot Control Instruction Re-ex- ecution Disabled	General Robot Control	O037
55110000 hex	V+ Task Number Setting Out of Range	General Robot Control	O037
55120000 hex	Illegal Robot Specification	General Robot Control	O037
55130000 hex	Illegal Parameter List Specification	General Robot Control	O037
55140000 hex	Starting Step Setting Out of Range	General Robot Control	O037
55150000 hex	Target Position Setting Out of Range	General Robot Control	O037
55160000 hex	Lefty and Righty Setting Out of Range	General Robot Control	O037
55170000 hex	Above and Below Setting Out of Range	General Robot Control	O037

Event code	Event name	Functional classification	Reference
55180000 hex	Flip Setting Out of Range	General Robot Control	O037
55190000 hex	Velocity Profile Selection Out of Range	General Robot Control	O037
551A0000 hex	Velocity Mode Selection Out of Range	General Robot Control	O037
551B0000 hex	Velocity Ratio Setting Out of Range	General Robot Control	O037
551C0000 hex	Rotation Velocity Ratio Setting Out of Range	General Robot Control	O037
551D0000 hex	Velocity Setting Out of Range	General Robot Control	O037
551E0000 hex	Acceleration Ratio Setting Out of Range	General Robot Control	O037
551F0000 hex	Deceleration Ratio Setting Out of Range	General Robot Control	O037
55200000 hex	Positioning Accuracy Selection Out of Range	General Robot Control	O037
55210000 hex	Rotation Limit Selection Out of Range	General Robot Control	O037
55220000 hex	Buffer Mode Selection Out of Range	General Robot Control	O037
55230000 hex	Target Position Specification Method Setting Out of Range	General Robot Control	O037
55330000 hex	Robot Control Instruction Exe- cuted while Robot is not Attach- ed	General Robot Control	O037
55350000 hex	Tool Coordination Transform Setting Out of Range	General Robot Control	O037
55360000 hex	Robot Control Instruction Multi- execution Disabled	General Robot Control	O037
553C0000 hex	Robot Control Instruction Multi- execution Buffer Limit Exceeded	General Robot Control	O037
553D0000 hex	Robot Control Instruction Exe- cuted with Calibration Not Com- pleted	General Robot Control	O037
553E0000 hex	Robot Control Instruction Executed while Robot High Power is OFF	General Robot Control	O037
553F0000 hex	Robot Already Attached	General Robot Control	O037
55400000 hex	Robot Control Instruction Exe- cuted while Robot is MANUAL Mode or is not COMP Mode	General Robot Control	O037
55440000 hex	Cannot Execute Robot Control Instruction	General Robot Control	O037
55480000 hex	Illegal Program Name Specification	General Robot Control	O037
56000000 hex	Illegal CNC Coordinate System Specification	CNC Function	O030
56010000 hex	Deceleration Setting Out of Range	CNC Function	O030
56020000 hex	Jerk Setting Out of Range	CNC Function	O030

Event code	Event name	Functional classification	Reference
56030000 hex	CNC Instruction Re-execution Disabled	CNC Function	O030
56040000 hex	CNC Multi-execution Disabled	CNC Function	O030
56050000 hex	Unassigned Logical CNC Motor Number Specified	CNC Function	O030
56060000 hex	Logical CNC Motor Number Out of Range	CNC Function	O030
56070000 hex	Target Position Setting Out of Range	CNC Function	O030
56080000 hex	Impossible CNC Motor Operation Specified when the Servo is OFF	CNC Function	O030
56090000 hex	Target Velocity Setting Out of Range	CNC Function	O030
560A0000 hex	Acceleration/Deceleration Set-ting Out of Range	CNC Function	O030
560B0000 hex	Travel Mode Selection Out of Range	CNC Function	O030
560C0000 hex	Immediate Stop Instruction Executed	CNC Function	O030
560D0000 hex	Parameter Selection Out of Range	CNC Function	O030
560E0000 hex	CNC Parameter Setting Read/ Write Setting Value Out of Range	CNC Function	O030
560F0000 hex	CNC Parameter Setting Read/ Write Target Out of Range	CNC Function	O030
56100000 hex	Cycle Start Error with Undefined Home	CNC Function	O030
56110000 hex	Homing Parameter Setting Out of Range	CNC Function	O030
56120000 hex	M Code Number Out of Range	CNC Function	O030
56130000 hex	CNC Instruction Re-execution Disabled (CNC Coordinate System Specification)	CNC Function	O030
56140000 hex	CNC Instruction Re-execution Disabled (Logical CNC Motor Number)	CNC Function	O030
56150000 hex	Illegal NC Program	CNC Function	O030
56160000 hex	Cycle Start Multi-execution Disabled	CNC Function	O030
56170000 hex	Impossible CNC Motor Cycle Start Specified when the Servo is OFF	CNC Function	O030
56180000 hex	Illegal NC Program Number Specification	CNC Function	O030
56190000 hex	Illegal Back Trace Specification	CNC Function	O030
561D0000 hex	SD Memory Card Access Failure	CNC Function	O030
561E0000 hex	File Does Not Exist	CNC Function	O030

Event code	Event name	Functional classification	Reference
561F0000 hex	Illegal Load NC Program Num-	CNC Function	O030
56200000 hex	ber Specification Too Many Files Open	CNC Function	O030
56210000 hex	File or Directory Name Is Too	CNC Function	O030
562 10000 flex	Long	CINC FUNCTION	0030
56220000 hex	SD Memory Card Access Failed	CNC Function	O030
56230000 hex	Load NC Program Capacity Exceeded	CNC Function	O030
56240000 hex	Number of NC Program Exceeded	CNC Function	O030
56250000 hex	Illegal CNC Motor Specification	CNC Function	O030
56260000 hex	Illegal CNC Motor Compensation Table Specification	CNC Function	O030
56280000 hex	Illegal Load NC Program	CNC Function	O030
56290000 hex	NC Program Capacity Exceeded	CNC Function	O030
57000000 hex	Homing Parameter Setting Out of Range	Motion Control Instructions	W503
57020000 hex	Axis Use Change Error	Motion Control Instructions	W503
57030000 hex	Cannot Change Axis Use	Motion Control Instructions	W503
57050000 hex	Kinematics Unsupported Instruc-	NJ Robotics Function	W539
57060000 hex	Axes Group Mismatch with Kinematics	NJ Robotics Function	W539
57070000 hex	Kinematics Type Out of Range	NJ Robotics Function	W539
57080000 hex	Kinematics Parameter Out of Range	NJ Robotics Function	W539
57090000 hex	Workspace Type Out of Range	NJ Robotics Function	W539
570A0000 hex	Workspace Parameter Out of Range	NJ Robotics Function	W539
570B0000 hex	Invalid Coordinate System Number	NJ Robotics Function	W539
570C0000 hex	Coordinate Transformation Parameter Out of Range	NJ Robotics Function	W539
570D0000 hex	Transition parameters out of range	NJ Robotics Function	W539
570F0000 hex	Cannot Calculate Kinematics	NJ Robotics Function	W539
57100000 hex	Kinematics Transform Not Set	NJ Robotics Function	W539
57110000 hex	Target Position Out of Range	NJ Robotics Function	W539
57120000 hex	Velocity Error Detection Value Out of Range	NJ Robotics Function	W539
57130000 hex	Acceleration Error Detection Val- ue Out of Range	NJ Robotics Function	W539
57140000 hex	Trajectory Target Time Out of Range	NJ Robotics Function	W539
57150000 hex	Trajectory Type Out of Range	NJ Robotics Function	W539
57160000 hex	Trajectory Transition Out of Range	NJ Robotics Function	W539
57170000 hex	Trajectory Travel Distance Out of Range	NJ Robotics Function	W539

Event code	Event name	Functional classification	Reference
57190000 hex	Initial Workpiece Position Outside Workspace	NJ Robotics Function	W539
571A0000 hex	Invalid Conveyor Axis Specified	NJ Robotics Function	W539
571B0000 hex	Target Position Outside Workspace	NJ Robotics Function	W539
571C0000 hex	Cannot Cancel Synchronization	NJ Robotics Function	W539
571D0000 hex	Too Many Reset Motion Control Error Instructions	General Motion Control	W503
571E0000 hex	Too Many Kinematics	NJ Robotics Function	W539
571F0000 hex	Kinematics Initialization Error	NJ Robotics Function	W539
57200000 hex	Motion Control Parameter Setting Error When Changing Axis Use	Motion Control Instructions	W503
57210000 hex	Required Process Data Object Not Set When Changing Axis Use	Motion Control Instructions	W503
57220000 hex	Actual Position Overflow/Under-flow	Motion Control Instructions	W503
57230000 hex	Switch Structure Track Number Setting Out of Range	Motion Control Instructions	W503
57240000 hex	Switch Structure First ON Position Setting Out of Range	Motion Control Instructions	W503
57250000 hex	Switch Structure Last ON Position Setting Out of Range	Motion Control Instructions	W503
57260000 hex	Switch Structure Axis Direction Out of Range	Motion Control Instructions	W503
57270000 hex	Switch Structure Cam Switch Mode Out of Range	Motion Control Instructions	W503
57280000 hex	Switch Structure Duration Set- ting Out of Range	Motion Control Instructions	W503
57290000 hex	Track Option Structure ON Compensation Setting Out of Range	Motion Control Instructions	W503
572A0000 hex	Track Option Structure OFF Compensation Setting Out of Range	Motion Control Instructions	W503
572B0000 hex	Number of Array Elements in Switch Structure Variable Out of Range	Motion Control Instructions	W503
572C0000 hex	Number of Array Elements in Output Signal Structure Variable Out of Range	Motion Control Instructions	W503
572D0000 hex	Number of Array Elements in Track Option Structure Variable Out of Range	Motion Control Instructions	W503
572E0000 hex	Numbers of Elements in Output Signals and Track Option Arrays Not Matched	Motion Control Instructions	W503
572F0000 hex	Motion Control Instruction Multi- execution Disabled (Master Ax- is)	Motion Control Instructions	W503

Event code	Event name	Functional classification	Reference
57300000 hex	Motion Control Instruction Multi-	Motion Control Instructions	W503
	execution Disabled (Position Type Selection)		
57310000 hex	Same Track Number Setting in Switch Structure Out of Range	Motion Control Instructions	W503
57320000 hex	Invalid Tool Number	NJ Robotics Function	W539
57330000 hex	Tool Parameter Out of Range	NJ Robotics Function	W539
57340000 hex	Unsupported Transition Data	NJ Robotics Function	W539
57360000 hex	Offset Not Allowed	NJ Robotics Function	W539
57370000 hex	Motion Control Instruction Multi- execution Disabled (Trajectory Type)	NJ Robotics Function	W539
57390000 hex	Unsupported Transition Mode	NJ Robotics Function	W539
573A0000 hex	Cannot Write Axis Parameters	Motion Control Instructions	W503
573B0000 hex	Axis Parameter Setting Out of Range	Motion Control Instructions	W503
573C0000 hex	Cam Property Setting Out of Range	Motion Control Instructions	W503
573D0000 hex	Cam Node Setting Out of Range	Motion Control Instructions	W503
573E0000 hex	Incorrect Cam Node Type Speci- fication	Motion Control Instructions	W503
573F0000 hex	Insufficient Nodes in Cam Table	Motion Control Instructions	W503
57400000 hex	Cam Node Master Axis Phase Not in Ascending Order	Motion Control Instructions	W503
57410000 hex	Too Many Data Points in Cam Table	Motion Control Instructions	W503
57420000 hex	Cam Table Displacement Over-flow	Motion Control Instructions	W503
57430000 hex	Aborted Cam Table Used	Motion Control Instructions	W503
57440000 hex	Jog Mode Out of Range	NJ Robotics Function	W539
57450000 hex	Initial Workpiece Position Out of Range	NJ Robotics Function	W539
57460000 hex	Maximum Interpolation Velocity Out of Range	NJ Robotics Function	W539
57470000 hex	Maximum Interpolation Acceleration Out of Range	NJ Robotics Function	W539
57480000 hex	Maximum Interpolation Deceleration Out of Range	NJ Robotics Function	W539
57490000 hex	Execution ID Setting Out of Range	Motion Control Instructions	W503
574A0000 hex	Position Offset Out of Range	Motion Control Instructions	W503
574B0000 hex	PDS State Transition Command Selection Out of Range	Motion Control Instructions	W503
574C0000 hex	Single-axis Position Control Axis Motion Control Instruction Exe- cution Disabled	Motion Control Instructions	W503
57510000 hex	Cam Monitor Mode Selection Out of Range	Motion Control Instructions	W503
57520000 hex	Data Type of Cam Monitor Values Mismatch	Motion Control Instructions	W503

Event code	Event name	Functional classification	Reference
58210000 hex	Output Control Timeout for Par-	FH/FZ5 Series Vision System	Z342
	allel I/O, PLC Link, or EtherNet/	,	
	IP		
58220000 hex	Output Control Timeout for EtherCAT	FH/FZ5 Series Vision System	Z342
58230000 hex	Initial scene group error	FH/FZ5 Series Vision System	Z342
58240000 hex	Initial scene number error	FH/FZ5 Series Vision System	Z342
60010000 hex	Task Period Exceeded	Errors Related to Tasks	W503
60020000 hex	Task Execution Timeout	Errors Related to Tasks	W503
60030000 hex	I/O Refreshing Timeout Error	Errors Related to Tasks	W503
60040000 hex	Insufficient System Service Time Error	Errors Related to Tasks	W503
60050000 hex	Task Period Exceeded	Errors Related to Tasks	W503
64010000 hex	Impossible to Access Special Unit	Errors Related to CJ-series Unit Configuration	W503
64040000 hex	Upper Limit of Sampling Processing Capacity	Errors Related to Controller Operation	W503
64050000 hex	Capacity Warning of Variable Log Save Destination	Errors Related to Controller Operation	W503
64060000 hex	No Variable Log Concurrency	Errors Related to Controller Operation	W503
64070000 hex	Cycle with No Variable Sampling	Errors Related to Controller Operation	W503
64200000 hex	Emergency Message Detected	EtherCAT Master	W503
64400000 hex	Target Position Positive Soft- ware Limit Exceeded	Motion Control Instructions	W503
64410000 hex	Target Position Negative Soft- ware Limit Exceeded	Motion Control Instructions	W503
64420000 hex	Command Position Overflow/ Underflow	Motion Control Instructions	W503
64430000 hex	Positive Limit Input	Motion Control Instructions	W503
		NJ Robotics Function	W539
64440000 hex	Negative Limit Input	Motion Control Instructions	W503
		NJ Robotics Function	W539
64450000 hex	Positive Software Limit Exceeded	General Motion Control	W503
64460000 hex	Negative Software Limit Exceeded	General Motion Control	W503
64470000 hex	In-position Check Time Exceeded	General Motion Control	W503
64480000 hex	Following Error Limit Exceeded	General Motion Control	W503
64490000 hex	Immediate Stop Input	General Motion Control	W503
644A0000 hex	Positive Limit Input Detected	General Motion Control	W503
644B0000 hex	Negative Limit Input Detected	General Motion Control	W503
644C0000 hex	Following Error Warning	General Motion Control	W503
644D0000 hex	Velocity Warning	General Motion Control	W503
644E0000 hex	Acceleration Warning	General Motion Control	W503
644F0000 hex	Deceleration Warning	General Motion Control	W503
64500000 hex	Positive Torque Warning	General Motion Control	W503

Event code	Event name	Functional classification	Reference
64510000 hex	Negative Torque Warning	General Motion Control	W503
64520000 hex	Command Position Overflow	General Motion Control	W503
64530000 hex	Command Position Underflow	General Motion Control	W503
64540000 hex	Actual Position Overflow	General Motion Control	W503
64550000 hex	Actual Position Underflow	General Motion Control	W503
64560000 hex	Illegal Following Error	General Motion Control	W503
64570000 hex	Servo OFF Error	General Motion Control	W503
64580000 hex	Absolute Encoder Current Position Calculation Failed	General Motion Control	W503
64590000 hex	Home Undefined during Coordinated Motion	General Motion Control NJ Robotics Function	W503 W539
645A0000 hex	Maximum Interpolation Velocity Error	NJ Robotics Function	W539
645B0000 hex	Maximum Interpolation Acceleration Error	NJ Robotics Function	W539
645C0000 hex	Maximum Interpolation Deceleration Error	NJ Robotics Function	W539
64780000 hex	Input Disconnection Detected	CJ-series Analog I/O Units	W490
64790000 hex	Output Set Value Error	CJ-series Analog I/O Units	W490
647A0000 hex	Input Error	CJ-series Process I/O Units	W498
647D0000 hex	Zero/Span Adjustment Period End	CJ-series Process I/O Units	W498
647E0000 hex	Zero/Span Adjustment Period Notice	CJ-series Process I/O Units	W498
64840000 hex	Sensor Error	CJ-series Temperature Control Units	W491
64850000 hex	CT Overflow	CJ-series Temperature Control Units	W491
64860000 hex	Heater Burnout Alarm	CJ-series Temperature Control Units	W491
648C0000 hex	Unit Status, Command Error End	CJ-series ID Sensor Units	Z317
648D0000 hex	Results Information, Verification Error	CJ-series ID Sensor Units	Z317
648E0000 hex	Results Information, ID Tag Communications Error	CJ-series ID Sensor Units	Z317
648F0000 hex	Results Information, ID Tag Missing Error	CJ-series ID Sensor Units	Z317
64900000 hex	Results Information, ID System Error 1	CJ-series ID Sensor Units	Z317
64910000 hex	Results Information, ID System Error 2	CJ-series ID Sensor Units	Z317
64920000 hex	Results Information, ID System Error 3	CJ-series ID Sensor Units	Z317
64930000 hex	Results Information, ID Tag Status	CJ-series ID Sensor Units	Z317
64940000 hex	Results Information, Error Correction	CJ-series ID Sensor Units	Z317
64980000 hex	Representative Warning	CJ-series CompoNet Master Unit	W493

Event code	Event name	Functional classification	Reference
64990000 hex	Representative Alarm	CJ-series CompoNet Master	W493
		Unit	
64A00000 hex	Tfs (Send Finished Monitoring	CJ-series Serial Communica-	W494
	Time) Exceeded	tions Units	
64A10000 hex	Tfr (Receive Finished Monitoring	CJ-series Serial Communica-	W494
	Time) Exceeded	tions Units	
64A20000 hex	Tr (Receive Wait Monitoring	CJ-series Serial Communica-	W494
	Time) Exceeded	tions Units	
64A30000 hex	FCS Check Error	CJ-series Serial Communications Units	W494
64A40000 hex	Timeout Error	CJ-series Serial Communications Units	W494
64A50000 hex	Comparison Error	CJ-series Serial Communications Units	W494
64A60000 hex	Reception Overflow	CJ-series Serial Communications Units	W494
64A70000 hex	Command Format Error	CJ-series Serial Communications Units	W494
64AC0000 hex	Send Timeout Error	CJ-series DeviceNet Units	W497
64CC0000 hex	I/O Disconnection Detected	GX-series EtherCAT Slave Units	W488
64E00000 hex	Drive Prohibition Input Error 1	Servo G5 and G5 Linear	1576
			1577
64E10000 hex	Drive Prohibition Input Error 2	Servo G5 and G5 Linear	1576 1577
64E20000 hex	Immediate Stop Input Error	Servo G5 and G5 Linear	1576 1577
64E30000 hex	Drive Prohibition Input Error	Servo 1S	1586
			I621
64F00000 hex	Unit Over Range for Channel 1	NX-series Analog I/O Units	W522
64F10000 hex	Unit Over Range for Channel 2	NX-series Analog I/O Units	W522
64F20000 hex	Unit Over Range for Channel 3	NX-series Analog I/O Units	W522
64F30000 hex	Unit Over Range for Channel 4	NX-series Analog I/O Units	W522
64F40000 hex	Unit Over Range for Channel 5	NX-series Analog I/O Units	W522
64F50000 hex	Unit Over Range for Channel 6	NX-series Analog I/O Units	W522
64F60000 hex	Unit Over Range for Channel 7	NX-series Analog I/O Units	W522
64F70000 hex	Unit Over Range for Channel 8	NX-series Analog I/O Units	W522
64F80000 hex	Unit Under Range for Channel 1	NX-series Analog I/O Units	W522
64F90000 hex	Unit Under Range for Channel 2	NX-series Analog I/O Units	W522
64FA0000 hex	Unit Under Range for Channel 3	NX-series Analog I/O Units	W522
64FB0000 hex	Unit Under Range for Channel 4	NX-series Analog I/O Units	W522
64FC0000 hex	Unit Under Range for Channel 5	NX-series Analog I/O Units	W522
64FD0000 hex	Unit Under Range for Channel 6	NX-series Analog I/O Units	W522
64FE0000 hex	Unit Under Range for Channel 7	NX-series Analog I/O Units	W522
64FF0000 hex	Unit Under Range for Channel 8	NX-series Analog I/O Units	W522
65030000 hex	Unit I/O Disconnection Detected for Channel 1	NX-series Analog I/O Units	W522
65040000 hex	Unit I/O Disconnection Detected for Channel 2	NX-series Analog I/O Units	W522

Event code	Event name	Functional classification	Reference
65050000 hex	Unit I/O Disconnection Detected for Channel 3	NX-series Analog I/O Units	W522
65060000 hex	Unit I/O Disconnection Detected for Channel 4	NX-series Analog I/O Units	W522
65070000 hex	Unit I/O Disconnection Detected for Channel 5	NX-series Analog I/O Units	W522
65080000 hex	Unit I/O Disconnection Detected for Channel 6	NX-series Analog I/O Units	W522
65090000 hex	Unit I/O Disconnection Detected for Channel 7	NX-series Analog I/O Units	W522
650A0000 hex	Unit I/O Disconnection Detected for Channel 8	NX-series Analog I/O Units	W522
65100000 hex	Sensor Disconnected Error	NX-series Analog I/O Units and NX-series Temperature Control Units	W566 H228
65110000 hex	Process Value Over Range	NX-series Analog I/O Units	W566
65120000 hex	Process Value Under Range	NX-series Analog I/O Units	W566
65130000 hex	Sensor Disconnected Error	NX-series Load Cell Input Units	W565
65140000 hex	Over Range	NX-series Load Cell Input Units	W565
65150000 hex	Under Range	NX-series Load Cell Input Units	W565
65200000 hex	I/O Power Supply Voltage Error	NX-series Safety Control Unit	Z930
65210000 hex	Output Power Interrupt Circuit Error	NX-series Safety Control Unit	Z930
65220000 hex	External Test Signal Failure at Safety Input	NX-series Safety Control Unit	Z930
65230000 hex	Discrepancy Error at Safety Input	NX-series Safety Control Unit	Z930
65240000 hex	Overload Detected at Test Output	NX-series Safety Control Unit	Z930
65250000 hex	Stuck-at-high Detected at Test Output	NX-series Safety Control Unit	Z930
65270000 hex	Short Circuit Detected at Safety Output	NX-series Safety Control Unit	Z930
65280000 hex	Stuck-at-high Detected at Safety Output	NX-series Safety Control Unit	Z930
652C0000 hex	Heater Burnout Detected	NX-series Analog I/O Units and NX-series Temperature Control Units	W566 H228
652D0000 hex	SSR Failure Detected	NX-series Analog I/O Units and NX-series Temperature Control Units	W566 H228
652E0000 hex	Alarm Detected	NX-series Temperature Control Units	H228
65900000 hex	I/O Refreshing Timeout Error	X Bus Unit	W503
66000000 hex	Send Transaction Queue Over- run	GEM Services	W528
66010000 hex	Reception Transaction Queue Overrun	GEM Services	W528
66020000 hex	Too Long SECS Message	GEM Services	W528

Event code	Event name	Functional classification	Reference
67000000 hex	Command Position Outside Workspace	NJ Robotics Function	W539
67010000 hex	Current Position Outside Workspace	NJ Robotics Function	W539
67020000 hex	Workpiece Synchronization Excessive Following Error	NJ Robotics Function	W539
67030000 hex	Velocity Error Detection	NJ Robotics Function	W539
67040000 hex	Acceleration Error Detection	NJ Robotics Function	W539
67050000 hex	Command Current Velocity Limit Exceeded	NJ Robotics Function	W539
67800000 hex	Immediate Stop Input	CNC Function	O030
67810000 hex	Positive Limit Input Detected	CNC Function	O030
67820000 hex	Negative Limit Input Detected	CNC Function	O030
67830000 hex	Target Position Positive Soft- ware Limit Exceeded	CNC Function	O030
67840000 hex	Target Position Negative Soft- ware Limit Exceeded	CNC Function	O030
67850000 hex	Command Position Overflow/ Underflow	CNC Function	O030
67860000 hex	Positive Limit Input	CNC Function	O030
67870000 hex	Negative Limit Input	CNC Function	O030
67880000 hex	Positive Software Limit Exceeded	CNC Function	O030
67890000 hex	Negative Software Limit Exceeded	CNC Function	O030
678A0000 hex	In-position Check Time Exceeded	CNC Function	O030
678B0000 hex	Following Error Limit Exceeded	CNC Function	O030
678C0000 hex	Following Error Warning	CNC Function	O030
678D0000 hex	Command Position Overflow	CNC Function	O030
678E0000 hex	Command Position Underflow	CNC Function	O030
678F0000 hex	Actual Position Overflow	CNC Function	O030
67900000 hex	Actual Position Underflow	CNC Function	O030
67910000 hex	Illegal Following Error	CNC Function	O030
67920000 hex	Absolute Encoder Current Position Calculation Failed	CNC Function	O030
67930000 hex	Home Undefined during Coordinated Motion	CNC Function	O030
67940000 hex	Cycle Start Specified during Positive Software Limit Exceeded	CNC Function	O030
67950000 hex	Cycle Start Specified during Negative Software Limit Exceeded	CNC Function	O030
67960000 hex	Cycle Start Specified during Command Position Overflow (Underflow)	CNC Function	O030
67970000 hex	Cycle Start Specified during Positive Limit Input	CNC Function	O030

Event code	Event name	Functional classification	Reference
67980000 hex	Cycle Start Specified during Negative Limit Input	CNC Function	O030
67990000 hex	NC Program Execution Error	CNC Function	O030
68010000 hex	Unit Error	CJ-series High-speed Counter Units	W492
68200000 hex	Drive Prohibition Detected	Servo 1S	I586 I621
68210000 hex	Control Right Release Error	Servo 1S	I586 I621
68220000 hex	Error stop input	Servo 1S	I586 I621
68230000 hex	Software Limit Exceeded	Servo 1S	I586 I621
68370000 hex	SOPT Input Monitoring Error	Servo 1S	1621
68380000 hex	Safety Function Error	Servo 1S	1621
68390000 hex	Discrepancy Error at SF Input	Servo 1S	l621
683A0000 hex	SBC Relay Diagnosis Error	Servo 1S	l621
683B0000 hex	External Test Signal Failure at SOPT Input	Servo 1S	l621
683C0000 hex	Overload Detected at Test Output	Servo 1S	l621
683D0000 hex	Stuck-at-high Detected at Test Output	Servo 1S	1621
683E0000 hex	Overload Detected at SBC Output	Servo 1S	1621
683F0000 hex	Stuck-at-high Detected at SBC Output	Servo 1S	l621
68400000 hex	IOV Power Supply Voltage Error	Servo 1S	l621
68410000 hex	SBC Power Supply Voltage Error	Servo 1S	l621
68420000 hex	Monitoring Limit Exceedance Error	Servo 1S	l621
70010000 hex	Previous Time Specified	NX-series Digital I/O Units	W521
74200000 hex	Motion Control Period Exceeded	General Motion Control	W503
74210000 hex	Servo Main Circuit Power OFF	General Motion Control	W503
74220000 hex	Servo Main Circuits OFF	Motion Control Instructions	W503
74230000 hex	Interrupt Feeding Interrupt Sig- nal Missing	General Motion Control	W503
74240000 hex	Homing Opposite Direction Limit Input Detected	General Motion Control	W503
74250000 hex	Homing Direction Limit Input Detected	General Motion Control	W503
74260000 hex	Homing Limit Inputs Detected in Both Directions	General Motion Control	W503
74270000 hex	Home Proximity/Homing Opposite Direction Limit Input Detected	General Motion Control	W503
74280000 hex	Home Proximity/Homing Direction Limit Input Detected	General Motion Control	W503

Event code	Event name	Functional classification	Reference
74290000 hex	Home Input/Homing Opposite Direction Limit Input Detected	General Motion Control	W503
742A0000 hex	Home Input/Homing Direction Limit Input Detected	General Motion Control	W503
742B0000 hex	Invalid Home Input Mask Distance	General Motion Control	W503
742C0000 hex	No Home Input	General Motion Control	W503
742D0000 hex	No Home Proximity Input	General Motion Control	W503
742F0000 hex	Slave Error Detected	General Motion Control	W503
74300000 hex	Axes Group Composition Axis	General Motion Control	W503
	Error	NJ Robotics Function	W539
74320000 hex	Slave Observation Detected	General Motion Control	W503
74330000 hex	MC Common Error Occurrence	General Motion Control	W503
74340000 hex	Latch Position Overflow	General Motion Control	W503
74350000 hex	Latch Position Underflow	General Motion Control	W503
74360000 hex	Master Sync Direction Error	General Motion Control	W503
74370000 hex	Slave Disconnection during Servo ON	General Motion Control	W503
74380000 hex	Feed Distance Overflow	General Motion Control	W503
74390000 hex	Error in Changing Servo Drive Control Mode	General Motion Control	W503
743A0000 hex	Master Axis Position Read Error	General Motion Control	W503
743B0000 hex	Auxiliary Axis Position Read Error	General Motion Control	W503
743C0000 hex	Cannot Execute Save Cam Ta- ble Instruction	General Motion Control	W503
743D0000 hex	Incorrect Synchronization Command	NX-series Position Interface Units	W524
743E0000 hex	Illegal Following Error	NX-series Position Interface Units	W524
743F0000 hex	Illegal State Transition	NX-series Position Interface Units	W524
74600000 hex	Master Function Enable/Disable Failed	CJ-series DeviceNet Units	W497
74610000 hex	Master Fixed Allocation Area Setting Failed	CJ-series DeviceNet Units	W497
74620000 hex	Scan List Register/Clear Failed	CJ-series DeviceNet Units	W497
74630000 hex	Slave Function Enable/Disable Failed	CJ-series DeviceNet Units	W497
74640000 hex	Slave Fixed Allocation Area Setting Failed	CJ-series DeviceNet Units	W497
74800000 hex	Command Warning	Servo G5 and G5 Linear	1576 1577
74810000 hex	Command Error	Servo G5 and G5 Linear	1576 1577
74900000 hex	Multiple control signal input error	ZW-CE1□T Confocal Fiber Type Displacement Sensor	Z332
74910000 hex	EXE input error	ZW-CE1□T Confocal Fiber Type Displacement Sensor	Z332

Event code	Event name	Functional classification	Reference
74920000 hex	SYNC input error	ZW-CE1□T Confocal Fiber Type	Z332
		Displacement Sensor	
74930000 hex	TIMING input error	ZW-CE1□T Confocal Fiber Type	Z332
		Displacement Sensor	
74940000 hex	RESET input error	ZW-CE1□T Confocal Fiber Type	Z332
		Displacement Sensor	
74950000 hex	ZERO input error	ZW-CE1□T Confocal Fiber Type Displacement Sensor	Z332
74960000 hex	ZEROCLR input error	ZW-CE1 T Confocal Fiber Type	Z332
74900000 HeX	ZEROCEN Input error	Displacement Sensor	2332
74A00000 hex	SF Antivalent Error	NX-series Safety Control Unit	Z930
74A10000 hex	SF EDM Error	NX-series Safety Control Unit	Z930
74A20000 hex	SF_EmergencyStop Error	NX-series Safety Control Unit	Z930
74A30000 hex	SF EnableSwitch Error	NX-series Safety Control Unit	Z930
74A40000 hex	SF Equivalent Error	NX-series Safety Control Unit	Z930
74A50000 hex	SF_ESPE Error	NX-series Safety Control Unit	Z930
74A60000 hex	SF_GuardLocking Error	NX-series Safety Control Unit	Z930
74A70000 hex	SF GuardMonitoring Error	NX-series Safety Control Unit	Z930
74A80000 hex	SF ModeSelector Error	NX-series Safety Control Unit	Z930
74A90000 hex	SF_MutingPar Error	NX-series Safety Control Unit	Z930
74AA0000 hex	SF_MutingPar_2Sensor Error	NX-series Safety Control Unit	Z930
74AB0000 hex	SF_MutingSeq Error	NX-series Safety Control Unit	Z930
74AC0000 hex	SF OutControl Error	NX-series Safety Control Unit	Z930
74AD0000 hex	SF_SafetyRequest Error	NX-series Safety Control Unit	Z930
74AE0000 hex	SF_TestableSafetySensor Error	NX-series Safety Control Unit	Z930
74AF0000 hex	SF TwoHandControlTypeII Error	NX-series Safety Control Unit	Z930
74B00000 hex	SF_TwoHandControlTypeIII Er-	NX-series Safety Control Unit	Z930
	ror	,	
75000000 hex	Robot Control Period Exceeded	General Robot Control	O037
75010000 hex	Robot Control Common Error Occurred	General Robot Control	O037
75020000 hex	EtherCAT Slave Disconnection Error	General Robot Control	O037
75030000 hex	Robot Error Occurred	General Robot Control	O037
77000000 hex	Conveyor Axis Position Read Error	NJ Robotics Function	W539
77800000 hex	CNC Control Period Exceeded	CNC Function	O030
77810000 hex	CNC Planner Service Period Exceeded	CNC Function	O030
77820000 hex	CNC Coordinate System Composition CNC Motor Error	CNC Function	O030
77830000 hex	CNC Common Error Occurrence	CNC Function	O030
77840000 hex	Servo Main Circuits OFF	CNC Function	O030
77850000 hex	Servo Main Circuit Power OFF	CNC Function	O030
77860000 hex	Slave Error Detected	CNC Function	O030
77870000 hex	Slave Observation Detected	CNC Function	O030
77880000 hex	Slave Disconnection during Servo ON	CNC Function	O030

Event code	Event name	Functional classification	Reference
77890000 hex	Homing Opposite Direction Limit	CNC Function	O030
	Input Detected		
778A0000 hex	Homing Direction Limit Input Detected	CNC Function	O030
778B0000 hex	Homing Limit Inputs Detected in Both Directions	CNC Function	O030
778C0000 hex	Home Proximity/Homing Opposite Direction Limit Input Detected	CNC Function	O030
778D0000 hex	Home Proximity/Homing Direction Limit Input Detected	CNC Function	O030
778E0000 hex	Home Input/Homing Opposite Direction Limit Input Detected	CNC Function	O030
778F0000 hex	Home Input/Homing Direction Limit Input Detected	CNC Function	O030
77900000 hex	Invalid Home Input Mask Distance	CNC Function	O030
77910000 hex	No Home Input	CNC Function	O030
77920000 hex	No Home Proximity Input	CNC Function	O030
78010000 hex	Operation Command Competition	Servo G5 and G5 Linear	1576 1577
78020000 hex	Absolute Encoder Status Error	Servo G5	1576
78080000 hex	TRIG Input Error	EtherCAT FQ-M-series Specialized Vision Sensors for Positioning	Z314
780A0000 hex	Scene Data Error	EtherCAT FQ-M-series Special- ized Vision Sensors for Position- ing	Z314
780B0000 hex	Model Error	EtherCAT FQ-M-series Special- ized Vision Sensors for Position- ing	Z314
780C0000 hex	Logging Error	EtherCAT FQ-M-series Special- ized Vision Sensors for Position- ing	Z314
780D0000 hex	Output Timeout	EtherCAT FQ-M-series Special- ized Vision Sensors for Position- ing	Z314
780E0000 hex	Output Size Error	EtherCAT FQ-M-series Special- ized Vision Sensors for Position- ing	Z314
78190000 hex	Image Logging Disk Write Error	FH/FZ5 Series Vision System	Z342
781A0000 hex	Setting Data Transfer Error	FH/FZ5 Series Vision System	Z342
781B0000 hex	Output Buffer Error (EtherCAT)	FH/FZ5 Series Vision System	Z342
78200000 hex	Pulse Output Overspeed Error	Servo 1S	I586 I621
78210000 hex	Brake Interlock Error	Servo 1S	I586 I621
78220000 hex	Command Warning	Servo 1S	1586
78230000 hex	Command Error	Servo 1S	I586 I621

Event code	Event name	Functional classification	Reference
80010000 hex	Illegal Packet Discarded	Errors Related to CJ-series Unit	W503
	ŭ	Configuration	
80100000 hex	Packet Discarded	Errors Related to FINS Commu-	W503
		nications	
80110000 hex	Packet Discarded	Errors Related to FINS Commu-	W503
		nications	
80120000 hex	Packet Discarded	Errors Related to FINS Commu-	W503
		nications	
80200000 hex	NX Unit I/O Communications Er-	NX-series Digital I/O Units, NX-	W521
	ror	series Analog I/O Units, NX-ser-	W522
		ies Position Interface Units, NX-	W566
		series Communications Inter-	W524
		face Units, NX-series Safety	W540
		Control Units, NX-series Load	Z930
		Cell Input Units, NX-series IO-	W565
		Link Master Units, and NX-ser-	W570
		ies Temperature Control Units	H228
80210000 hex	NX Unit Output Synchronization	NX-series Digital I/O Units, NX-	W521
	Error	series Analog I/O Units, NX-ser-	W522
		ies Position Interface Units, and	W524 W565
00000000 l	NIV Manager Communications	NX-series Load Cell Input Units	_
80220000 hex	NX Message Communications Error	NX-series EtherCAT Coupler	W522 W566
	Elloi	Units, NX-series Analog I/O Units, NX-series Position Inter-	W524
		face Units, NX-series Communi-	W540
		cations Interface Units, NX-ser-	Z930
		ies Safety Control Unit, NX-ser-	W565
		ies Load Cell Input Units, NX-	W570
		series IO-Link Master Units, and	H228
		NX-series Temperature Control	
		Units	
80230000 hex	NX Message Communications	Errors Related to Controller Op-	W503
	Error	eration	
80240000 hex	NX Unit Clock Not Synchronized	NX-series Digital I/O Units, NX-	W521
	Error	series Analog I/O Units, NX-ser-	W522
		ies Position Interface Units, NX-	W566
		series Communications Inter-	W524
		face Units, NX-series Load Cell	W540
		Input Units, NX-series IO-Link	W565
		Master Units, and NX-series	W570
00000001	0.11.0	Temperature Control Units	H228
80300000 hex	Safety Process Data Communications Timeout	NX-series Safety Control Unit	Z930
80310000 hex	CIP Safety Originator Connec-	NX-series Safety Control Unit	Z930
	tion Not Established Error	,	
80320000 hex	CIP Safety Originator Connection Timeout	NX-series Safety Control Unit	Z930
80330000 hex	CIP Safety Target Does Not Ex-	NX-series Safety Control Unit	Z930
	ist		
80340000 hex	CIP Safety Target Connection Timeout	NX-series Safety Control Unit	Z930
84010000 hex	IP Address Duplication Error	EtherNet/IP	W503
	· ·	1	1

Event code	Event name	Functional classification	Reference
84020000 hex	BOOTP Server Connection Error	EtherNet/IP	W503
84030000 hex	DNS Server Connection Error	EtherNet/IP	W503
84040000 hex	NTP Server Connection Error	EtherNet/IP	W503
84050000 hex	Packet Discarded Due to Full	EtherNet/IP	W503
	Reception Buffer		
84060000 hex	Link OFF Detected	EtherNet/IP	W503
84070000 hex	Tag Data Link Connection Failed	EtherNet/IP	W503
84080000 hex	Tag Data Link Timeout	EtherNet/IP	W503
84090000 hex	Tag Data Link Connection Time- out	EtherNet/IP	W503
840A0000 hex	IP Address Duplication Error	EtherNet/IP	W503
840B0000 hex	BOOTP Server Connection Error	EtherNet/IP	W503
840C0000 hex	Allowed Communications Bandwidth per Unit Exceeded	EtherNet/IP	W503
840E0000 hex	Number of Tag Sets for Tag Data Links Exceeded	EtherNet/IP	W503
840F0000 hex	DHCP Server Connection Error	EtherNet/IP	W503
84200000 hex	Link OFF Error	EtherCAT Master	W503
84210000 hex	Network Configuration Error	EtherCAT Master	W503
84220000 hex	Network Configuration Verification Error	EtherCAT Master	W503
84230000 hex	Slave Initialization Error	EtherCAT Master	W503
84280000 hex	Slave Application Error	EtherCAT Master	W503
84290000 hex	Process Data Transmission Error	EtherCAT Master	W503
842B0000 hex	Process Data Reception Time- out	EtherCAT Master	W503
842C0000 hex	Process Data Communications Error	EtherCAT Master	W503
842D0000 hex	EtherCAT Message Error	EtherCAT Master	W503
842E0000 hex	EtherCAT Frame Not Received	EtherCAT Master	W503
842F0000 hex	Input Process Data Invalid Error	EtherCAT Master	W503
84300001 hex	Slave State Transition Failed	EtherCAT Master	W503
84310002 hex	Illegal Slave Disconnection Detected	EtherCAT Master	W503
84320003 hex	Network Configuration Verification Error (Incorrect Wiring)	EtherCAT Master	W503
84330004 hex	Network Configuration Verification Error (Mismatched Slave)	EtherCAT Master	W503
84340000 hex	Slave PDI WDT Error Detected	EtherCAT Master	W503
84350000 hex	Illegal Mailbox Received	EtherCAT Master	W503
84360000 hex	Slave AL Status Error Detected	EtherCAT Master	W503
84370000 hex	Clock Synchronization Compensation Failed	EtherCAT Master	W503
84380000 hex	Network Configuration Verification Error (Slave Unconnected)	EtherCAT Master	W503
84390000 hex	Ring Disconnection Detected	EtherCAT Master	W503

Event code	Event name	Functional classification	Reference
843A0000 hex	Network Configuration Verification Error (Incorrect Ring Wiring)	EtherCAT Master	W503
843C0000 hex	Incorrect Wiring Detected	EtherCAT Master	W503
84400000 hex	EtherCAT Slave Communications Error	General Motion Control	W503
84600000 hex	Communications Error	CJ-series CompoNet Master Unit	W493
84610000 hex	Repeater Unit Communications Error	CJ-series CompoNet Master Unit	W493
84680000 hex	Transmission Error	CJ-series Serial Communications Units	W494
84690000 hex	Overrun Error	CJ-series Serial Communications Units	W494
846A0000 hex	Framing Error	CJ-series Serial Communications Units	W494
846B0000 hex	Parity Error	CJ-series Serial Communications Units	W494
846C0000 hex	Overrun Error, Framing Error, or Parity Error (Transmission Error)	CJ-series Serial Communications Units	W494
846D0000 hex	Transmission Error (CRC Error)	CJ-series Serial Communications Units	W494
84740000 hex	Bus Off Detected	CJ-series DeviceNet Units	W497
84750000 hex	Remote I/O Communications Error	CJ-series DeviceNet Units	W497
84760000 hex	Remote I/O Communications Error (during Slave Operation)	CJ-series DeviceNet Units	W497
84770000 hex	Slave COS Send Failed	CJ-series DeviceNet Units	W497
84790000 hex	Error-level Device Event	GX-series EtherCAT Slave Units	W570 W640
847A0000 hex	IO-Link Communications Error	GX-series EtherCAT Slave Units	W570 W640
847C0000 hex	Device Configuration Verification Error	GX-series EtherCAT Slave Units	W570 W640
84820000 hex	IO-Link Device Configuration Information Created	GX-series EtherCAT Slave Units	W570 W640
84840000 hex	I/O Cable Short-circuit	GX-series EtherCAT Slave Units	W570 W640
84850000 hex	I/O Power Supply ON Detected	GX-series EtherCAT Slave Units	W570
84860000 hex	Warning-level Device Event Flag	GX-series EtherCAT Slave Units	W570 W640
84870000 hex	IO-Link Communications Module Processing Error	GX-series EtherCAT Slave Units	W570
848C0000 hex	Error-level Device Event	NX-series IO-Link Master Units	W570
848D0000 hex	IO-Link Communications Error	NX-series IO-Link Master Units	W570
848F0000 hex	Device Configuration Verification Error	NX-series IO-Link Master Units	W570
84950000 hex	IO-Link Device Configuration Information Created	NX-series IO-Link Master Units	W570
84970000 hex	I/O Cable Short-circuit	NX-series IO-Link Master Units	W570
84980000 hex	I/O Power Supply ON Detected	NX-series IO-Link Master Units	W570

Event code	Event name	Functional classification	Reference
84990000 hex	Warning-level Device Event Flag	NX-series IO-Link Master Units	W570
849A0000 hex	IO-Link Communications Module Processing Error	NX-series IO-Link Master Units	W570
84A00000 hex	Slave Unit Verification Error	GX-series EtherCAT Slave Units	W488 W570 W640
84B00000 hex	EtherCAT Communications Warning	Servo G5, G5 Linear, and Servo 1S	1576 1577 1586
84B10000 hex	EtherCAT State Change Error	Servo G5, G5 Linear, and Servo 1S	I576 I577 I586 I621
84B20000 hex	EtherCAT Illegal State Change Error	Servo G5, G5 Linear, and Servo 1S	1576 1577 1586 1621
84B30000 hex	Communications Synchronization Error	Servo G5 and G5 Linear	1576 1577
84B40000 hex	Synchronization Error	Servo G5, G5 Linear, and Servo 1S	1576 1577 1586 1621
84B50000 hex	Sync Manager WDT Error	Servo G5, G5 Linear, and Servo 1S	1576 1577 1586 1621
84B60000 hex	ESC Initialization Error	Servo G5, G5 Linear, and Servo 1S	1576 1577 1586 1621
84B70000 hex	Slave Unit Verification Error	Servo G5, G5 Linear, and Servo 1S	1576 1577 1586 1621
84B80000 hex	Communications Setting Error	Servo G5 and G5 Linear	1576 1577
84B90000 hex	Synchronization Interruption Error	Servo G5, G5 Linear, and Servo 1S	1576 1577 1586 1621
84BA0000 hex	Bootstrap State Transition Request Error	Servo 1S	I586 I621
84C00000 hex	NX Unit Communications Time- out	NX-series EtherCAT Coupler Unit	W519
84C10000 hex	NX Unit Initialization Error	NX-series EtherCAT Coupler Unit	W519
84C50000 hex	NX Unit Startup Error	NX-series EtherCAT Coupler Unit	W519
84D00000 hex	SSI Communications Error	NX-series Position Interface Units	W524

Event code	Event name	Functional classification	Reference
84E00000 hex	IP Address Duplication Error	CJ-series EtherNet/IP Units	W495
84E10000 hex	BOOTP Server Error	CJ-series EtherNet/IP Units	W495
84E20000 hex	Link OFF Error	CJ-series EtherNet/IP Units	W495
84F00000 hex	NX Bus I/O Communications	NX-series Safety Control Unit	Z930
	Stopped		
84F10000 hex	NX Bus I/O Communications	NX-series Safety Control Unit	Z930
	Stopped		
85000000 hex	Process Data WDT Error	NX-series EtherCAT Coupler	W519
		Unit	111-12
85010000 hex	Synchronization Interruption Error	NX-series EtherCAT Coupler Unit	W519
85020000 hex	Synchronization Error	NX-series EtherCAT Coupler	W519
03020000 NCX	Cynomication Error	Unit	VV313
85030000 hex	Communications Synchroniza-	NX-series EtherCAT Coupler	W519
	tion Error	Unit	
85100000 hex	DB Connection Disconnected	DB Connection Service	W527
	Error		
852C0000Hex	I/O Communication Error	CJ-series EtherCAT Slave Unit	W542
85400000 hex	Data Discarded Due to Full In-	NX-series Communications In-	W540
	ternal Buffer	terface Units	111-12
85410000 hex	Parity Error	NX-series Communications Interface Units	W540
85420000 hex	Framing Error	NX-series Communications In-	W540
65420000 flex	Framing Error	terface Units	VV340
85430000 hex	Overrun Error	NX-series Communications In-	W540
		terface Units	
85500000 hex	NX Bus Communications Error	NX Bus	W503
85510000 hex	NX Unit Communications Time-	NX Bus	W503
	out		
85520000 hex	NX Unit Initialization Error	NX Bus	W503
85530000 hex	NX Unit Startup Error	NX Bus	W503
85540000 hex	NX Bus I/O Communications	NX Bus	W503
	Stopped Due to Another Event		11/200
85600000 hex	OPC UA Client Connection Re-	OPC UA Server Function	W503
85800000 hex	jected EtherCAT Slave Communica-	General Robot Control	O037
000000001100	tions Error	General Robot Control	0007
85A00000 hex	X Bus Unit Startup Error	X Bus	W503
85A10000 hex	X Bus Unit Communications Er-	X Bus	W503
	ror		
85D00000 hex	IP Address Duplication Error	NX-series EtherNet/IP Unit	W627
85D10000 hex	BOOTP Server Connection Er-	NX-series EtherNet/IP Unit	W627
	ror		
85D40000 hex	Packet Discarded Due to Full	NX-series EtherNet/IP Unit	W627
	Reception Buffer		
85D50000 hex	Link OFF Detected	NX-series EtherNet/IP Unit	W627
87800000 hex	EtherCAT Slave Communica- tions Error	CNC Function	O030
00000000 6		EU/E75 Corios Visian Custon	7242
88080000 hex	PLC Link Communications Error	FH/FZ5 Series Vision System	Z342

Event code	Event name	Functional classification	Reference
88100000 hex	Communications Synchroniza-	Servo 1S	1586
	tion Error		I621
88120000 hex	Safety Communications Timeout	Servo 1S	1586
			1621
88130000 hex	Analog Option Board Startup Error	Built-in I/O and Option Boards	W503
88140000 hex	Analog Option Board Communications Error	Built-in I/O and Option Boards	W503
90010000 hex	Clock Changed	Errors Related to Controller Operation	W503
90020000 hex	Time Zone Changed	Errors Related to Controller Operation	W503
90030000 hex	Online Connection Started	Errors Related to Controller Operation	W503
90040000 hex	Online Connection Ended	Errors Related to Controller Operation	W503
90050000 hex	User Program/Controller Configurations and Setup Downloaded	Errors Related to Controller Operation	W503
90070000 hex	Online Edits Transferred	Errors Related to Controller Operation	W503
90080000 hex	Variable Changed to TRUE with Forced Refreshing	Errors Related to Controller Operation	W503
90090000 hex	Variable Changed to FALSE with Forced Refreshing	Errors Related to Controller Operation	W503
900A0000 hex	All Forced Refreshing Cleared	Errors Related to Controller Operation	W503
900B0000 hex	Memory All Cleared	Errors Related to Controller Operation	W503
900C0000 hex	Event Log Cleared	Errors Related to Controller Operation	W503
900F0000 hex	Automatic Transfer Completed	Errors Related to Controller Operation	W503
90110000 hex	Power Turned ON	Errors Related to Controller Operation	W503
90120000 hex	Power Interrupted	Errors Related to Controller Operation	W503
90130000 hex	Operation Started	Errors Related to Controller Operation	W503
90140000 hex	Operation Stopped	Errors Related to Controller Operation	W503
90150000 hex	Reset Executed	Errors Related to Controller Operation	W503
90160000 hex	User Program Execution ID Write	Errors Related to Controller Operation	W503
90170000 hex	Authentication Setting Transfer- red	Errors Related to Controller Operation	W503
90180000 hex	All Controller Errors Cleared	Errors Related to Controller Operation	W503
90190000 hex	Forced Refreshing Cleared	Errors Related to Controller Operation	W503

Event code	Event name	Functional classification	Reference
901A0000 hex	Backup Started	Errors Related to Controller Op-	W503
901B0000 hex	Backup Completed	eration Errors Related to Controller Operation	W503
901C0000 hex	Restore Operation Started	Errors Related to Controller Operation	W503
901D0000 hex	Restore Operation Completed	Errors Related to Controller Operation	W503
90200000 hex	SD Memory Card Program Transfer Started	Errors Related to Controller Operation	W503
90210000 hex	SD Memory Card Program Transfer Completed	Errors Related to Controller Operation	W503
90290000 hex	Project Unit Version Changed	Errors Related to Controller Operation	W503
902A0000 hex	Change to RUN Mode Com- manded	Errors Related to Controller Operation	W503
902B0000 hex	Change to PROGRAM Mode Commanded	Errors Related to Controller Operation	W503
902C0000 hex	Access Rights Forcibly Released	Errors Related to Controller Operation	W503
902D0000 hex	CPU Unit Name Changed	Errors Related to Controller Operation	W503
902E0000 hex	CPU Unit Write Protected	Errors Related to Controller Operation	W503
902F0000 hex	Operation Mode Change Setting Written	Errors Related to Controller Operation	W503
90300000 hex	Backup Start Commanded	Errors Related to Controller Operation	W503
90310000 hex	Restore Start Commanded	Errors Related to Controller Operation	W503
90320000 hex	Firmware Update Prohibition Setting Changed	Errors Related to Controller Op- eration W503	
90330000 hex	Start Instruction of Omron Maintenance	Errors Related to Controller Operation	
90340000 hex	End Instruction of Omron Maintenance	Errors Related to Controller Op- eration W503	
90400000 hex	Event Log Cleared	NX-series EtherCAT Coupler Units, NX-series Digital I/O	W519 W521
		Units, NX-series Analog I/O	W522
		Units, NX-series System Units,	W566
		NX-series Position Interface	W523
		Units, NX-series Communica-	W524
		tions Interface Units, NX-series	W540
		Safety Control Unit, NX-series	Z930
		Load Cell Input Units, NX-series	W565
		IO-Link Master Units, and NX-	W570
		series Temperature Control Units	H228
90420000 hex	Restart Executed	NX-series EtherCAT Coupler	W519
90420000 hex	Restart Executed		W519

Event code	Event name	Functional classification	Reference
90430000 hex	Memory All Cleared	NX-series EtherCAT Coupler	W519
	·	Unit and NX-series Safety Control Unit	Z930
90460000 hex	Safety Data Logging Started	Errors Related to Controller Operation	W503
90470000 hex	Safety Data Logging Aborted	Errors Related to Controller Operation	W503
90480000 hex	Safety Data Logging Completed	Errors Related to Controller Operation	W503
90A00000 hex	Unit Restarted	Servo 1S	1586
90A20000 hex	User Authentication Enabled	Errors Related to Controller Operation	W503
90A30000 hex	User Authentication Disabled	Errors Related to Controller Operation	W503
90A40000 hex	User Added	Errors Related to Controller Operation	W503
90A50000 hex	User Deleted	Errors Related to Controller Operation	W503
90A60000 hex	User Authority Changed	Errors Related to Controller Operation	W503
90A70000 hex	User Password Changed	Errors Related to Controller Operation W503	
90A80000 hex	User Password Validity Period Control Enabled	Errors Related to Controller Operation	
90A90000 hex	User Password Validity Period Control Disabled	Errors Related to Controller Operation	W503
90AA0000 hex	User Password Validity Period Changed	Errors Related to Controller Op- eration W503	
90AB0000 hex	User Authentication Operation Lock Enabled	Errors Related to Controller Operation W503	
90AC0000 hex	User Authentication Operation Lock Disabled	Errors Related to Controller Op- eration W503	
90AD0000 hex	User Authentication Operation Lock Time Changed	Errors Related to Controller Operation	W503
90AE0000 hex	Operation Authority Verification Enabled	Errors Related to Controller Operation	W503
90AF0000 hex	Operation Authority Verification Disabled	Errors Related to Controller Operation	W503
90B00000 hex	Operation Authority Password Changed	Errors Related to Controller Op- eration W503	
90B10000 hex	Operation Authority for Password Input Omission Changed	Errors Related to Controller Operation	W503
90B20000 hex	Operation Authority Verification Operation Lock Enabled	Errors Related to Controller Operation	
90B30000 hex	Operation Authority Verification Operation Lock Disabled	Errors Related to Controller Operation	
90B40000 hex	Operation Authority Verification Operation Lock Time Changed	Errors Related to Controller Operation W503	
90B50000 hex	User Password Expiration Notice Enabled	Errors Related to Controller Operation	W503

Event code	Event name	Functional classification	Reference
90B60000 hex	User Password Expiration Notice Disabled	Errors Related to Controller Operation	W503
90B70000 hex	Days for Prior Notice of User Password Expiration Changed	Errors Related to Controller Operation	W503
91000000 hex	X Bus Unit Settings Downloaded	X Bus Unit	W503
91020000 hex	X Bus Unit Settings All Cleared	X Bus Unit	W503
91030000 hex	All Errors Cleared	X Bus Unit	W503
91040000 hex	Event Log Cleared	X Bus Unit	W503
91050000 hex	Power Turned ON	X Bus Unit	W503
91060000 hex	Power Interrupted	X Bus Unit	W503
94010000 hex	Tag Data Link Download Started	EtherNet/IP	W503
94020000 hex	Tag Data Link Download Finished	EtherNet/IP	W503
94030000 hex	Tag Data Link Stopped	EtherNet/IP	W503
94040000 hex	Tag Data Link Started	EtherNet/IP	W503
94050000 hex	Link Detected	EtherNet/IP	W503
94060000 hex	Restarting Ethernet Port	EtherNet/IP	W503
94070000 hex	Tag Data Link All Run	EtherNet/IP	W503
94080000 hex	IP Address Fixed	EtherNet/IP	W503
94090000 hex	BOOTP Client Started	EtherNet/IP	W503
940A0000 hex	FTP Server Started	EtherNet/IP	W503
940B0000 hex	NTP Client Started	EtherNet/IP	W503
940C0000 hex	SNMP Started	EtherNet/IP	
940E0000 hex	Secure Socket Communications Log Started/Stopped	EtherNet/IP	W503
940F0000 hex	Secure Socket Communications Log Saving Failed	munications EtherNet/IP	
94100000 hex	Access to Secure Socket Setting	to Secure Socket Setting EtherNet/IP	
94110000 hex	Access to Secure Socket Setting	EtherNet/IP	W503
94120000 hex			W503
94130000 hex	IP Address Changed	EtherNet/IP	W503
94140000 hex	SNMP Settings Changed	EtherNet/IP	W503
94150000 hex	Subnet Mask Changed	EtherNet/IP	W503
94200000 hex	Notice of Insufficient Travel Distance to Achieve Blending Transit Velocity	chieve Blending	
94210000 hex	Error Clear from MC Test Run Tab Page	General Motion Control	W503
94220000 hex	Slave Error Code Report	General Motion Control	W503
94230000 hex	Transition Parameter Adjusted	NJ Robotics Function	W539
94400000 hex	Slave Disconnected	EtherCAT Master	W503
94410000 hex	Slave Connected	EtherCAT Master	W503
94430000 hex	Error Reset	Reset EtherCAT Master	
94440000 hex	Slave Disabled	EtherCAT Master	W503
94450000 hex	Slave Enabled	EtherCAT Master	W503
94500000 hex			W503

Event code	Event name	Functional classification	Reference
94510000 hex	EtherCAT Diagnosis/Statistics Log Ended	EtherCAT Master	W503
94520000 hex	Wait for Cycling Power Supply	EtherCAT Master	W503
94600000 hex	I/O Check Execution Started	NX-series EtherCAT Coupler Unit	W519
94D00000 hex	Tuning Parameter Updated	NX-series Temperature Control Units	H228
94D10000 hex	Related Parameters Initialized	NX-series Temperature Control Units	H228
94F00000 hex	Tuning Parameter Automatically Updated	NX-series Temperature Control Units	H228
951E0000 hex	Sysmac Studio Communications Connection Timeout	NX-series Safety Control Unit	Z930
951F0000 hex	Clear All Memory Rejected	NX-series Safety Control Unit	Z930
95300000 hex	DB Connection Service Started	DB Connection Service	W527
95310000 hex	DB Connection Service Stopped	DB Connection Service	W527
95320000 hex	DB Connection Service Shut-down	DB Connection Service	W527
95330000 hex	Spool Cleared	DB Connection Service	W527
95340000 hex	Operation to Start DB Connection Service	DB Connection Service	W527
95350000 hex	Operation to Stop DB Connection Service	DB Connection Service	W527
95360000 hex	Operation to End DB Connection Service	DB Connection Service	W527
95370000 hex	Operation to Clear Spool Memory	DB Connection Service	W527
95380000 hex	Operation to Clear Operation Log	DB Connection Service	W527
95390000 hex	Operation to Start Debug Log- ging	DB Connection Service	W527
953A0000 hex	Operation to Stop Debug Log- ging	DB Connection Service	W527
95420000 hex	GEM Service Started	GEM Services	W528
95430000 hex	Shutdown Completed	GEM Services	W528
95440000 hex	GEM Setting Data Changed	GEM Services	W528
95450000 hex	Valid SD Memory Card	GEM Services	W528
95720000 hex	Automation Playback Settings Changed	Errors Related to Controller Operation	W503
95730000 hex	Variable Sampling Started	Errors Related to Controller Operation	W503
95740000 hex	Variable Sampling Stopped	Errors Related to Controller Operation	W503
95750000 hex	Variable Log Output Completed		
95760000 hex	Variable Log Overwritten	Errors Related to Controller Op- eration	
95770000 hex	Upper Limit of Variable Sampling	Errors Related to Controller Operation	W503

Event code	Event name	Functional classification	Reference
95780000 hex	Variable Log Output Completed	Errors Related to Controller Operation	W503
95790000 hex	Upper Limit of Variable Sampling		
957A0000 hex	Variable Log Save Not Possible	Errors Related to Controller Operation	W503
95800000 hex	NX Bus Restart Executed	NX Bus	W503
95810000 hex	NX Unit Memory All Cleared	NX Bus	W503
95D00000 hex	OPC UA Server Started	OPC UA Server Function	W503
95D10000 hex	OPC UA Server Stopped	OPC UA Server Function	W503
95D20000 hex	Server Certificate Generated	OPC UA Server Function	W503
95D30000 hex	Client Certificate Discarded	OPC UA Server Function	W503
95D40000 hex	OPC UA Server Certificate and Security Profile Cleared	OPC UA Server Function	W503
95D60000 hex	Client Certificate Added	OPC UA Server Function	W503
95D70000 hex	Client Certificate Deleted	OPC UA Server Function	W503
95D80000 hex	Client Certificate Moved	OPC UA Server Function	W503
95D90000 hex	Client Certificate Revocation List Added	OPC UA Server Function	W503
95DA0000 hex	Client Certificate Revocation List Deleted	OPC UA Server Function	W503
95DB0000 hex	Server Certificate Regenerated	OPC UA Server Function	W503
96040000 hex	V+ Program Error	General Robot Control	O037
96050000 hex	V+ Program Warning	General Robot Control	O037
96060000 hex	V+ Program Information	General Robot Control	O037
96090000 hex	Robot Manual Mode Started	General Robot Control	O037
960A0000 hex	Robot Auto Mode Started	General Robot Control	O037
96200000 hex	Security Settings Transferred	OPC UA Server Function	W503
96210000 hex	Execution Log Cleared	OPC UA Server Function	W503
96220000 hex	CA Certificate Added	OPC UA Server Function	W503
96230000 hex	CA Certificate Deleted	OPC UA Server Function	W503
96240000 hex	CA Certificate Revocation List Added	OPC UA Server Function	W503
96250000 hex	CA Certificate Revocation List Deleted	OPC UA Server Function	W503
96260000 hex	Client Certificate or CA Certificate Changed	ertifi- OPC UA Server Function W503	
96440000 hex	Link Detected	NX-series EtherNet/IP Unit	W627
96450000 hex	Restarting Ethernet Port	EtherNet/IP	W503
96470000 hex	IP Address Fixed	NX-series EtherNet/IP Unit	W627
96480000 hex	BOOTP Client Started	NX-series EtherNet/IP Unit	W627
964B0000 hex	SNMP Started	NX-series EtherNet/IP Unit	W627
96500000 hex	IP Address Changed	NX-series EtherNet/IP Unit	W627
96510000 hex	SNMP Settings Changed	NX-series EtherNet/IP Unit	W627
96520000 hex	Subnet Mask Changed	NX-series EtherNet/IP Unit	W627
97800000 hex	Slave Error Code Report	CNC Function	O030
97810000 hex	Software Limit Path Limited	CNC Function	O030

Event code	Event name	Functional classification	Reference
97820000 hex	CNC Function System Informa-	CNC Function	O030
	tion		
97830000 hex	Velocity Control Command Val-	CNC Function	O030
	ue Saturated		
98010000 hex	Absolute Value Cleared	Servo G5	1576
98020000 hex	Position Data Initialized	Servo G5 and G5 Linear	1576
			1577
98200000 hex	Absolute Value Cleared	Servo 1S	1586
			1621
98210000 hex	STO Detected	Servo 1S	1586
98220000 hex	Memory All Cleared	Servo 1S	1586
98230000 hex	Motor Rotation Direction Selec-	Servo 1S	I621
	tion Nonconformity		
98240000 hex	Event Log Cleared	Servo 1S	1586
98250000 hex	STO Detected	Servo 1S	l621

A-5 Applicable Range of the HMI Troubleshooter

Whether the HMI Troubleshooter can be used depends on the combination of the HMI and the CPU Unit.

Also, the system configuration elements that are supported by the HMI Troubleshooter are different for each Troubleshooter function.

A-5-1 Combinations of HMIs and CPU Units That Enable Using the Troubleshooter

Whether the HMI Troubleshooter can be used depends on the combination of the HMI and the CPU Unit.

NA-series HMIs

The models of HMIs on which the Troubleshooter can be used are given in the following table.

НМІ	Model
NA5	NA5-□

Whether the Troubleshooter can be used for specific system versions of the above HMI models is given in the following table.

LIMI cyctom version	Connected CPU Unit		
HMI system version	NX-series CPU Unit	NJ-series CPU Unit	
Version 1.02 or higher	Can be used.		
Version 1.01 or lower	The HMI does not have a Troubleshooter.		

NS-series HMIs

The models of HMIs on which the Troubleshooter can be used are given in the following table.

НМІ	Model
NS8, NS10, NS12, and NS15	NS□-T□01-V2 (The V2 versions have an Ethernet port.)
NS5	NS5-□Q11-V2 (These models have expanded memory and an Ether-
	net port.)
NSJ8, NSJ10, and NSJ12	All models
NSJ5	NSJ5-□Q11-□ (These models have expanded memory and an Ether-
	net port.)

Whether the Troubleshooter can be used for specific system versions of the above HMI models is given in the following table.

LIMI cyctem yercien	Connected CPU Unit		
HMI system version	NX-series CPU Unit	NJ-series CPU Unit	
Version 8.9 or higher	Can be used.		
Version 8.5 to 8.8	Cannot be used.	Can be used.	
Version 8.4 or lower	The HMI does not ha	ave a Troubleshooter.	

A-5-2 System Configuration Elements Supported by the Troubleshooter

The troubleshooting functions that you can use on the HMI depend on the system configuration element.

Refer to the following manuals for the NA-series HMIs and NS-series HMIs for the system configuration elements that are supported by the HMI Troubleshooter.

- NA-series Programmable Terminal Hardware User's Manual (Cat. No. V117)
- NS-series Programmable Terminals Programming Manual (Cat No. V073)



Precautions for Correct Use

On the NA-series HMI, operation related to the NX Bus Function Module is limited as follows. Use the troubleshooting function of Sysmac Studio as necessary.

- Current errors in the NX bus master are displayed, but NX Bus Function Module is not displayed at Source. Current errors in NX Units mounted to the CPU Unit are not displayed.
- · Resetting all errors is the only way to reset current errors.
- Event logs for the NX bus master are displayed, but NX Bus Function Module is not displayed at Source. Event logs for NX Units mounted to the CPU Unit are not displayed.
- Event logs for the NX bus master can be deleted, but event logs for NX Units mounted to the CPU Unit cannot be deleted.



Precautions for Correct Use

On the NS-series HMI, operation related to the NX Bus Function Module is limited as follows. Use the troubleshooting function of Sysmac Studio as necessary.

- · Current errors are not displayed.
- · Resetting all errors is the only way to reset current errors.
- · Event logs are not displayed.
- Event logs for the NX bus master can be deleted, but event logs for NX Units mounted to the CPU Unit cannot be deleted.

A-6 Correspondence of Events between Project Unit Version Earlier than 1.40 and Project Unit Version 1.40 or Later

Events that occur in CPU Units are determined by the CPU unit versions, and they do not change even if you change the project unit versions*1.

*1. In this manual, the unit version set for a project is called "project unit version". A project unit version is set for a project in the Select Device Area of Project Properties Dialog Box on the Sysmac Studio.

However, some events that occur in the EtherCAT Master Function Module differ between project unit version earlier than 1.40 and project unit version 1.40 or later. When you obtain the event code of an event that occurred by the host system and implement a processing, consider that the event code is different according to the setting of the project unit version and design the host system.

The following table shows the correspondence of events between project unit version earlier than 1.40 and project unit version 1.40 or later.

Function	Type of corre-	Project ur	nit version
module	spondence	Version earlier than 1.40	Version 1.40 or later
EtherCAT Master	Events changed for project unit	EtherCAT Slave Backup Failed (Version 1.03 or later) (102F0000 hex)	EtherCAT Slave Backup Failed (10460001 hex)
Function	version 1.40 or later	EtherCAT Slave Restore Operation Failed (Version 1.03 or later) (10300000 hex)	EtherCAT Slave Restore Operation Failed (10470002 hex)
		Network Configuration Error (84210000 hex)	Incorrect Wiring Detected (843C0000 hex)
		Network Configuration Verification Error (84220000 hex)	Network Configuration Verification Error (Incorrect Wiring) (84320003 hex)
			Network Configuration Verification Error (Slave Unconnected) (84380000 hex)
			Network Configuration Verification Error (Mismatched Slave) (84330004 hex)
		Slave Initialization Error (84230000 hex)	Slave State Transition Failed (84300001 hex)
		Slave Application Error (84280000 hex)	Slave AL Status Error Detected (84360000 hex)
		Process Data Communications Error (842C0000 hex)	Illegal Slave Disconnection Detected (84310002 hex)
			Slave PDI WDT Error Detected (84340000 hex)
		EtherCAT Message Error (842D0000 hex)	Illegal Mailbox Received (84350000 hex)
	Events occurred	MAC Address Error (14400000 hex)	None
	only in project unit version earli- er than 1.40	EtherCAT Communications Cycle Exceeded (Version 1.10 or later) (34410000 hex)	None

Function	Type of corre-	Project unit version		
module	spondence	Version earlier than 1.40	Version 1.40 or later	
	Events occurred only in project unit version 1.40 or later	None	Parameters Not Transferred (34420000 hex)	
		None	Clock Synchronization Compensation Failed (84370000 hex)	
		None	Ring Disconnection Detected (84390000 hex)	
		None	Network Configuration Verification Error (Incorrect Ring Wiring) (843A0000 hex)	
		None	Wait for Cycling Power Supply (94520000 hex)	
	Events commonly	Communications Controller Error (0440	00000 hex)	
	occurred in	Slave Node Address Duplicated (24200000 hex)		
	project unit ver- sion earlier than 1.40 and project unit version 1.40	Network Configuration Information Error (34400000 hex)		
		EtherCAT Fault (44010000 hex)		
		Controller Insufficient Memory Warning	,	
	or later	Emergency Message Detected (64200	000 hex)	
		Link OFF Error (84200000 hex)		
		Process Data Transmission Error (8429	· · · · · · · · · · · · · · · · · · ·	
		Process Data Reception Timeout (842B	,	
		EtherCAT Frame Not Received (Versio	, , ,	
		Input Process Data Invalid Error (Version Process Data Invalid Err	on 1.13 or later) (842F0000 nex)	
		Slave Disconnected (94400000 hex)		
		Slave Connected (94410000 hex) Error Reset (94430000 hex)		
		Slave Disabled (Version 1.04 or later) (04440000 hox)	
		Slave Enabled (Version 1.04 or later) (<u> </u>	
		EtherCAT Diagnosis/Statistics Log Star	,	
		hex)	ted (version 1.11 or later) (3400000	
		EtherCAT Diagnosis/Statistics Log End	led (Version 1.11 or later) (94510000	
		hex)		

A-7 Correspondence of NX Bus Events between NX102 CPU Units, NX1P2 CPU Units and Slave Terminals

The NX102 CPU Units, NX1P2 CPU Units and Slave Terminals support the mounting of NX Units. This means that NX102 CPU Units, NX1P2 CPU Units and Slave Terminals are subject to the same errors. However, with the NX102 CPU Units, NX1P2 CPU Unit, it is easier to identify the cause of an NX bus error because two or more events with more specific names may correspond to one Slave Terminal event.

The table below shows the correspondence of NX bus events, where two or more NX102 CPU Unit and NX1P2 CPU Unit events correspond to one Slave Terminal event.

NX102 CPU Unit and NX1P2 CPU Unit event	Slave Terminal event
NX Bus Function Processing Error (44440000 hex)	NX Unit Processing Error (40200000 hex)
NX Bus System Information (44450000 hex)	
Unsupported NX Unit Mounted*1	Unit Configuration Error, Unsupported Configuration
Total I/O Data Size in NX Units Excessive (24D20000	(24A10000 hex)
hex)	
NX Unit Version Not Matched (35900000 hex)	Unit Configuration Verification Error (35010000 hex)
Unregistered NX Unit Mounted (35910000 hex)	
Registered NX Unit Not Mounted (35920000 hex)	
NX Unit Serial Number Mismatch (35930000 hex)	
NX Bus Communications Error (85500000 hex)	

^{*1.} This event will occur if the NX102 CPU Unit and NX1P2 CPU Unit do not support any required function of NX Units that will be released in the future.

A-8 Correction of Wiring for the EtherCAT Ring Topology Based on Event

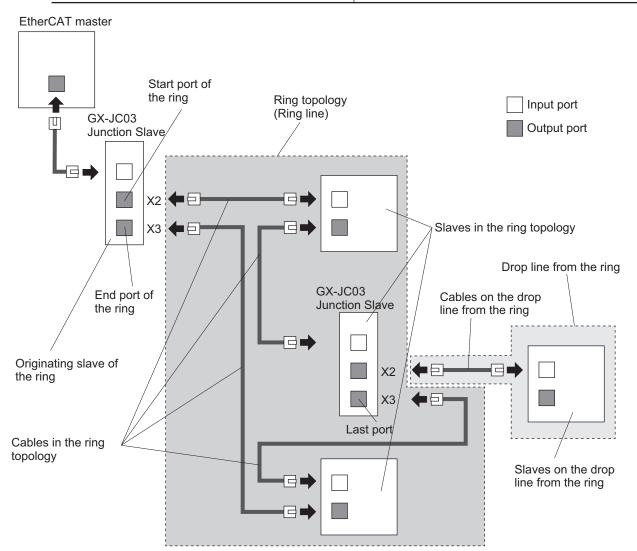
To correct the wiring for the EtherCAT ring topology on the actual network based on the current error event in the Controller, you must handle the event in the specified order. This is efficient to clear the error and correct the wiring. This section describes how to correct the wiring for the EtherCAT ring topology on the actual network based on the current error event, and how to handle events related to ring topologies.

For restrictions on configuring a ring topology, refer to the description of the ring topology in the *NJ/NX-series CPU Unit Built-in EtherCAT Port User's Manual (Cat. No. W505*).

The following tables describes the meanings of terms used for descriptions of correction of wiring for a ring topology.

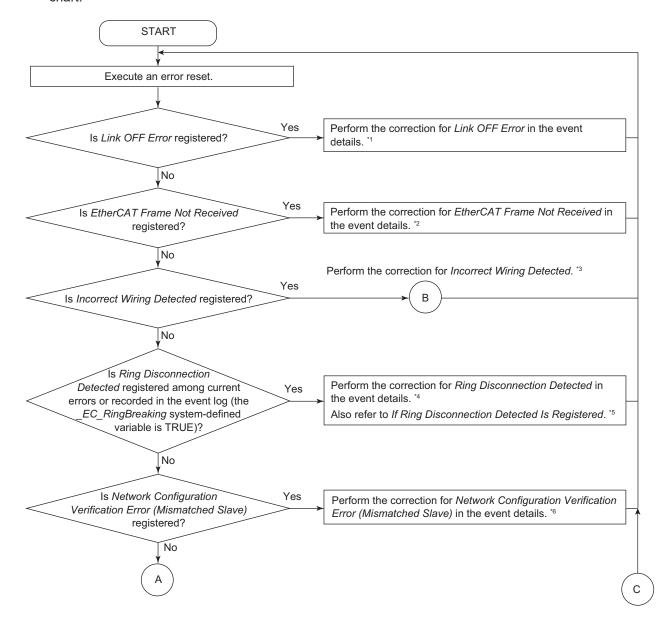
Term	Description
Ring topology	A network configuration in which nodes are connected in a ring.
Junction Slave	A slave for branching an EtherCAT network. To be specific, it is a GX-JC03 Junction Slave and GX-JC06 Junction Slave.
Start port of the ring	A port that becomes the start point of the ring topology.
End port of the ring	A port that becomes the end point of the ring topology.
Originating slave of the ring	 A slave that becomes the starting point of the ring topology. To be specific, any of the following slaves for which the cable redundancy is enabled. GX-JC03 Junction Slave One of the two slaves contained in a GX-JC06 Junction Slave
Cable redundancy	Property of being able to continue communications even if a wire is broken in the ring topology or a slave is not connected.
Cable redundancy setting	A setting operation to enable and disable the cable redundancy.
Cable redundancy status	A state in which the network has the cable redundancy. A network has the cable redundancy status when the ring topology in the actual network configuration agrees with the ring topology that is set in the network configuration information.
Ring disconnection status	A state in which there is only one wire break in a ring topology with the cable redundancy status.
Last port	For a Junction Slave, a port to which EtherCAT frames are output last. X3 for a GX-JC03 Junction Slave, and X6 for a GX-JC06 Junction Slave.
Ring line	Means a ring topology. This term is used to compare with a drop line from the ring.
Drop line from the ring	A network configuration that is branched and wired from a Junction Slave in the ring topology.
Input ports are connected	A state in which input ports are connected to each other.

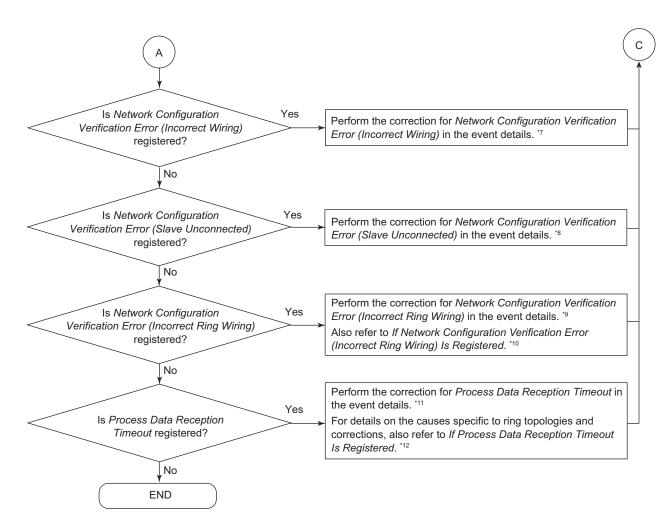
Term	Description
Output ports are connected	A state in which output ports are connected to each
	other.



A-8-1 Flowchart of the Procedure for the Correction of Wiring for the EtherCAT Ring Topology Based on Event

The following figure shows a flowchart of operation to correct the wiring for the actual network of the EtherCAT ring topology based on the current error. Handle an event in the order shown in the flowchart.





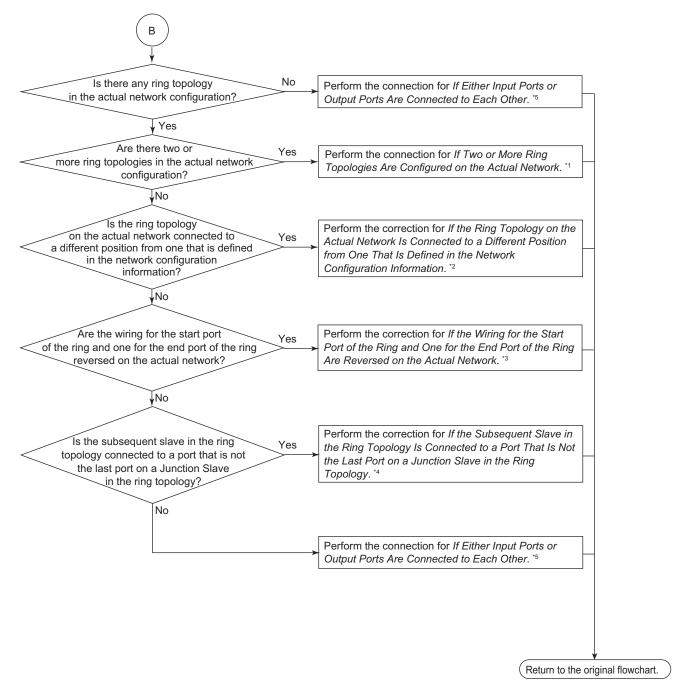
- *1. Link OFF Error (page 3-737)
- *2. EtherCAT Frame Not Received (page 3-739)
- *3. If Incorrect Wiring Detected is Registered on page A-304
- *4. Ring Disconnection Detected (page 3-794)
- *5. If Ring Disconnection Detected Is Registered on page A-311
- *6. Network Configuration Verification Error (Mismatched Slave) (page 3-769)
- *7. Network Configuration Verification Error (Incorrect Wiring) (page 3-767)
- *8. Network Configuration Verification Error (Slave Unconnected) (page 3-774)
- *9. Network Configuration Verification Error (Incorrect Ring Wiring) (page 3-776)
- *10. If Network Configuration Verification Error (Incorrect Ring Wiring) Is Registered on page A-312
- *11. Process Data Reception Timeout Error (page 3-754)
- *12. If Process Data Reception Timeout Is Registered on page A-314

A-8-2 How to Correct the Wiring of Ring Topology Based on Event

Causes and corrections based on events are displayed on the Sysmac Studio or described in *Built-in EtherCAT Port* on page 3-734. Among them, this section describes the causes and corrections related to the correction of wiring for ring topologies.

If Incorrect Wiring Detected is Registered

The following figure shows a flowchart of troubleshooting when the Incorrect Wiring Detected occurs. Handle the trouble in the order shown in the flowchart.



- *1. If Two or More Ring Topologies Are Configured on the Actual Network on page A-306
- *2. If the Ring Topology on the Actual Network Is Connected to a Different Position from One That Is Defined in the Network Configuration Information on page A-307

- *3. If the Wiring for the Start Port of the Ring and One for the End Port of the Ring Are Reversed on the Actual Network on page A-308
- *4. If the Subsequent Slave in the Ring Topology Is Connected to a Port That Is Not the Last Port on a Junction Slave in the Ring Topology on page A-309
- *5. If Either Input Ports or Output Ports Are Connected to Each Other on page A-310

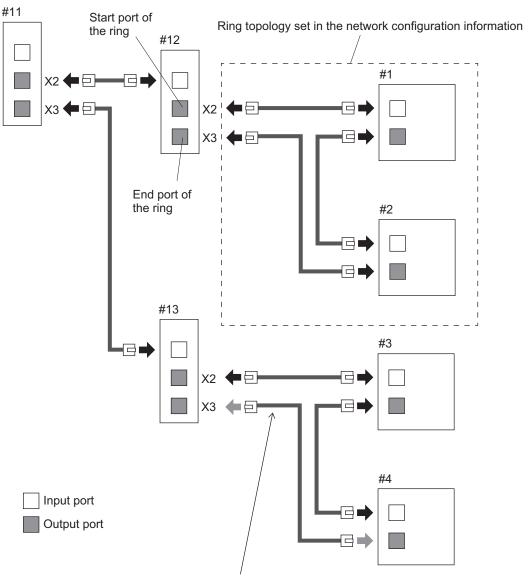
• If Two or More Ring Topologies Are Configured on the Actual Network

Reduce the number of ring topologies on the actual network to one. Use the following procedure.

- 1. For each ring topology set in the network configuration information, confirm the originating slave of the ring (attached information 1), the start port of the ring and the end port of the ring (attached information 2).
- 2. Remove the last cable of each of the ring topologies excluded in step (1) above (the cable whose ends are both connected to output ports).

An example is shown below.

Item	Description	Value
Attached infor-	Node address of the originating slave of the ring in the network configu-	#12
mation 1	ration information	
Attached infor-	Names of the start port and end port of the ring in the network configu-	X2_X3
mation 2	ration information	



For the ring connections made to ports X2 and X3 of slave #13 not described in the attached information, remove the cable connected to X3 of the end port of the ring.

• If the Ring Topology on the Actual Network Is Connected to a Different Position from One That Is Defined in the Network Configuration Information

On the actual network, wire the ring topology to the start port of the ring and the end port of the ring.

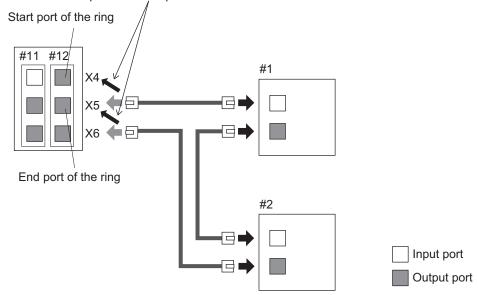
Use the following procedure.

- 1. For each ring topology set in the network configuration information, confirm the originating slave of the ring (attached information 1), the start port of the ring and the end port of the ring (attached information 2).
- 2. If the ring topology on the actual network is connected to ports not as confirmed in step (1), connect the ring topology again to the start port of the ring and the end port of the ring.

An example is shown below.

Item	Description	Value
Attached infor- mation 1	Node address of the originating slave of the ring in the network configuration information	#11
Attached infor-	Names of the start port and end port of the ring in the network configuration information	X2_X3

For the ring connections made to ports X5 and X6 of slave #12, which are different from the description in the attached information, make connections again to ports X4 and X5 so that the start point and end point are correct.



If the Wiring for the Start Port of the Ring and One for the End Port of the Ring Are Reversed on the Actual Network

Reverse the wiring for the start port of the ring and one for the end port of the ring on the actual network.

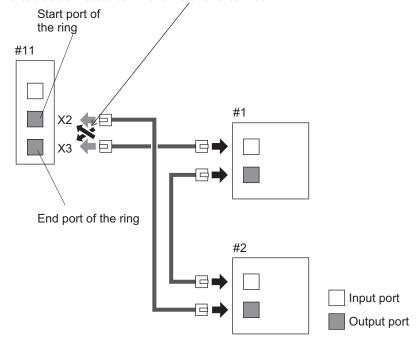
Use the following procedure.

- 1. For each ring topology set in the network configuration information, confirm the originating slave of the ring (attached information 1), the start port of the ring and the end port of the ring (attached information 2).
- 2. Reverse the wiring for the start port of the ring and one for the end port of the ring confirmed in step (1) as reversed on the actual network.

An example is shown below.

Item	Description	Value
Attached infor-	Node address of the originating slave of the ring in the network configu-	#11
mation 1	ration information	
Attached infor-	Names of the start port and end port of the ring in the network configu-	X2_X3
mation 2	ration information	

For the ring connections made to ports X2 and X3 of slave #11, which are the same as the description in the attached information, if the start point and end point of the cable are reversed, change the positions of the cables connected to X2 and X3 and re-connect.



If the Subsequent Slave in the Ring Topology Is Connected to a Port That Is Not the Last Port on a Junction Slave in the Ring Topology

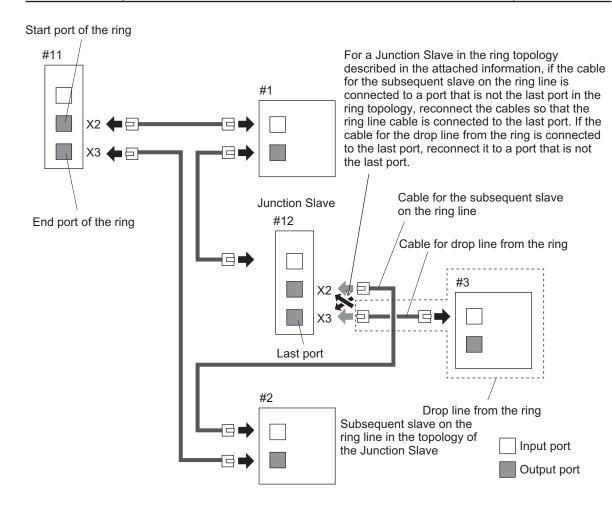
Connect the cable for the subsequent slave on the ring line to the last port on the Junction Slave on the actual network.

Use the following procedure.

- 1. Check that the cable for the subsequent slave on the ring line is connected to the last port on the Junction Slave in the ring topology.
- 2. If the cable for the subsequent slave on the ring line is not connected to the last port on the Junction Slave in the ring topology, connect the cable for the subsequent slave on the ring line to the last port. If the cable for the drop line from the ring is connected to the last port, reconnect the cable for the drop line to a port that is not the last port.
- 3. If it is difficult to check as in step (1), remove the last cable in the ring topology. If the Network Configuration Verification Error (Incorrect Wiring) occurs, make corrections for the assumed causes and then connect the removed cable again.

An example is shown below.

Item	Description	Value
Attached infor-	Node address of the originating slave of the ring in the network configu-	#11
mation 1	ration information	
Attached infor-	Names of the start port and end port of the ring in the network configu-	X2_X3
mation 2	ration information	



If Either Input Ports or Output Ports Are Connected to Each Other

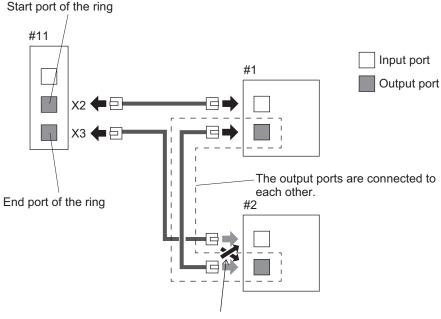
Correct cable connections on the actual network so that a cable whose ends are both connected to input ports or output ports is connected correctly to an input port on one end and to an output port on the other end.

Use the following procedure.

- 1. Check if input ports or output ports are not connected to each other on the actual network.
- 2. If input ports or output ports are connected to each other, correct the wiring so that an output port is connected to an input port.

The following shows an example where output ports are connected to each other in the ring topology.

Item	Description	Value
Attached infor-	Node address of the originating slave of the ring in the network configu-	#11
mation 1	ration information	
Attached infor-	Names of the start port and end port of the ring in the network configu-	X2_X3
mation 2	ration information	



Between slaves in the ring topology connected to ports X2 and X3 of slave #11 described in the attached information, re-connect the cable whose ends are both connected to output ports to the input port in the next slave.

Also re-connect the cable connected to the above input port correctly.



Additional Information

When this event occurs, you can perform the compare and merge operation in the Sysmac Studio to possibly identify where input ports and output ports are connected to each other. If the ring topology is configured, you can disconnect the last cable of the ring topology to possibly identify where input ports or output ports are connected to each other.

If Ring Disconnection Detected Is Registered

There is an error in the cables in the ring topology. The ring topology is not in the cable redundancy status.

Remove the following causes in the cables between the slave with the node address in the attached information 1 and the subsequent slave.

- · The Ethernet cable was disconnected.
- · The Ethernet cable connector was disconnected.
- · A non-recommended cable was used.
- · The Ethernet cable is broken.
- · Contact failure or part failure occurred in the connector.

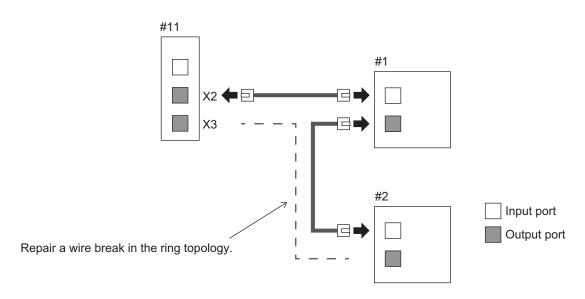


Additional Information

When this event occurs, you can check the current error in the EtherCAT configuration view on the Sysmac Studio to possibly identify where a wire break occurred.

An example is shown below.

Item	Description	Value
Attached infor-	Slave node address before point of break	#2
mation 1		





Precautions for Correct Use

The Ring Disconnection Detected is displayed among current errors when the event level is a minor fault.

When the level of the Ring Disconnection Detected is set to an observation, the Ring Disconnection Detected is not displayed among current errors. Check it with the event log. For the correction of the Ring Disconnection Detected whose level is an observation, perform the same correction as one when the level is a minor fault.

If Network Configuration Verification Error (Incorrect Ring Wiring) Is Registered

The ring topology that is not set in the network configuration information is configured on the actual network. Remove the last cable of the ring topology for which the cable redundancy is not set in the network configuration information.

Use the following procedure.

- 1. For each ring topology set in the network configuration information, confirm the originating slave of the ring (attached information 1), the start port of the ring and the end port of the ring (attached information 2).
- 2. Remove any ring topology other than those not confirmed in (1).



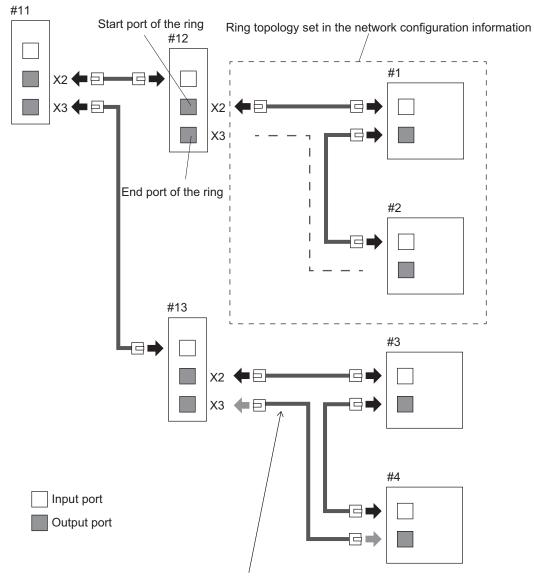
Additional Information

When this event occurs, you can perform the compare and merge operation in the Sysmac Studio to possibly identify incorrectly wired parts.

If you want to configure a ring topology, make the cable redundancy setting in the network configuration information when the attached information 1 is 0.

An example is shown below.

Item	Description	Value
Attached infor-	Node address of the originating slave of the ring in the network configura-	#12
mation 1	tion information	
Attached infor-	Names of the start port and end port of the ring in the network configura-	X2_X3
mation 2	tion information	



Remove the last cable (i.e., the cable whose ends are both connected to output ports)

If Process Data Reception Timeout Is Registered

When the ring topology includes a slave that does not support the ring topology, the Process Data Reception Timeout also occurs after a ring disconnection or cycling the power to the slave. Check with the event log that the Ring Disconnection Detected or Illegal Slave Disconnection Detected has not occurred as the same time as the Process Data Reception Timeout.

In a ring topology, use only slaves that support the ring topology.

A-9 Operation Related to the X Bus Unit

The operation related to the Controller event of the X Bus Unit is shown below.

A-9-1 Controller Behavior for Each Level of Error

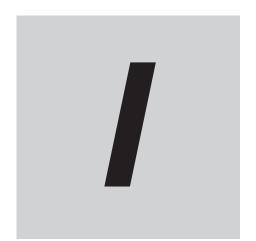
The operation and behavior of the Controller differ depending on the level of the Controller event.

		Level of the event occurred				
	Item	Controller errors				Controller in- formation
		Major fault level	Partial fault level	Minor fault level	Observation	Information
Definition		An error that causes all con- trol operations in the Control- ler to stop	An error that causes all control operations in one of the function modules other than the PLC Function Module to stop	An error that causes some control operations in one of the function modules to stop	An error that do not affect con- trol	An event that is not an error but is recorded in the event log to notify the user of specific information
X Bus Unit	RUN (green)			Lit	Lit	Lit
opera- tion	ERROR (red)			Lights or flash- es at 500-ms intervals.	Not lit	Not lit
	Operating status			Operation stops or continues.	Operation continues.	Operation continues.
	Error reset			Possible or not possible.	Possible.	Possible.
	Outputs turned OFF			Yes or No	No	No
	Event logs			Recorded. (Some errors are not record- ed.)	Recorded.	Recorded.

A-9-2 Operation of the Function Module When It Becomes an Event Source

Function module		Level of the e	error occurred	
runction module	Major fault level	Partial fault level	Minor fault level	Observation
X Bus Unit Com-			Operation of the	Operation contin-
mon Function			X Bus Unit stops.	ues.
Module			Operation of the	
			X Bus Unit parti-	
			ally continues.	

F	Level of the error occurred			
Function module	Major fault level	Partial fault level	Minor fault level	Observation
X Bus Ethernet Function Module			Ethernet communications stop (online connection with the Sysmac Studio and communication with an HMI are not possible). Ethernet communications partially stop (if the error is caused by communications other than connection with the Sysmac Studio or an HMI, online connection with the Sysmac Studio and communication with an HMI are possible).	Ethernet communications continue.
X Bus EtherNet/IP Function Module			EtherNet/IP communications stop. EtherNet/IP communications partially stop.	EtherNet/IP communications continue.



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