1. Outline
The FX3U-USB-BD (henceforth called "BD") is an expansion board equipped with an USB-AW port and an RS232 port to connect to a PC. The BD and FX series USB port pins can be transferred to a PC for real-time control and monitoring can be performed. 

1.1 Specifications

The installation procedure is explained when connecting to a personal computer (PC). The installation and use procedure for Windows 98/98SE/Me/2000/XP/2003/Vista/7/8/8.1/10 are specified in this manual. The specification and use procedure are explained in the FX3U SERIES PLUG-IN CARD INSTALLATION MANUAL (Manual No. JY997D31601). Please perform the installation according to the following instructions. 

1.2 Dimensions and Port Names

For details of the programming communication, refer to the following manuals:

- Refer to the FX3U Series User’s Manual (Hardware Edition) for general specifications.
- Refer to the FX3U Series User’s Manual (Software Edition) for related specifications.

2. Installation

To install the BD into a personal computer, an installation program must be downloaded to a personal computer. The installation procedure is explained when connecting to a personal computer (PC). The installation and use procedure for Windows 98/98SE/Me/2000/XP/2003/Vista/7/8/8.1/10 are specified in this manual. The specification and use procedure are explained in the FX3U SERIES PLUG-IN CARD INSTALLATION MANUAL (Manual No. JY997D31601). Please perform the installation according to the following instructions.

2.1 System Requirements

The BD is compatible with the following software and platforms. 

- MS Windows 98/98SE/Me/2000 (with SP4 installed) or later setup.

2.1.1 Software Requirements

- Microsoft Windows (98/98SE/Me/2000/XP/Vista/7/8/8.1/10, operation system)
- Microsoft Windows Explorer 4.01 or later version
- Microsoft Internet Explorer 5.5 or later version

2.1.2 Hardware Requirements

- A system equipped with a 32-bit version of the Windows 98/98SE/Me/2000/XP/Vista/7/8/8.1/10 operating system
- A USB port on the system

Installation Failure

If the BD does not function correctly after installation, uninstall the driver and perform the installation again. 

3. Specifications

3.1 Applicable PLC

The BD is compatible with the following models. 

- FX series (excluding FX1N series)
- FX3U series

3.2 Application

The BD is used to perform RS232 serial communication with a PLC. 

3.3 Power Supply Specifications

The BD is powered by the PLC. 

3.4 Communication Specifications

The BD is used for RS232 serial communication. 

4. System Configuration

The BD is equipped with a USB-AW port and RS232 port. 

5. Connecting Procedure

5.1 Connecting the BD to the PC

Connect the BD to the USB port on the PC. 

5.2 Connecting the BD to the PLC

Connect the BD to the PLC using the FX3U-USB-BD. 

6. Driver Installation


7. Confirming the Driver Installation

Confirm the installation of the BD by checking the following items. 

8. Uninstalling Driver

Uninstall the BD if it is not necessary to use the BD. 

9. Caution on use

Caution: Failing to follow the specified precautions may cause the BD or the connected equipment to malfunction. 

10. Troubleshooting

Fix the following problems if they occur. 

Note: This symbol mark is for China only.
1. Outline

The FX3u-USB-BD (hereafter called "BD") is an expansion board equipped with an embedded processor and a communication unit to provide functions like USB-UART conversion, USB host port, and USB device port. The BD can be used as a PC connection port to a PLC that supports the USB interface, enabling you to use the BD as a PC connection tool. For details on the installation and operation of the expansion board, refer to the following manuals:

- Mitsubishi Electric FX Series PLC User's Manuals

2. Installation

For details on the installation and operation of the expansion board, refer to the following manuals:

- Mitsubishi Electric FX Series PLC User's Manuals

3. Specifications

3.1 Applicable PLCs

- The expansion board can be used with the PLCs listed below. For details on the applicable PLCs, refer to the following manuals:
  - Mitsubishi Electric FX Series PLC User's Manuals

3.2 General Specifications

- For details on the system configuration, refer to the following manual:
  - Mitsubishi Electric FX Series PLC User's Manuals

3.3 Power Supply Specifications

4. System Configuration

4.1 Connected equipment and connected cable

5. Connecting Procedure

6. Driver Installation

Please contact Mitsubishi Electric or the Mitsubishi Electric dealer for the FX-PCS/WIN-E. For details on the programming communication, refer to the following manual:

- Mitsubishi Electric FX Series PLC User's Manuals

7. Additional expansion boards

- Additional expansion boards such as the FX3U-232-BD, FX3U-422-BD or FX3U-485-BD can be connected to the FX3U-32MT-LT(-2).

8. Uninstalling Driver

Before uninstalling, confirm the installation of the driver in the following manual:

- Mitsubishi Electric FX Series PLC User's Manuals - USB Driver Uninstallation Edition

9. Caution on use

- Before installing or uninstalling the expansion board, refer to the following manual:
  - Mitsubishi Electric FX Series PLC User's Manuals - USB Driver Uninstallation Edition

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

- Mitsubishi Electric FX Series PLC User's Manuals
1. Outline
The FX3U-USB-BD (hereinafter called "BD") is an expansion board equipped with an USB-AW connector. When the BD is connected to a PLC main unit via the USB connection ports, port transfer for a PLC's I/O net and monitoring can be performed.

1.1 Specifications
Verify that the following products and items are included in the package.

- 1 BD expansion board
- USB cable (A-B; 2 m)
- Instruction manual (this manual)

1.2 External Dimensions and Port Names

![Diagram of external dimensions and port names]

2. Installation
Installation may only be performed by an electrician who is familiar with the connection and wiring work. Damage due to improper connection may occur as a result of using the contents noted in this manual.

2.1 Installation Precautions
The following describes the installation methods for the FX3U-USB-BD. Installation errors may cause hazardous situations. Be sure to follow these precautions:

- Use the product within the environmental specifications described in the PLC's User's Manual. The product's performance may be impaired due to external noise, high-precision control, or noise. If the product is exposed to high temperatures, high humidity, or dirt and dust, the product may become inoperable.
- Use the product correctly only when it is installed in an appropriate location. Incorrect handling may cause hazardous situations.
- Carried expansion board security by their designated connectors.
- Install the expansion board to the desired port at the rear of the PLC main unit. Do not touch the product's connection part or the port directly.

2.2 Installation Procedure
The following section describes the installation methods for the FX3U-USB-BD. Installation errors may cause hazardous situations. Be sure to follow these precautions:

1) Please connect the USB cable to the personal computer. Install the USB driver software from the included CD-ROM.

3. Specifications
3.1 Applicable-FX PLC

- FX3U-48M (A/B/C) or FX3U-28M (A/C) and FX3U-32M (A/C)
- FX3G-48M-ADP or FX3G-32M-ADP
- FX3G-40M-ADP or FX3G-28M-ADP

3.2 General Specifications

- Connection standard: USB (Mini-B plug)
- Interface: USB 2.0 high speed
- Communication speed: 1.0 Mbps
- Operation temperature: 0°C to 55°C

3.3 Power Supply Specifications

- Current consumption: 100 mA (Max.)
- DC power supply: 24V DC

4. System Configuration

4.1 Connected equipment and connected cable

- USB cable: USB-AW or FX3U-USB-BD.

5. Connecting Procedure

5.1 Connect the USB cable

- Connect the USB-AW connector of the USB cable to the BD expansion board on the PLC main unit. Connect the product to a driver-installed USB port, or install the USB driver software.

5.2 Connect the USB cable

- Connect the product to a driver-installed USB port, or install the USB driver software.

6. Driver Installation

Please confirm for USB cables that the personal computer installs USB driver software from the included CD-ROM.


7. Maintenance

Before using the product for special purposes such as nuclear power, electric accidents, and compensation for damages to products other than Mitsubishi products.

8. Uninstalling Driver

If any one of 1) through 3) is not satisfied, installation is not normal. If any one of 1) through 3) is not satisfied, installation is not normal.

9. Caution on use

- Do not disassemble or modify the PLC.
- The programming tool may not be operated properly due to a contact failure at the expansion board connector.
- The LED and RD LED.
- The expansion board cannot be removed. Please confirm whether the installation is performed normally, regarding connection and wiring work. Refer to Chapter 7.

10. Troubleshooting

- The connection port is not installed properly in the PLC. Refer to the following manual.

- The connection port is not installed properly in the PLC. Refer to the following manual.

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