**Manual name**

FX Configurator-EN Operation Manual

**Manual No.**

JY997D15901

**Description**

Describes the operation method of FX Configurator-EN.

*Only this INSTALLATION MANUAL is specified with the FX3U-ENET.*

For more details regarding the FX3U/FX3UC Series hardware, PLC programming commands, and special function blocks, refer to the appropriate manuals.

**How to obtain manuals**

For the necessary product manuals or documents, consult with the Mitsubishi Electric dealer from whom you purchased this product.

**How to obtain FX Configurator-EN**

The parameter setting software FX Configurator-EN is not supplied with this product. Consult with the Mitsubishi Electric dealer from whom you purchased this product.

**Certification of UL, cUL standards**

The following product has UL and cUL certification.

Models: MELSEC FX3 series manufactured from August 1st, 2005 FX3U-ENET

**Compliance with EC directive (CE Marking)**

This note does not guarantee that an entire mechanical module produced in accordance with the contents of this manual complies with the following standards. Compliance to EMC directive and LVD directive for the entire mechanical module should be checked by the equipment manufacturer. For more details please contact the local Mitsubishi Electric sales site.

**Requirement for Compliance with EMC directive**

The following products have undergone direct testing (by the standards below) and design analysis (through the creation of a technical construction file) to the European Directive for Electromagnetic Compatibility (2014/30/EU) when used as directed by the appropriate documentation.

**Attention**

This product is designed for use in industrial applications.

**Programmable Controller (Open Type Equipment)**

- **Models:** MELSEC FX3 series manufactured from August 1st, 2005 FX3U-ENET

<table>
<thead>
<tr>
<th>Manual name</th>
<th>Manual No. Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FX3U-ENET INSTALLATION MANUAL</td>
<td>JY997D15901 This manual</td>
</tr>
<tr>
<td>FX3U-ENET User’s Manual</td>
<td>JY997D50501 Describes the specifications, wiring, installation, and operation of the FX3U-ENET.</td>
</tr>
<tr>
<td>FX3U HARDWARE MANUAL</td>
<td>JY997D30501</td>
</tr>
<tr>
<td>FX3U-32MT-X2, FX3U-64MT-X2, FX3U-128MT-X2 HARDWARE MANUAL</td>
<td>JY997D35001</td>
</tr>
</tbody>
</table>

**1. Outline**

**FX-ENET** is an Ethernet unit for the FX3U/FX3UC Series (Ver.2.31 or later) PLC that is compliant with 100BASE-TX/10BASE-T and has the features as follows.

- Data and programs within the PLC can be sent and received via Ethernet by using FX3U-ENET.
- Communication between PLCs or with a general Ethernet device is possible by using FX3U-ENET commands, and special function blocks/units, refer to the appropriate manuals.
- EMI (Electromagnetic Interference)
- Radiated Emission
- Conducted Emission

**Pin Configuration**

The pin configuration of ENET RJ45 type modular jack (for category 5 or category 3) is as follows:

- **Pin No.**
  - 1: Data and programs within the PLC can be sent and received via Ethernet by using FX3U-ENET commands, and special function blocks/units, refer to the appropriate manuals.
  - 2: Communication between PLCs or with a general Ethernet device is possible by using FX3U-ENET commands, and special function blocks/units, refer to the appropriate manuals.
  - 3: (FX3U-ENET) must be installed in a shielded metal control panel.
  - 4: Do not bundle the communication cable or the 24V power supply together with the main circuit or power line. Lay them at least 50cm (1.6') apart from each other.
  - 5: Failure to do so may result in wire damage/breakage or PLC failure.

**2. Installation**

**Installation precautions**

- **Cables to be used**
  - For 10BASE-T Category 5, shielded twisted-pair cable
  - For 100BASE-TX Category 5, shielded twisted-pair cable

- **Attention**
  - Use this product within the generic environment specifications described in this manual.
  - Never use the product in areas with excessive dust, oily smoke, conductive dusts, corrosive gas (salt air, O3, H2, SO2, or NO2), flammable gas, vibration of impacts, or expose it to high temperature, condensation, or rain and wind.
  - If the product is used in such conditions, fire, malfunctions, or damage may occur.
  - When tightening the terminal screws, stay within the specified torque range.
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- **2.1 Mounting**
  - **FX3U-ENET** can be mounted directly using screws or on a DIN rail (DIN42277). A space of 1 to 2 mm (0.04” to 0.08”) between each unit is necessary.

- **2.1.2 DIN Rail Mounting**
  - **FX3U-ENET** can be mounted on a DIN rail (DIN42277, 35mm width).
  - Fix the upper edge of the DIN rail mounting screws (Screw 4-40 x 0.7) or use DIN rail mounting screws (M3 x 0.5 x 8).
  - Push the unit onto the DIN rail.
2.1.3 Procedure for connecting with the FX3U Series PLC

When connecting to an FX3U:

Before connecting, turn off the power to the PLC.
1) Remove the extension device connector cover from the main unit.
2) Fold and insert the extension cable in the corresponding connector as shown to the right.
3) Reattach the extension device connector cover on the main unit.

When connecting to an FX3UC:

When connecting the FX3UC/ENET, either the FX3UC-1PS-5V or FX2NC-CNV-IF is required.
1) The connector cover (A) or the FX3UC-1PS-5V or FX2NC-CNV-IF is removed as shown in the figure to the right.
The FX3UC-CONV does not have a connector cover.
2) Connect the extension cable as shown to the right.

2.2 Wire end treatment

The solderless terminal size depends on the terminal screw size and wiring method.
- Use solderless terminals of the following size.
- Tighten the terminals to a torque of 0.5 Nm to 0.8 Nm.
- Do not tighten the terminal screws to a torque outside the above-mentioned range.
Failure to do so may cause equipment failures or malfunctions.

When using M3 terminal screws for the main unit, input/output powered extension unit block and special function unit block:
- When one wire is connected to one terminal
- When two wires are connected to one terminal

Transmission specifications

For the general specifications, refer to the manual of FX3U PLC.

4. System configuration

System configuration example

5. Wiring

Wire power supply wiring between PLC and FX3U-ENET

Example usage of FX3U

Explanatory notes

- FX3U Series PLC: FX3U-ENET Series PLC
- FX3U-ENET: Shielded twisted-pair cable

Note: This symbol mark is for China only.

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 grant warranty terms, Mitsubishi shall not be liable for compensation to:
(1) Special damages caused by any cause found not to be the responsibility of Mitsubishi
(2) Loss in opportunity, lost profits incurred to the user by Failures of Mitsubishi products
(3) Special damages and secondary damages whether foreseeable or not, compensation for accidents, and compensation for damages to other products than Mitsubishi products
(4) Replacement by the user, maintenance or on-site equipment, start-up test run and other tasks.

For safe use

*1 The 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.
*2 Before using the product for special purposes such as nuclear power, electric power, aerospace, medicine or passenger movement vehicles, consult with Mitsubishi Electric.
*3 This product has been manufactured under strict quality control. However, if the product fails, install appropriate backup or fail-safe functions in the system.