



FX3UC (D, DS, DSS) SERIES
PROGRAMMABLE CONTROLLERS
HARDWARE MANUAL

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This manual describes the part names, dimensions, mounting, cabling and specifications for the product. This manual is extracted from FX3UC (D, DS, DSS) Series User's Manual - Hardware Edition. Before use, read this manual and manuals of relevant products to acquire proficiency in the handling and operation of the product. Make sure to learn all the product information, safety information, and precautions.

And, should the manual in a safe place so that it can be taken out and read whenever necessary. Always forward it to the end user.

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Safety Precaution (Read these precautions before use)
If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

This manual classifies the safety procedures into two categories:
[WARNING] and [CAUTION]

[WARNING] Indicates that incorrect handling may cause hazardous conditions, resulting in death or serious injury.

[CAUTION] Indicates that incorrect handling may cause hazardous conditions, resulting in medium or slight personal injury or physical damage.

Depending on the circumstances, procedures included by [CAUTION] may also cause severe personal safety.

STARTUP AND MAINTENANCE PRECAUTIONS
Do not touch any terminal while the PLC is powered on. Doing so may cause electric shock or malfunctions.

When cleaning or neighboring terminal blocks, turn off all phases of the power supply externally.

Failure to do so may cause electric shock.

Notes
When a dust proof sheet is supplied with an extension unit, keep the sheet applied to the installation site during installation and wiring work.

Do not install the PLC on a floor, a ceiling or a vertical surface.
Install it horizontally on a wall or stand on section 2.2.

Keep a space of 50 mm (1.97") or more between the unit main body and another device or structure (section 2.2 part 1). Install the unit as far away as possible from high-voltage lines, high-voltage devices and power equipment. Failure to do so may cause fire, equipment failures or malfunctions.

2.1 Generic specifications [Main unit]

Item	Specification
Ambient temperature	0 to 55 °C (32 to 131 °F) when operating and -25 to 75 °C (-13 to 167 °F) when stored
Relative humidity	5 to 95 %RH (no condensation) when operating
Vibration resistance	Free (Hz) Half-amplitude (mm/s) Sweep control for X, Y, Z, 10 times (80 min. in total)
Shock resistance	(147 m/s ² Acceleration, Action direction X, Y and Z, 3 times by half-sine pulse in each direction X, Y and Z)
Noise resistance	By noise simulator at noise voltage of 1,000 Vp-p, noise width of 10 μs, rise time of 1 μs and period of 30 to 100 Hz
Dielectric withstand voltage	500 V AC for one minute
Insulation resistance	5 MΩ or higher by 500 V DC, insulation resistance tester
Grounding	Class D grounding/grounding resistance: 100 Ω or less, "Common grounding with a tie to the control line is not allowed" (※2)
Working atmosphere	Free from corrosive or flammable gas and excessive conductive dusts
Working environment	<2000 m (※3)
Installation location	Inside a control panel (※4)
Overvoltage category	II or less
Pollution degree	2 or less

(※1) The criterion is shown in IEC61131-2.
(※2) For common grounding, refer to section 3.2.
(※3) The PLC cannot be used at a pressure higher than the atmospheric pressure to avoid damage to the product.
(※4) The programmable controller is assumed to be installed in an environment equivalent to indoor.

2.2 Installation Location
Install the PLC in an environment conforming to the generic specifications described in this manual.

For more details, refer to FX3UC Series User's Manual - Hardware Edition.

Installation location in enclosure
The PLC should be installed in the left and right sides of the enclosure.

When you install the PLC in an enclosure, keep a space of 50 mm (1.97") or more between the unit main body and another device or structure (section 2.2 part 1). Install the unit as far away as possible from high-voltage lines, high-voltage devices and power equipment. Failure to do so may cause fire, equipment failures or malfunctions.

Space in enclosure
Extension devices can be connected on the left and right sides of the PLC main unit (Q) in the figure on the right.

If you intend to add extension devices in the future, keep extra space on the left and right sides open.

Configuration with extension cable
The PLC can be connected to the extension cable by using the extension cable.

2.3 Procedures for installation and detaching from the main unit
The main unit can be installed on a DIN4677 rail (35 mm (1.38") wide).

For detail, refer to the following manual:
FX3UC Series User's Manual - Hardware Edition

2.3.1 Installing methods
1) Turn the power supply OFF.
2) Push the DIN rail mounting hooks (Q) in the figure on the right.

3) Align the upper side of the DIN rail mounting hook (Q) in the figure on the right.

4) While pressing the main unit (Q) in the figure on the right, push the DIN rail mounting hooks as shown in the figure below (Q).

2.3.2 Removal methods
1) Turn the power supply OFF.
2) Disconnect all connected cables including the power cable and I/O cable.

3) Insert a flathead screwdriver to the DIN rail mounting hook (Q) in the figure on the right.

4) Lever the screwdriver slightly upward direction (Q) to pull out the DIN rail mounting hooks, allowing them to come off the DIN rail.

5) Remove the main unit from the DIN rail (Q) in the figure on the right.

6) Push the DIN rail mounting hooks as shown in the figure on the right (Q).

2.4 Connection of power supply to power the main unit
The dedicated built-in power connector to supply power to the main unit.

The power should be supplied to the main unit, FX3UC Series I/O extension blocks and FX3UC Series special function blocks.

When connecting the power supply to the main unit, FX3UC Series I/O extension blocks and FX3UC Series special function blocks, refer to the Subsection 3.3.3.

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