

FX3UC-1PS-5V

INSTALLATION MANUAL

FX3UC

Manual Number	JY997D12201
Revision	G
Date	September 2017

This manual describes the part names, dimensions, mounting, and specifications of the product. Before use, read this manual and the manuals of all relevant products fully to acquire proficiency in handling and operating the product. Make sure to learn all the product information, safety information, and precautions. Store this manual in a safe place so that it can be taken out and read whenever necessary. Always forward it to the end user.

Registration:

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Effective September 2017

Specifications are subject to change without notice.

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Safety Precaution (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 medium or slight personal injury or physical 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 Manuals

Manual name	Manual No.	Description
FX3GC Series User's Manual - Hardware Edition	JY997D45401 MODEL CODE: 09R533	Explains the FX3GC Series PLC specifications for I/O, wiring, installation, and maintenance.
FX3UC Series User's Manual - Hardware Edition	JY997D28701 MODEL CODE: 09R519	Explains the FX3UC Series PLC specifications for I/O, wiring, installation, and maintenance.

This manual describes the specifications, installation and wiring details for the FX3UC-1PS-5V. For details on the installation, wiring and the configuration of the entire system, refer to the following manual.

→ **FX3GC Series User's Manual - Hardware Edition**
→ **FX3UC Series User's Manual - Hardware Edition**

How to obtain manuals

For product manuals or documents, consult with the Mitsubishi Electric dealer from who you purchased your product.

Applicable standards

FX3UC-1PS-5V units made in October, 2007 or later comply with the EC Directive (EMC Directive) and UL standards (UL, cUL). Further information can be found in the following manual. However, the FX3UC-32MT-LT does not comply with the EC Directive (EMC Directive) or UL standards (UL, cUL).

→ **FX3GC Series Hardware Manual (Manual No. JY997D45201)**
→ **FX3UC (D, DS, DSS) Series Hardware Manual (Manual No. JY997D50501)**
→ **FX3UC-32MT-LT-2 Hardware Manual (Manual No. JY997D31601)**

Attention

This product is designed for use in industrial applications.

DESIGN PRECAUTIONS	⚠ WARNING
<ul style="list-style-type: none"> Make sure to have the following safety circuits outside of the PLC to ensure safe system operation even during extension power supply unit or PLC failure. Otherwise, malfunctions may cause serious accidents. 	

DESIGN PRECAUTIONS



WARNING

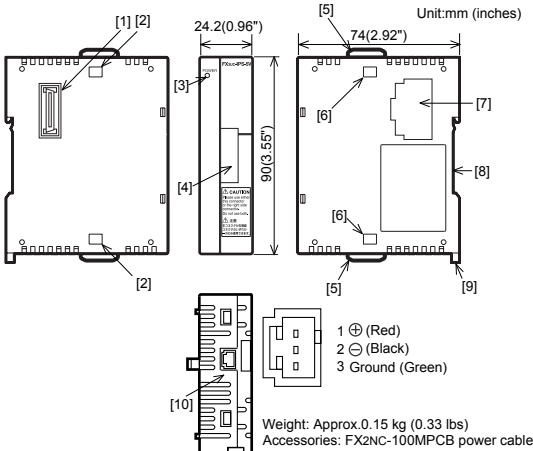
- Most importantly, have the following: an emergency stop circuit, a protection circuit, an interlock circuit for opposite movements (such as normal vs. reverse rotation), and an interlock circuit (to prevent damage to the equipment at the upper and lower positioning limits).
- Note that when the PLC CPU detects an error, such as a watchdog timer error, during self-diagnosis, all outputs are turned off. Also, when an error that cannot be detected by the PLC CPU occurs in an input/output control block, output control may be disabled. External circuits and mechanisms should be designed to ensure safe machinery operation in such a case.
- Note that when an error occurs in a relay, triac or transistor output device, the output could be held either on or off. For output signals that may lead to serious accidents, external circuits and mechanisms should be designed to ensure safe machinery operation in such a case.

1. Outline

Use the FX3UC-1PS-5V if the capacity of the 5V DC power supply unit incorporated in the FX3GC/FX3UC Series PLC is exceeded.
For details on system configuration with the FX3GC/FX3UC Series PLC including the FX3UC-1PS-5V, refer to the following manual.
Moreover, when connecting FX0N/FX2N I/O extension blocks, and special function blocks/units for the FX0N/FX2N/FX3U to FX3GC/FX3UC main units, the FX3UC-1PS-5V also acts as a conversion adaptor.

→ **FX3GC Series User's Manual - Hardware Edition**
→ **FX3UC Series User's Manual - Hardware Edition**

2. External Dimensions and Part Names



- [1]FX3UC Main unit, FX2NC/FX3UC Extension block connector
[2]FX3UC Main unit, FX2NC/FX3UC Extension block connecting hook
[3]POWER LED
[4]FX0N/FX2N/FX3U extension block connector cover
[5]Extension block connecting hooks
[6]FX2NC/FX3UC Extension block connecting holes
[7]FX2NC/FX3UC Extension block connector cover
[8]DIN rail mounting groove [DIN rail width: 35mm(1.38")]
[9]DIN rail mounting hook
[10]24V DC supply connector for the extension power supply unit

3. Specifications

3.1 General Specifications

The general specifications are equivalent to the PLC main unit.
For General specifications, refer to the following manual.

→ **FX3GC Series User's Manual - Hardware Edition**
→ **FX3UC Series User's Manual - Hardware Edition**

3.2 Performance Specifications

Item	Specifications
Supply voltage	24V DC +20% -15%
Power fuse	125V 3.15A
Rush current	30 A max. 0.5 ms /24V DC
Output current	1A max. 5V DC
Power consumption	25W max.
Allowable instantaneous power failure time	Operation can continue upon occurrence of an instantaneous power failure for 5 ms or less.

4. Installation

The extension power supply unit can be installed on a DIN46277 rail (35 mm (1.38") wide). (Cannot be installed directly in the enclosure.)

For Installation, refer to the following manual.

→ **FX3GC Series User's Manual - Hardware Edition**
→ **FX3UC Series User's Manual - Hardware Edition**

INSTALLATION PRECAUTIONS



CAUTION

- Use the product within the generic environment specifications described in PLC main unit manual (Hardware Edition).
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.
- 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 screwdrivers carefully when performing installation work, thus avoiding accident or product damage.
- When drilling screw holes or wiring, make sure cutting or wire debris does not enter the ventilation slits.
Failure to do so may cause fire, equipment failures or malfunctions.

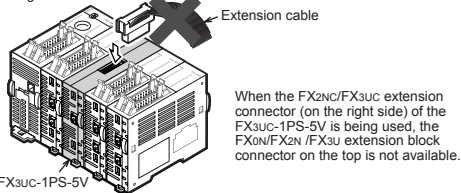
5. Connection precautions

FX3UC-1PS-5V units with are equipped with the connector for FX2NC/FX3UC extension blocks, and the FX0N/FX2N/FX3U extension connector. However, it cannot be used for both simultaneously. Only one can be used at a time.

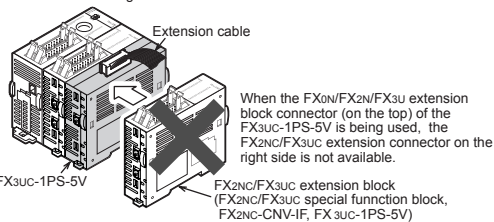
For details on system configuration with the FX3GC/FX3UC Series PLC including the FX3UC-1PS-5V, refer to the following manual.

→ **FX3GC Series User's Manual - Hardware Edition**
→ **FX3UC Series User's Manual - Hardware Edition**

- When the FX2NC/FX3UC extension connector (on the right side) of the FX3UC-1PS-5V is being used



- When the FX0N/FX2N/FX3U extension block connector (on the top) of the FX3UC-1PS-5V is being used



For details on connection, refer to the following manual.

→ **FX3GC Series User's Manual - Hardware Edition**
→ **FX3UC Series User's Manual - Hardware Edition**

6. Wiring

WIRING 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.
- Make sure to attach the terminal cover, offered as an accessory, before turning on the power or initiating operation after installation or wiring work.
Failure to do so may cause electric shock.

WIRING PRECAUTIONS

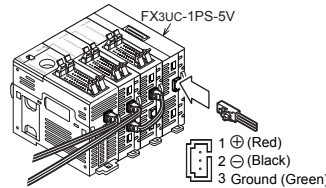


CAUTION

- Connect the DC power supply wiring to the dedicated terminals described in this manual. If an AC power supply is connected to a DC input/output terminal or DC power supply terminal, the PLC will burn out.
- Do not wire vacant terminals externally. Doing so may damage the product.
- Perform class D grounding (grounding resistance: 100Ω or less) to the grounding terminal in the product. Do not use common grounding with heavy electrical systems.

6.1 Installation of the power cable

- Turn off the power.
- Pinch the connector of the power cable (FX2NC-100MPCB), and insert it in the direction of the arrow.



6.2 Removal of the power cable

For removal of the power cable, refer to the following manual.

→ **FX3GC Series User's Manual - Hardware Edition**
→ **FX3UC Series User's Manual - Hardware Edition**

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可编程控制器	外壳	○	○	○	○	○	○
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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.

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