

Communication Unit Dedicated for RFID V680 Allowing Direct Connection to OMRON PLC CJ/ CS/NJ-series

- Communication unit for connecting RFID V680-series, which can be used around the world, directly to PLC.
- Allows batch transfer of data up to 8 kbytes.



Features

- Easy reading and writing of data by simply setting parameters in PLC memory area.
- Simpler device configuration compared to serial communication allows faster data processing.
- Function Block (FB) library in Ladder Program facilitates generation of communication programs.

Note: For system configuration, refer to V680-series catalog (Q151). For specification of controllers, refer to the manual of each controller.

Ordering Information

Type	Appearance	Connected ID System		External power supply	No. of unit numbers used	Current consumption (A)			Model
						5 V	24 V	External	
CJ Special I/O Unit		V680 Series	1 Head	-	1 unit number	0.26	0.13 *	-	CJ1W-V680C11
			2 Heads		2 unit number	0.32	0.26	-	CJ1W-V680C12

Type	Appearance	Connected ID System		External power supply	No. of unit numbers used	Current consumption (A)			Model
						5 V	26 V	External	
CS Special I/O Unit		V680 Series	1 Head	-	1 unit number	0.26	0.13 *	-	CS1W-V680C11
			2 Heads	24 VDC	2 unit number	0.32	-	0.36	CS1W-V680C12

* When connected to the V680-H01-V2: 0.28 A

CJ1W-V680C11/-V680C12 CS1W-V680C11/-V680C12

General Specification

Item	Model	CJ1W-V680C11	CJ1W-V680C12	CS1W-V680C11	CS1W-V680C12
Current consumption	Internal: 5 V	0.26 A	0.32 A	0.26 A	0.32 A
	Internal: 24 V/26 V	0.13 A *	0.26 A	0.13 A *	–
	External: 24 V	–	–	–	0.36 A
Ambient operating temperature	0 to 55°C				
Ambient storage temperature	–20°C to 75°C				
Ambient operating humidity	10% to 90% (with no condensation)				
Insulation resistance	20 mΩ min. at 500 VDC				
Dielectric strength	1,000 VAC for 1 minute				
Degree of protection	Mounted in panel (IP30)				
Vibration resistance	10 to 57 Hz variable vibration, 0.075-mm double amplitude and 57 to 150 Hz variable vibration at 9.8 m/s ² acceleration, with 10 sweeps in X, Y, and Z directions for 8 minutes each				
Shock resistance	147 m/s ² in X, Y, and Z directions 3 times each				
Appearance	31 × 65 × 90 mm (excluding protrusions)			35 × 130 × 101 mm (excluding protrusions)	
Weight	120 g max.		130 g max.	180 g max.	300 g max.

* When connected to the V680-H01-V2: 0.28 A.

CJ1W-V680C11/-V680C12 CS1W-V680C11/-V680C12

Performance Specifications

For CJ1 Series

Item	Model	CJ1W-V680C11	CJ1W-V680C12	
Unit classification	Special I/O Unit			
Influence on CPU Unit's cycle time	0.15 ms		0.3 ms	
Mounting location	CJ1-series CPU Rack or CJ1-series Expansion Rack (Cannot be mounted to C200H Expansion I/O Racks or SYSMAC BUS Slave Racks.)			
Connectable Antennas	V680-series Amplifiers and Antennas *1			
Applicable RF Tags	V680-series RF Tags			
No. of allocated units	1		2	
No. of allocated words	10 words		20 words	
Control protocol	Special protocol			
Data exchange methods with CPU Unit	Special I/O Unit Area in CIO Area: CIO 2000 to CIO 2959	Constant data exchange of 10 words/Unit	CPU Unit to ID Sensor Unit ID Sensor Unit to CPU Unit	Unit controls, communications processing specification, data storage area specification Unit information, results information, processing results monitor
	Special I/O Unit words in DM Area: D20000 to D29599	100 words/Unit transferred when power is turned ON or when restarting the Unit	CPU Unit to ID Sensor Unit	System Settings, Auto Wait Time Setting, Write Protection Disable Setting, Antenna Connection Setting, Results Monitor Output, Test Setting, Run/Test Switching Method Setting
Data transfer quantity	2,048 bytes max. (160 bytes/scan) *2		2,048 bytes max./channel (160 bytes/scan) *2	
Operating modes	Run Mode			
	Test Mode	<ul style="list-style-type: none"> • Communications tests • Distance level measurements • Read speed level measurements • Write speed level measurements • Noise level measurements • Communications success rate measurements 		
Diagnostic functions	(1) CPU watchdog timer (2) Communications error detection with RF Tag (3) Antenna power supply error			

*1. V680-H01 and V680-H01-V2 can be connected to 1CH-type ID Sensor Units only. They are not supported by 2CH-type ID Sensor Units.

*2. If using Intelligent I/O Instructions is specified as the data transfer method, up to 2,048 bytes can be transferred in one scan.

CJ1W-V680C11/-V680C12 CS1W-V680C11/-V680C12

For CS1 Series

Item	Model	CS1W-V680C11	CS1W-V680C12	
Unit classification	Special I/O Unit			
Influence on CPU Unit's cycle time	0.15 ms		0.3 ms	
Mounting location	CS1-series CPU Rack or CS1-series Expansion Rack (Cannot be mounted to C200H Expansion I/O Racks or SYSMAC BUS Slave Racks.)			
Connectable Antennas	V680-series Amplifiers and Antennas *1			
Applicable RF Tags	V680-series RF Tags			
No. of allocated units	1		2	
No. of allocated words	10 words		20 words	
Control protocol	Special protocol			
Data exchange methods with CPU Unit	Special I/O Unit Area in CIO Area: CIO 2000 to CIO 2959	Constant data exchange of 10 words/Unit	CPU Unit to ID Sensor Unit ID Sensor Unit to CPU Unit	Unit controls, communications processing specification, data storage area specification Unit information, results information, processing results monitor
	Special I/O Unit words in DM Area: D20000 to D29599	100 words/Unit transferred when power is turned ON or when restarting the Unit	CPU Unit to ID Sensor Unit	System Settings, Auto Wait Time Setting, Write Protection Disable Setting, Antenna Connection Setting, Results Monitor Output, Test Setting, Run/Test Switching Method Setting
Data transfer quantity	2,048 bytes max. (160 bytes/scan) *2		2,048 bytes max./channel (160 bytes/scan) *2	
Operating modes	Run Mode			
	Test Mode	<ul style="list-style-type: none"> • Communications tests • Distance level measurements • Read speed level measurements • Write speed level measurements • Noise level measurements • Communications success rate measurements 		
Diagnostic functions	(1) CPU watchdog timer (2) Communications error detection with RF Tag (3) Antenna power supply error			

*1. V680-H01 and V680-H01-V2 can be connected to 1CH-type ID Sensor Units only. They are not supported by 2CH-type ID Sensor Units.

*2. If using Intelligent I/O Instructions is specified as the data transfer method, up to 2,048 bytes can be transferred in one scan.

CJ1W-V680C11/-V680C12 CS1W-V680C11/-V680C12

For NJ Series

Item	Model	CJ1W-V680C11	CJ1W-V680C12
Unit classification		Special I/O Unit	
Mounting location		NJ-series CPU Rack or NJ-series Expansion Rack	
Connectable Antennas		V680-series Amplifiers and Antennas *	
Applicable RF Tags		V680-series RF Tags	
Operating modes		Run Mode	
	Test Mode	<ul style="list-style-type: none"> • Communications tests • Distance level measurements • Read speed level measurements • Write speed level measurements • Noise level measurements • Communications success rate measurements 	
Data exchange methods with CPU Unit		Data exchange by using I/O ports	
Diagnostic functions		(1) CPU watchdog timer (2) Communications error detection with RF Tag (3) Antenna power supply error	

* V680-H01 and V680-H01-V2 can be connected to 1CH-type ID Sensor Units only. They are not supported by 2CH-type ID Sensor Units.

CJ1W-V680C11/-V680C12 CS1W-V680C11/-V680C12

Communications Function Specifications

Item	Model	CJ1W-V680C11	CJ1W-V680C12
Communications control		(1) RF Tag Communications Speed (Normal Mode or High-speed Mode) (2) Write Verification Processing (3) Auto Wait Time Setting (4) UID Addition Setting (5) Write Protection Setting (6) Antenna Connection Setting (One-channel ID Sensor Unit (CJ1W-V680C11)) (7) Results Monitor Setting	
Commands		Read Write Bit Set/Bit Clear Mask Bit Write Calculation Write Data Fill Data Check Number of Writes Control Read with Error Correction Write with Error Correction UID Read Noise Measurement	Read Write Bit Set/Bit Clear Mask Bit Write Calculation Write Data Fill Data Check Number of Writes Control Copy Read with Error Correction Write with Error Correction UID Read Noise Measurement
Communications specification		Single trigger Single auto Repeat auto FIFO trigger * FIFO repeat * Multi-access trigger * Multi-access repeat *	

* FIFO trigger, FIFO repeat, Multi-access trigger, and Multi-access repeat specification cannot be used for communicating with V680-D1KP□□ RF Tags.

Item	Model	CS1W-V680C11	CS1W-V680C12
Communications control		(1) RF Tag Communications Speed (Normal Mode or High-speed Mode) (2) Write Verification Processing (3) Auto Wait Time Setting (4) UID Addition Setting (5) Write Protection Setting (6) Antenna Connection Setting (One-channel ID Sensor Unit (CS1W-V680C11)) (7) Results Monitor Setting	
Commands		Read Write Bit Set/Bit Clear Mask Bit Write Calculation Write Data Fill Data Check Number of Writes Control Read with Error Correction Write with Error Correction UID Read Noise Measurement	Read Write Bit Set/Bit Clear Mask Bit Write Calculation Write Data Fill Data Check Number of Writes Control Copy Read with Error Correction Write with Error Correction UID Read Noise Measurement
Communications specification		Single trigger Single auto Repeat auto FIFO trigger * FIFO repeat * Multi-access trigger * Multi-access repeat *	

* FIFO trigger, FIFO repeat, Multi-access trigger, and Multi-access repeat specification cannot be used for communicating with V680-D1KP□□ RF Tags.

CJ1W-V680C11/-V680C12 CS1W-V680C11/-V680C12

Connectable Units

When using V680-HS51/-HS52/-HS63/-HS65 Antenna

Model	NJ System		CJ System		CS System	
	CPU unit	Expansion unit	CPU unit	Expansion unit	CPU unit	Expansion unit
CJ1W-V680C11	4 units	6 units	4 units	4 units	N/A	N/A
CJ1W-V680C12	2 units	3 units	2 units	2 units	N/A	N/A
CS1W-V680C11	N/A	N/A	N/A	N/A	9 units	9 units
CS1W-V680C12	N/A	N/A	N/A	N/A	10 units	10 units

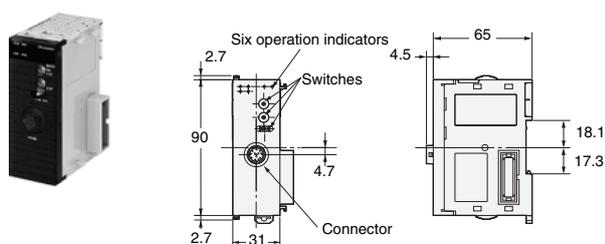
When using V680-H01-V2 Antenna

Model	NJ System		CJ System		CS System	
	CPU unit	Expansion unit	CPU unit	Expansion unit	CPU unit	Expansion unit
CJ1W-V680C11	2 units	2 units	2 units	1 unit	N/A	N/A
CS1W-V680C11	N/A	N/A	N/A	N/A	4 units	4 units

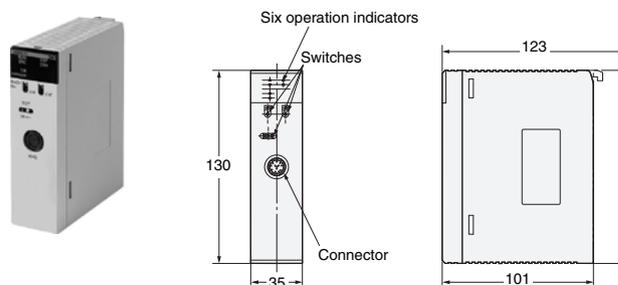
Dimensions

(unit: mm)

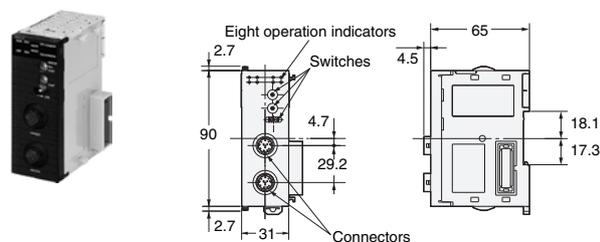
CJ1W-V680C11



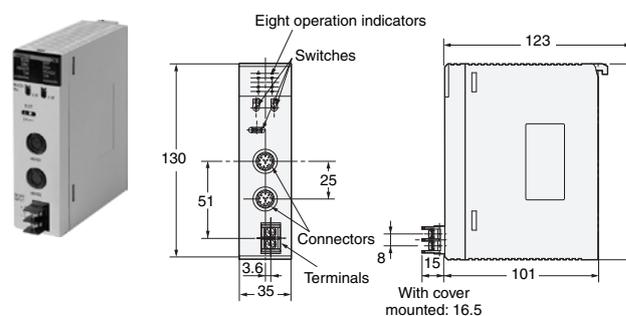
CS1W-V680C11



CJ1W-V680C12



CS1W-V680C12



Related Manuals

Man. No	Model	Manual name	Application	Description
Z271	V680 series CS1W-V680C11 CS1W-V680C12 CJ1W-V680C11 CJ1W-V680C12	ID sensor units User's Manual	When connecting to OMRON PLC CS/CJ-series	Describes the following for the main ID Sensor Unit: <ul style="list-style-type: none"> • System configuration • Data exchange with CPU units • Functions of ID Sensor Unit • Controlling ID Sensor Unit • Operations when alarm is triggered
Z317	V680 series CJ1W-V680C11 CJ1W-V680C12	ID sensor units User's Manual	When connecting to OMRON PLC NJ-series	Describes the following for the main ID Sensor Unit: <ul style="list-style-type: none"> • System configuration • Data exchange with CPU units • Functions of ID Sensor Unit • Controlling ID Sensor Unit • Operations when alarm is triggered

Terms and Conditions Agreement

Read and understand this catalog.

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

Warranties.

(a) Exclusive Warranty. Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied.

(b) Limitations. OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE.

Omron further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or otherwise of any intellectual property right. (c) Buyer Remedy. Omron's sole obligation hereunder shall be, at Omron's election, to (i) replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product, (ii) repair the non-complying Product, or (iii) repay or credit Buyer an amount equal to the purchase price of the non-complying Product; provided that in no event shall Omron be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Products unless Omron's analysis confirms that the Products were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any Products by Buyer must be approved in writing by Omron before shipment. Omron Companies shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty.

See <http://www.omron.com/global/> or contact your Omron representative for published information.

Limitation on Liability: Etc.

OMRON COMPANIES SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY.

Further, in no event shall liability of Omron Companies exceed the individual price of the Product on which liability is asserted.

Suitability of Use.

Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases.

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.

Programmable Products.

Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof.

Performance Data.

Data presented in Omron Company websites, catalogs and other materials is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of Omron's test conditions, and the user must correlate it to actual application requirements. Actual performance is subject to the Omron's Warranty and Limitations of Liability.

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.