

MELSEC iQ-F FX5-4DA

Hardware Manual



Table with Manual Number, Revision, and Date.

This manual describes the part names, dimensions, installation, and specifications of the product. Before use, read this manual and manuals of relevant products fully to acquire proficiency in handling and operating the product.

Effective October 2023. Specifications are subject to change without notice.

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Safety Precautions (Read these precautions before use.)

This manual classifies the safety precautions into two categories:

Table with WARNING and CAUTION symbols and their descriptions.

Depending on the circumstances, procedures indicated by CAUTION may also cause severe injury. It is important to follow all precautions for personal safety.

Associated Manual

Table listing associated manuals with manual name, manual number, and description.

How to obtain manuals

For the necessary product manuals or documents, consult with your local Mitsubishi Electric representative.

Applicable standards

FX5-4DA complies with the EU Directive (EMC Directive), UL standards (UL, cUL) and UKCA marking. Further information can be found in the following manual.

Regarding the standards that relate to the CPU module, please refer to either the product catalog or consult with your local Mitsubishi Electric representative.

Attention

This product is designed for use in industrial applications.

1. Outline

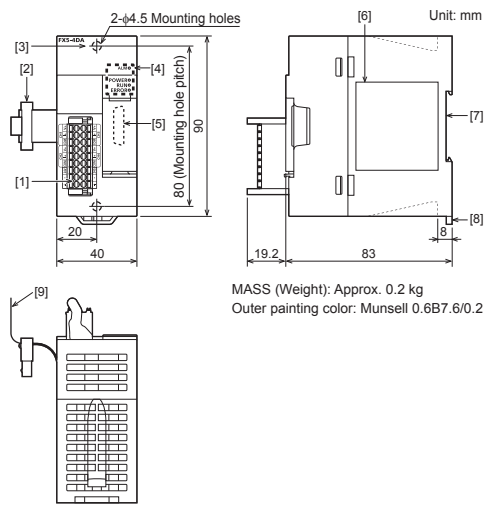
FX5-4DA analog output module (hereinafter called FX5-4DA) can convert 4 points of digital values into analog output values (voltage output and current output).

1.1 Incorporated Items

Check that the following product and items are included in the package:

Table listing product and included items.

1.2 External Dimensions, Part Names

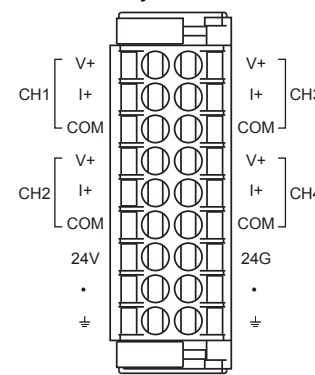


- Legend for part names: (1) Terminal block, (2) Spring clamp terminal block, (3) Extension cable, (4) Direct mounting hole, (5) Operation status display LEDs, (6) Name plate, (7) DIN rail mounting groove, (8) DIN rail mounting hook, (9) Pullout tab.

1.3 Indications of LEDs

Table showing LED display, LED color, status, and indication.

1.4 Terminal Layout



For further information on terminal, refer to the following manual. -> MELSEC iQ-F FX5 Analog Module User's Manual

2. Installation

INSTALLATION PRECAUTIONS WARNING. Make sure to cut off all phases of the power supply externally before attempting installation or wiring work.

INSTALLATION PRECAUTIONS CAUTION. Do not touch the conductive parts of the product directly. Doing so may cause device failures or malfunctions.

For further information on mounting, refer to the following manual. -> MELSEC iQ-F FX5S/FX5UJ/FX5U/FX5UC User's Manual (Hardware)

3. Wiring

WIRING PRECAUTIONS WARNING. Make sure to cut off all phases of the power supply externally before attempting installation or wiring work.

WIRING PRECAUTIONS CAUTION. Make sure to observe the following precautions in order to prevent any damage to the machinery or accidents due to malfunction of the PLC.

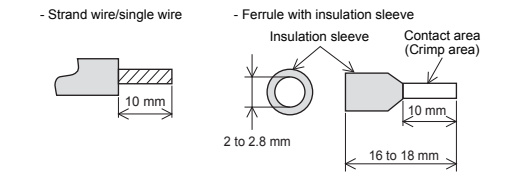
3.1 Applicable Cable

3.1.1 Spring clamp terminal block

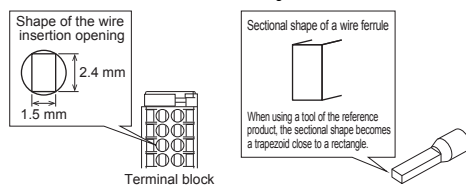
Table showing suitable wiring with wire size and temperature rating.

1) Suitable wiring

Wire end treatment: Strip the cable about 10 mm from the tip to connect a wire ferrule at the stripped area.



Check the shape of the wire insertion opening with the following chart, and use the smaller wire ferrule than the described size. Also, insert the wire with care so that the wire ferrule is in proper orientation.



The following table shows wire ferrules and its associated tools compatible with the terminal block. The shape of the wire ferrule differs depending on the crimp tool to be used.

Table showing wire ferrules and crimp tools.

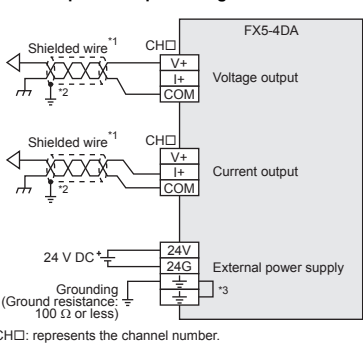
3) Connecting a cable

- When ferrules with insulation sleeve are used: Insert a wire with the ferrule with insulation sleeve into the wire insertion opening and push the wire.

Table showing manufacturer and model name of a flathead screwdriver.

4) Disconnecting a cable: Push the open/close button of the wire to be disconnected with a flathead screwdriver.

3.2 Example of Output Wiring



*1 Use 2-core shielded twisted pair cable for the analog output lines, and separate the analog output lines from other power lines or inductive lines.

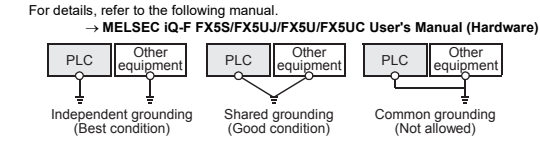
*2 Ground the shielded wire at one point on the signal receiving side.

*3 '+-' terminals are internally connected. Perform class D grounding by either terminal.

3.3 Grounding

Ground the PLC as stated below.

- Perform class D grounding. (Grounding resistance: 100 Ω or less) Ground the PLC independently if possible.



- Bring the grounding point close to the PLC as much as possible so that the ground cable can be shortened.

4. Specification

DESIGN PRECAUTIONS WARNING. Make sure to set up the following safety circuits outside the PLC to ensure safe system operation.

DESIGN PRECAUTIONS CAUTION. Simultaneously turn on and off the power supplies of the CPU module and extension modules.

STARTUP AND MAINTENANCE PRECAUTIONS CAUTION. Do not disassemble or modify the PLC. Doing so may cause fire, equipment failures, or malfunctions.

DISPOSAL PRECAUTIONS CAUTION. Please contact a certified electronic waste disposal company for the environmentally safe recycling and disposal of your device.

TRANSPORTATION PRECAUTIONS CAUTION. The product is a precision instrument. During transportation, avoid impacts larger than those specified in the general specifications.

4.1 Applicable CPU module

Table showing applicable CPU modules and their applicability.

*1 FX5-CNV-IFC or FX5-C1PS-5V is necessary to connect FX5-4DA to the FX5UC CPU module.

4.2 General Specifications

The items other than the following are equivalent to those of the CPU module.

Table showing general specifications for dielectric withstand voltage, insulation resistance, and power supply.

4.3 Power Supply Specifications

Table showing power supply specifications for external and internal power supply.

4.4 Performance Specifications

Table showing performance specifications for number of points, conversion speed, and isolation method.

4.5 Output specifications

Table showing output specifications for digital input, analog output voltage, and analog output current.

*1 For the output characteristic, refer to the following. -> MELSEC iQ-F FX5 Analog Module User's Manual

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Warranty: Exclusion of loss in opportunity and secondary loss from warranty liability. Regardless of the gratis warranty term, Mitsubishi shall not be liable for compensation to:

For safe use: This product has been manufactured as a general-purpose part for general industries, and has not been designed or manufactured to be incorporated in a device or system used in purposes related to human life.