## Instruction Manual for CK3M-series IO UNIT

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## Precautions for Compliance with UL/CSA Standards and EU Directives

## Notice to Users of the CK3M-series components in the USA, Canada and Europe

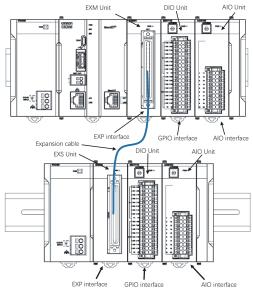
This manual must be consulted in all cases in order to find out the nature of the potential HAZARDS and any actions which have to be taken to avoid them. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

This product is defined as an in-panel device and must be installed within a control panel.

#### Model

CK3W-MD7110, CK3W-MD7120, CK3W-AD2100, CK3W-AD3100, CK3W-EXM01 and CK3W-EXS02

### Electrical Rating



All external power sources must be class 2 or SELV power supplies with F4A over-current protection.

#### [Power consumption]

CK3W-MD7110: 5 V DC, 1.0 W CK3W-MD7120: 5 V DC 1 0 W CK3W-EXM01: 5 V DC, 0.4 W CK3W-EXS02: 5 V DC, 0.2 W

CK3W-AD2100: 5 V DC, 0.9 W 24 V DC 14 W CK3W-AD3100: 5 V DC, 0.9 W 24 V DC, 2.0 W

#### ■ GPIO Interface

[Digital Input] 24 V DC, 3.9mA/P 16 points.

[Digital Output]

12 to 24 V DC (RES.), (TUN.), (P.D.), 0.5 A/P 16 points, 2 A max. per Unit Internal current consumption of CK3W-MD7110: 40 mA max. per Unit Internal current consumption of CK3W-MD7120 : 80 mA max, per Unit

#### ■ AIO Interface

[Analog Input]

-10 to +10 V, 4 channels (CK3W-AD2100)

-10 to +10 V. 8 channels (CK3W-AD3100)

#### Environment

Indoor use only. Altitude: 2,000 m max. Surrounding Air Temperature: 0 to 55 °C Surrounding Air Humidity: 10 to 95% Overvoltage Category II Pollution Degree 2

#### Cable for I/O Terminal

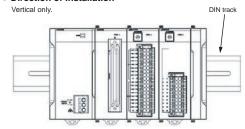
Please select the cable by which rated temperature is 75°C or above.

Do not use paint thinner or similar chemical to clean with. Use a dry cloth

#### Enclosure Type

Please use this product in a control board. Enclosure type: Type 1 or more.

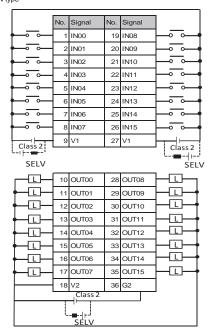
#### Direction of Installation



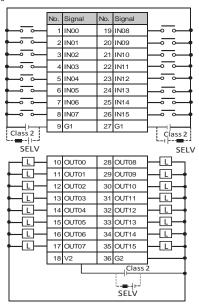
## • I/O Wiring Diagram

■ GPIO Interface

NPN type



#### PNP type



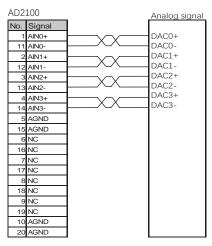
- : Over-current protection (Current limitation:F4A, 24 VDC minimum) Use fuses of either of the following categories
  - cULus Listed
  - UL Listed and CSA certified

#### ■ EXP Interface

To connect EXM Unit (OUT) to EXS Unit (IN), use the following cable.

CK3W-CAX003A

#### ■ AIO Interface



#### AD3100

| No. | Signal |             | Analog signal |
|-----|--------|-------------|---------------|
|     | AIN0+  |             | DAC0+         |
| 11  | AIN0-  | X_X         | DAC0-         |
| 2   | AIN1+  |             | DAC1+         |
| 12  | AIN1-  | X_X         | DAC1-         |
| 3   | AIN2+  |             | DAC2+         |
| 13  | AIN2-  | X           | DAC2-         |
| 4   | AIN3+  |             | DAC3+         |
| 14  | AIN3-  | X           | DAC3-         |
| 5   | AGND   |             |               |
| 15  | AGND   |             |               |
| 6   | AIN4+  |             | DAC4+         |
| 16  | AIN4-  | X X         | DAC4-         |
| 7   | AIN5+  |             | DAC5+         |
| 17  | AIN5-  | X_X         | DAC5-         |
| 8   | AIN6+  |             | DAC6+         |
| 18  | AIN6-  | X X         | DAC6-         |
| 9   | AIN7+  | <del></del> | DAC7+         |
| 19  | AIN7-  |             | DAC7-         |
| 10  | AGND   |             |               |
| 20  | AGND   |             |               |

## Conformance to UL/CSA Standards

#### Terminal Connection Diagram

- 1. Do not use ferrule terminals. Insert the stranded or solid wire directly into the holes on the terminal block.
- 2 Strip length: 10 mm
- 3. Wire size: AWG 16 to AWG 26, Solid or Strand, CU

### Accessory Cables

Customer must use the following cable for expansion.

| Interface       | Model        | Manufacturer      |
|-----------------|--------------|-------------------|
| Expansion Cable | CK3W-CAX003A | OMRON corporation |

These accessory cables are Internal Wiring only. Separate the accessory cable 50.8 mm (2 inch) or more from more than 150 V circuit, 6.4 mm (1/4 inch) or more from less than 150 V circuit.

## **Conformance to EU Directives**

This is a class A product. In a residential areas it may cause radio interference, in which case the user may be required to take adequate measures to reduce interference.

## Conformance to KC Standard

사용자안내

이 기기는 업무용 환경에서 사용할 목적으로 적합성평가를 받은 기기로서 가정용 환경에서 사용하는 경우 전파간섭의 우려가 있습니다.

#### **OMRON Corporation** Industrial Automation Company Kvoto, JAPAN

#### Contact: www.ia.omron.com

Regional Headquarters

OMRON EUROPE B.V. Wegalaan 67-69,2132 JD Hoofddorp 2895 Greenspoint Parkway, Suite 200

The Netherlands Tel: (31)2356-81-300

Fax: (31)2356-81-388

# OMRON ELECTRONICS LLC

Hoffman Estates, IL 60169 U.S.A. Tel: (1) 847-843-7900

Fax: (1) 847-843-7787

#### OMRON ASIA PACIFIC PTE. LTD. OMRON (CHINA) CO., LTD. No. 438A Alexandra Road #05-05/08 Room 2211, Bank of China Tower,

(Lobby 2), Alexandra Technopark, 200 Yin Cheng Zhong Road, Singapore 119967 Tel: (65) 6835-3011 Fax: (65) 6835-2711

Pu Dong New Area, Shanghai, 200120. China Tel: (86) 21-5037-2222 Fax: (86) 21-5037-2200

Note: Specifications subject to change without notice.