



PROGRAMMABLE CONTROLLERS
MELSEC iQ-F

Side A JAPANESE
Side B ENGLISH
Side C CHINESE

MELSEC iQ-F FX5-CNV-BUSC

Hardware Manual



Manual Number	JY997D61101
Revision	D
Date	August 2016

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. Make sure to learn all the product information, safety information, and precautions.

And, store this manual in a safe place so that you can take it out and read it whenever necessary. Always forward it to the end user.

Registration:

The company name and the product name to be described in this manual are the registered trademarks or trademarks of each company.

Effective August 2016

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:

WARNING and **CAUTION**

WARNING	Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.
CAUTION	Indicates that incorrect handling may cause hazardous conditions, resulting in minor or moderate injury or property damage.

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

Manual name	Manual No.	Description
MELSEC iQ-F FX5U User's Manual (Hardware)	JY997D55301	Explains FX5U CPU module specification details for I/O, wiring, installation, and maintenance.
MELSEC iQ-F FX5UC User's Manual (Hardware)	JY997D61401	Explains FX5UC CPU module specification details for I/O, wiring, installation, and maintenance.

How to obtain manuals

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

Applicable standards

FX5-CNV-BUSC comply with the EC Directive (EMC Directive) and UL standards (UL, cUL).

Further information can be found in the following manual.

→ MELSEC iQ-F FX5U User's Manual (Hardware)
→ MELSEC iQ-F FX5UC User's Manual (Hardware)

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

Attention

This product is designed for use in industrial applications.

1. Outline

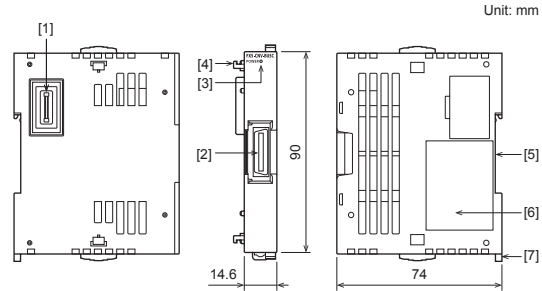
The FX5-CNV-BUSC is a connection conversion module for connecting the FX3 extension modules to the FX5 PLC.

1.1 Incorporated Items

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

Product	FX5-CNV-BUSC connection conversion module
Included Items	Hardware Manual (This manual)

1.2 External Dimensions and Part Names



Unit: mm
MASS (Weight): Approx. 0.1 kg
Outer painting color: Munsell 6.0B7.6/0.2

- [1] Connector (for preceding module)
- [2] Extension module connector
- [3] POWER LED (green)
- [4] Connection conversion module fixing hook
- [5] DIN rail mounting groove (DIN rail: DIN46277, 35 mm wide)
- [6] Name plate
- [7] DIN rail mounting hook

2. Installation

INSTALLATION PRECAUTIONS **WARNING**

- Make sure to cut off all phases of the power supply externally before attempting installation or wiring work. Failure to do so may cause electric shock or damage to the product.
- Use the product within the generic environment specifications described in the User's Manual (Hardware) of the CPU module used. Never use the product in areas with excessive dust, oily smoke, conductive dusts, corrosive gas (salt air, Cl₂, H₂S, SO₂ or NO₂), flammable gas, vibration or impacts, or expose it to high temperature, condensation, or rain and wind. If the product is used in such conditions, electric shock, fire, malfunctions, deterioration or damage may occur.

INSTALLATION PRECAUTIONS **CAUTION**

- Do not touch the conductive parts of the product directly. Doing so may cause device failures or malfunctions.
- When drilling screw holes or wiring, make sure that cutting and wiring debris do not enter the ventilation slits of the PLC. Failure to do so may cause fire, equipment failures or malfunctions.
- Install the product on a flat surface. If the mounting surface is rough, undue force will be applied to the PC board, thereby causing nonconformities.
- Install the product securely using a DIN rail or mounting screws.
- Connect the extension cables, peripheral device cables, input/output cables and battery connecting cable securely to their designated connectors. Loose connections may cause malfunctions.

For details on installation, refer to the following manual.

→ MELSEC iQ-F FX5U User's Manual (Hardware)
→ MELSEC iQ-F FX5UC User's Manual (Hardware)

3. Specifications

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. For repair, contact your local Mitsubishi Electric representative.
- Turn off the power to the PLC before connecting or disconnecting any extension cable. Failure to do so may cause equipment failures or malfunctions.
- Do not drop the product or exert strong impact to it. Doing so may cause damage.

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 by using dedicated packaging boxes and shock-absorbing pallets. Failure to do so may cause failures in the product. After transportation, verify operation of the product and check for damage of the mounting part, etc.

3.1 Applicable CPU module

Model name	Applicability
FX5U CPU module	Ver. 1.000 or later (from first production)
FX5UC CPU module	Ver. 1.010 or later (from first production)

For details on the system configuration, refer to the following manual.

→ MELSEC iQ-F FX5U User's Manual (Hardware)
→ MELSEC iQ-F FX5UC User's Manual (Hardware)

3.2 General Specifications

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

For general specifications, refer to the following manual.

→ MELSEC iQ-F FX5U User's Manual (Hardware)
→ MELSEC iQ-F FX5UC User's Manual (Hardware)

Item	Specification
Operating ambient temperature	0 to 55°C

3.3 Power Supply Specification

Item	Specification
Rated voltage ^{*1}	5 V DC
Current consumption ^{*1}	150 mA

*1 Power is supplied internally.

3.4 Precautions

- FX3 extension modules that require parameters must be set by the PLC program.
- The bus speed for accessing the FX3 extension module is the FX3 speed.
- There are some functions that are not supported depending on the connected FX3 extension module. (Example: FX3U-4AD, FX3U-4DA automatic transfer function and data table transfer command.)

For details, refer to the following manual.

→ FX3S/FX3G/FX3GC/FX3U/FX3UC Series User's Manual
- Analog Control Edition

This manual confers no industrial property rights or any rights of any other kind, nor does it confer any patent licenses. Mitsubishi Electric Corporation cannot be held responsible for any problems involving industrial property rights which may occur as a result of using the contents noted in this manual.

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:

- Damages caused by any cause found not to be the responsibility of Mitsubishi.
- Loss in opportunity, lost profits incurred to the user by Failures of Mitsubishi products.
- Special damages and secondary damages whether foreseeable or not, compensation for accidents, and compensation for damages to products other than Mitsubishi products.
- Replacement by the user, maintenance of on-site equipment, start-up test run and other tasks.

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.
- Before using the product for special purposes such as nuclear power, electric power, aerospace, medicine or passenger movement vehicles, consult with Mitsubishi Electric.
- This product has been manufactured under strict quality control. However when installing the product where major accidents or losses could occur if the product fails, install appropriate backup or failsafe functions in the system.