



Programmable Controller MELSEC iQ-F

Side A JAPANESE Side B ENGLISH

MELSEC iQ-F FX5-CCL-MS

Hardware Manual



Manual Number: JY997D73501, Revision: G, Date: October 2023

This manual describes the part names, dimensions, installation, and specifications of the product.

And, store this manual in a safe place so that you can take it out and read it whenever necessary.

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

Safety Precautions (Read these precautions before use.)

This manual classifies the safety precautions into two categories:

Warning and Caution symbols with descriptions of hazardous conditions.

Depending on the circumstances, procedures indicated by CAUTION may also cause severe injury.

Associated Manual

Table listing associated manuals: MELSEC iQ-F FX5 CC-Link System Master/Intelligent Device Module User's Manual and MELSEC iQ-F FX5S/FX5UJ/FX5UJ/FX5UC User's Manual (Hardware).

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

Applicable standards

FX5-CCL-MS complies with the EU Directive (EMC Directive), UL standards (UL, cUL) and UKCA marking.

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

\*1 FX5-CCL-MS modules manufactured in June 2017 or later (manufacturer's serial number: 1760001) comply with the UL standards (UL, cUL).

Attention: This product is designed for use in industrial applications.

1. Outline

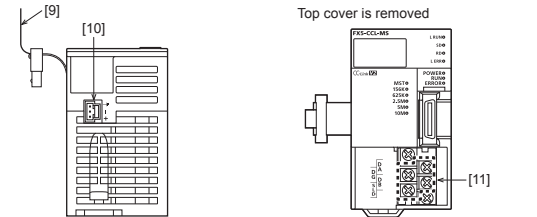
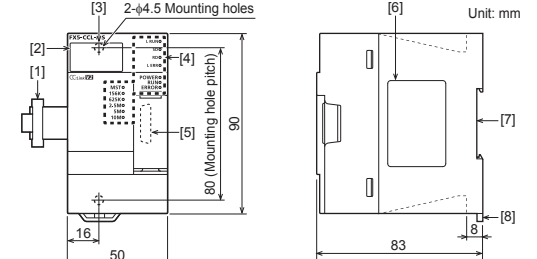
FX5-CCL-MS type CC-Link system master/intelligent device module (hereinafter referred to as FX5-CCL-MS) is an intelligent function module for connecting to a CC-Link network as a master station or an intelligent device station.

1.1 Incorporated items

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

Table listing included items: Product (FX5-CCL-MS type CC-Link system master/intelligent device module), Included Items (Power cable, resistors, protection sheet, manuals).

1.2 External Dimensions, Part Names



MASS (Weight): Approx. 0.3 kg. Outer painting color: Munsell 0.6B7.6/0.2

- 1) Extension cable, 2) Dot matrix LED, 3) Direct mounting hole, 4) Operation status display LEDs, 5) Extension connector, 6) Name plate, 7) DIN rail mounting groove, 8) DIN rail mounting hook, 9) Pullout tab, 10) Power connector, 11) CC-Link connection terminal block

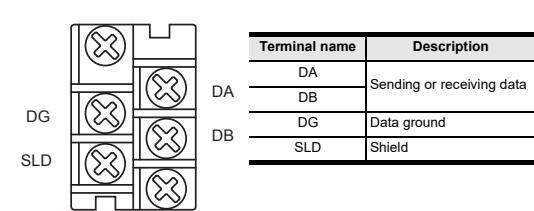
1.3 Indications of LEDs

LED display table with columns: LED display, LED color, Status, Indication (L RUN, SD, RD).

LED display table with columns: LED display, LED color, Status, Indication (L ERR, POWER, RUN, ERROR, MST, B RATE, Dot matrix LED).

\*1 The LEDs may look dimly lit or off depending on the communication status.

1.4 Terminal Layout (CC-Link connection terminal block)



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. Do not enter the ventilation slits of the PLC.

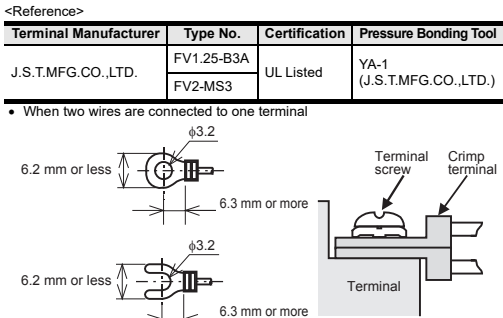
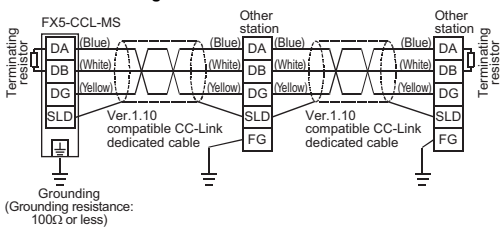


Table with columns: Terminal Manufacturer, Type No., Certification, Pressure Bonding Tool.

3.2 CC-Link Wiring



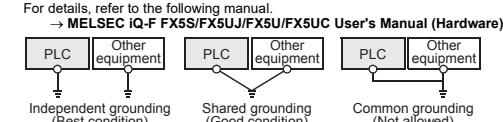
3.3 Power Connector

For further information on the power supply wiring and power cable, refer to the following manual.



3.4 Grounding

Ground the PLC as stated below. Perform class D grounding. Ground the PLC independently if possible.



4. Specification

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

DESIGN PRECAUTIONS WARNING: For the operating status of each station after a communication failure, refer to manuals relevant to the network.

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

SECURITY PRECAUTIONS WARNING: To maintain the security (confidentiality, integrity, and availability) of the programmable controller and the system against unauthorized access, denial-of-service (DoS) attacks, computer viruses, and other cyberattacks...

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 with columns: Model name, Applicability (FX5UJ CPU module, FX5U CPU module, FX5UC CPU module).

\*1 FX5-CNV-IFC or FX5-C1PS-5V is necessary to connect FX5-CCL-MS to the FX5UC CPU module.

4.2 General Specifications

The items other than the following are equivalent to those of the CPU module. For the general specification, refer to the following manual.

Table with columns: Items, Specifications (Dielectric withstand voltage, Insulation resistance).

4.3 Power Supply Specifications

Table with columns: Items, Specifications (Power supply voltage, Allowable instantaneous power failure time, Current consumption).

4.4 Performance Specifications

Table with columns: Items, Specifications (CC-Link applicable version, Station type, Station number, Connectable station type, etc.).

\*1 When FX5-CCL-MS is being used as the master station, FX3U-16CCL-M cannot be used. \*2 When FX5-CCL-MS is being used as the intelligent device station, FX3U-64CCL cannot be used.

INSTALLATION PRECAUTIONS CAUTION: The dust proof sheet should be affixed to the ventilation slits before installation and wiring work to block foreign objects such as cutting and wiring debris.

For further information on mounting, refer to the following manual. → MELSEC iQ-F FX5S/FX5UJ/FX5UJ/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: Install module so that excessive force will not be applied to terminal blocks. Failure to do so may result in wire damage/breakage or PLC failure.

3.1 Applicable Cable

3.1.1 CC-Link connection terminal block

Table with columns: Diameter, Type, Material, Temperature rating. Includes diagrams for wire termination.

Table showing link points by number of occupied stations (1, 2, 3, 4 stations) and CC-Link Ver. 1/2 settings.

The values in parenthesis are the number of available points in the intelligent device station.

\*1 The number of points that can be used differs depending on the version of the CPU module used. For details, refer to the following manual.

→ MELSEC iQ-F FX5 CC-Link System Master/Intelligent Device Module User's Manual

This manual confers no industrial property rights or any rights of any other kind, nor does it confer any patent licenses.

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.