INSTALLATION MANUAL

1. Outline

FX3G-485-BD is an expansion board equipped with an European terminal block for RS-485 communication. The FX3G-485-BD exchanges data with RS-485 devices. For wiring, specifications, settings, and program examples, refer to the manual described below.

1.1. Incorporated Items

<table>
<thead>
<tr>
<th>Product</th>
<th>RS-485 communication expansion board FX3G-485-BD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Included items</td>
<td>M3×8 tapping screws for installation: 2 pcs</td>
</tr>
<tr>
<td></td>
<td>Side cover</td>
</tr>
<tr>
<td></td>
<td>Installation Manual (This manual)</td>
</tr>
</tbody>
</table>

1.2. Communication Function

<table>
<thead>
<tr>
<th>Communication type</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>N network</td>
<td>Data transfer connecting up to eight FX Series PLCs</td>
</tr>
<tr>
<td>Parallel link</td>
<td>Data transfer between two PLCs relationship specifying master/slave station</td>
</tr>
<tr>
<td>Non-protocol communication</td>
<td>Serial communication between PLC and FX3G-485-BD device via terminal block</td>
</tr>
</tbody>
</table>

Inverter communication
- Controlling Mitsubishi's FREQROL inverter using Inverter communication instructions

1.3. External Dimensions and Part Names

- Terminal Layout
- Setting terminal 1: terminal resistor setting 110 Ω
- Setting terminal 2: terminal resistor setting 110 Ω
- Setting terminal 3: terminal resistor setting 0 Ω
- Connector cover is removed
- Connector cover is installed

2. Installation

2.1. Installation PRECAUTIONS

- Make sure to cut off all phases of the power supply externally before attempting installation or wiring. Disregard this will lead to failure to do so may cause electric shock or damage to the product.

2.2. Installation Notes

- For FX3S Series PLC Ver. 1.0 or later in applicable.

3. Specifications

3.1. Applicable PLC

- FX3S Series PLC
- FX3UC Series
- FX3U Series

3.2. General Specifications

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

3.3. Communication specifications


Instructions and illustrations from this manual are intended for use by professional electrical workers. The manuals includes specifications and wiring diagrams. For use by inexperienced persons, we recommend consulting a Mitsubishi Electric sales representative or an authorized Mitsubishi Electric distributor.

This manual describes the specifications and installation details for the FX3G-485-BD expansion board.

1.1. Incorporated Items

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication method</td>
<td>Half-duplex</td>
</tr>
<tr>
<td>Communication format</td>
<td>Non-Protocol Communication, Computer Link (dedicated protocol format 1 and 4), Parallel Link, N:N network, and inverter communication</td>
</tr>
<tr>
<td>Baud rate</td>
<td>Non-Protocol Communication, Computer Link</td>
</tr>
<tr>
<td></td>
<td>300/1200/2400/4800/9600/19200 bps</td>
</tr>
<tr>
<td></td>
<td>Parallel Link</td>
</tr>
<tr>
<td></td>
<td>N:N network</td>
</tr>
<tr>
<td></td>
<td>Inverter communication</td>
</tr>
<tr>
<td>Installation</td>
<td>Not installed (between communication line and CPU)</td>
</tr>
</tbody>
</table>

Note: This symbol mark is for China only.

Contact Mitsubishi Electric Corporation for details about applicable codes, standards, and other requirements.

Safety Precaution

- Use the product within the general environment specifications described in PLC 485 communication. The FX 3G-485-BD exchanges data with RS-485 devices. For communication format wiring, specifications, settings, and program examples, refer to the following manual.

Caution:
- Disassembles or modifies the product
- Do not disassemble or modify the product
- Do not do so may cause electric shock, fire, malfunctions, deterioration or damage may occur.
- Do not perform any dielectric withstand voltage tests or insulation resistance tests to this product.

For the installation, refer to the following manual:

Note: This symbol mark is for China only.

Specifications are subject to change without notice. Mitsubishi Electric Corporation reserves the right to discontinue production of products at any time for any reason.

This manual describes the specifications and installation details for the FX3G-485-BD expansion board.

HOW TO OBTAIN MANUALS

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

Applicable standards

- FX3G-485-BD units made in November, 2008 or later comply with the EC Directive (EMC Directive). Further information can be found in the following manual:
- FX3S Series Hardware Manual (Manual No. JY997D483001)
- FX3G Series Hardware Manual (Manual No. JY997D484001)

This manual contains 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.

Exclusion of loss in opportunity and secondary loss from warranty liability regardless of the gross warranty term. Mitsubishi shall not be liable for compensation for (1) Damages caused by any cause found not to be the responsibility of Mitsubishi.

(2) Loss in opportunity, but proffs incurred to the user by failure of Mitsubishi products.

(3) Special damages and secondary damages whether foreseeable or not, compensation for accidents, and compensation for damages to products other than Mitsubishi products.

(4) Replacement of the user, maintenance of on-site equipment, startup test run and other tasks.

This manual describes the specifications and installation details for the FX3G-485-BD expansion board.

CAUTION

- Use the product within the general 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 or Cl, HCl, H2S, SO2, NO2), flammable gas, vibration or impact, or exposed to water or weather. Otherwise, the product may be damaged.
- If the product is used in such conditions, electric shock, fire, malfunctions, deterioration or damage may occur.
- Use screwdrivers carefully when performing installation work, thus avoiding accident or product damage.
- When drilling holes or wiring, make sure cutting or wiring debris does not enter the vent slit.
- Failure to do so may cause fire, equipment failure or malfunctions.
- Do not touch the conductive parts of the product directly.
- Do not make the product fall or be impacted by strong impact.
- Do not cause device failure or malfunctions.
- Connect expansion board securely to their designated connectors. Loose connections may cause malfunctions.

For the installation, refer to the following manual:
- FX3G Series PLC Ver. 1.10 or later in applicable.

This manual describes the specifications and installation details for the FX3G-485-BD expansion board.

Warranty

Regardless of the gratis warranty term, Mitsubishi shall not be liable for compensation to:

(1) Damages caused by any cause found not to be the responsibility of Mitsubishi.

(2) Loss in opportunity, but proffs incurred to the user by failure of Mitsubishi products.

(3) Special damages and secondary damages whether foreseeable or not, compensation for accidents, and compensation for damages to products other than Mitsubishi products.

(4) Replacement of the user, maintenance of on-site equipment, startup test run and other tasks.

This manual describes the specifications and installation details for the FX3G-485-BD expansion board.

3.2. General Specifications

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

For the installation, refer to the following manual:

2.1. Installation PRECAUTIONS

- Make sure to cut off all phases of the power supply externally before attempting installation or wiring. Failure to do so may cause electric shock or damage to the product.

For the installation, refer to the following manual:

2.2. Installation Notes


3.3. Communication specifications


NOTICE

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 system or system-related use in purposes related to human life.

Before using the product for special purposes such as nuclear power, electric power, transportation, medicine, or passenger movement vehicles, consult with Mitsubishi Electric.

This product has been manufactured under strict quality control. However, when installing the product or in case of accidents or losses which could occur if the product fails, install appropriate backup or fail-safe functions in the system.