1. Outline
The FX3U-USB-BD (renumbered model USB-BD) is an expansion board equipped with an embedded USB-A plug. When a USB device is inserted in USB-BD ports, program transfer to a PC can now be performed.

2. Installation Method
1) Power off the PLC.
2) Disconnect all the cables connected to the PLC. Do not turn the PLC power on until the procedures indicated by ‘
   ‘ are completed.
3) Use a flat head screwdriver as shown in Fig. 1, to remove the wiring harness cover (Fig. A) making sure not to damage the terminal block. (Fig. B)
4) Remove the memory expansion board cover (Fig. B) permanently away from the terminal.
5) Make sure the expansion board (Fig. B) is in line with the slot and close the cover (Fig. B) so that it is in place.
6) For the expansion board (Fig. B) side, to the main unit, make sure the circle on the expansion board is in the same direction as the circle on the board of respective companies. In some cases, trademark symbols such as ‘
   ‘ registered trademarks or trademarks of Microsoft Corporation in the United States of America. Use the USB driver software (Ver. 1.70) folder structure included in the JY997D16901 (FX3UC Series) RDJ software.

3. Specifications
3.1 Applicable-PC

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBC/OS</td>
<td>Windows xp / Vista / 7 / 8 / 10</td>
</tr>
<tr>
<td>CPU</td>
<td>Intel Core i3 / i5 / i7 / i9 / AMD Ryzen 5 / 7</td>
</tr>
<tr>
<td>RAM</td>
<td>4 GB / 8 GB / 16 GB / 32 GB / 64 GB</td>
</tr>
<tr>
<td>Hard disk</td>
<td>500 GB / 1 TB / 2 TB / 4 TB / 8 TB</td>
</tr>
<tr>
<td>Graphic Memory</td>
<td>2 GB / 4 GB / 8 GB / 16 GB</td>
</tr>
<tr>
<td>Display</td>
<td>1920 x 1080 pixels / 2560 x 1600 pixels</td>
</tr>
</tbody>
</table>

3.2 General Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication method</td>
<td>N:N network, Parallel communication by RS and RS2Link, Computer Link, Non-Protocol Link</td>
</tr>
<tr>
<td>Network</td>
<td>Explains procedures for installing the USB driver software (Ver. 1.70) in the JY997D16901 (FX3UC Series) RDJ software.</td>
</tr>
<tr>
<td>I/O specifications</td>
<td>For details, refer to the FX3U Series User’s Manual - Hardware Edition</td>
</tr>
<tr>
<td>Wiring specifications</td>
<td>For details, refer to the FX3U Series User’s Manual - Hardware Edition</td>
</tr>
</tbody>
</table>

3.3 Power Supply Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
<td>AC 220 V / 50 Hz</td>
</tr>
<tr>
<td>Current consumption</td>
<td>0.1 A (max.)</td>
</tr>
<tr>
<td>Voltage</td>
<td>48 V (DC) / 110 V (AC)</td>
</tr>
</tbody>
</table>

4. System Configuration

4.1 Connection diagram and cable specifications

5. Drive Installation

5.1 Precautions before using the JY997D16901 (FX3UC Series) RDJ software

6. Driver Installation

6.1 Installing the USB driver software

6.2 Installation of the USB driver software (Ver. 1.70) to the JY997D16901 (FX3UC Series) RDJ software

7. Installation Confirmation of Driver

7.1 Installation Confirmation of Driver

8. Uninstalling Driver

9. Caution on use

9.1 Warranty

9.2 Cautions

9.3 Precautions
1. Outline
The FX-USB-AW (hereafter called USB-AW) is an expansion board equipped with an USB port. By connecting the USB-AW to the USB ports of a personal computer, transfer to a PLC can be executed and monitoring can be performed.

1.1 Installation Procedure
Verify that the following product and items are included in the package.

- Product: USB-AW
- User Manual (this document)

1.2 External Dimensions and Port Names

<table>
<thead>
<tr>
<th>Name</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB-AW</td>
<td>Width: 27 mm, Height: 11 mm, Depth: 11 mm</td>
</tr>
<tr>
<td>Connector</td>
<td>Type: 4-pin mini-B plug (male)</td>
</tr>
<tr>
<td>User port</td>
<td>Type: 4-pin mini-B plug (female)</td>
</tr>
</tbody>
</table>

2. Specifications

2.1 Applicable PC

<table>
<thead>
<tr>
<th>Specification</th>
<th>Applicable Windows</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Vista</td>
</tr>
<tr>
<td></td>
<td>XP</td>
</tr>
<tr>
<td></td>
<td>2000</td>
</tr>
<tr>
<td></td>
<td>Millenium Edition</td>
</tr>
<tr>
<td></td>
<td>98SE</td>
</tr>
<tr>
<td></td>
<td>98</td>
</tr>
</tbody>
</table>

2.2 General Specifications

- 3.2 General Specifications
- Baud Rate: 4800, 9600, 19200 bps
- Communication: half-duplex
- Operation environment: 5°C to 35°C, 10% to 85%RH without condensation
- Data communication: 30 mA / 5 V DC (5 V DC power is supplied from the USB port)
- USB: USB2.0 (For full speed)

3. Power Supply Specification

<table>
<thead>
<tr>
<th>Specification</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Current consumption</td>
</tr>
<tr>
<td></td>
<td>30 mA / 5 V DC</td>
</tr>
<tr>
<td></td>
<td>(5 V DC power is supplied from the USB port)</td>
</tr>
</tbody>
</table>

3.2 General Specifications

- Baud Rate: 4800, 9600, 19200 bps
- Communication: half-duplex
- Operation environment: 5°C to 35°C, 10% to 85%RH without condensation
- Data communication: 30 mA / 5 V DC (5 V DC power is supplied from the USB port)
- USB: USB2.0 (For full speed)

4. System Configuration

4.1 USB Driver Installation

- Select the programming software COM number as the COM number currently used in the personal computer.

4.2 Communication Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Isolation</td>
</tr>
<tr>
<td></td>
<td>50.0 MHz (at least)</td>
</tr>
<tr>
<td></td>
<td>(including Cobra)</td>
</tr>
</tbody>
</table>

5. How to Obtain Manuals

- Manuals for FX3U-USB-BD USB Driver Installation Edition

6. Driver Installation

- Install the USB driver for the USB-AW. Refer to the following manual.

7. Installation Confirmation of Driver

- Please follow the following procedure, the USB-AW is connected to the personal computer.
- Check the following items:
  - Whether the USB-AW is properly connected to the personal computer.
  - Whether the USB-AW is turned on.
  - Whether the USB-AW is properly connected to the personal computer.

8. Uninstalling Driver

- For details on uninstalling the USB-AW, refer to the following manual.

9. Caution on use

- Before installing or removing the expansion board in or out of the FX3U-USB-BD, always turn off power.
- Be careful not to damage the external connection when inserting or removing the expansion board.

10. Troubleshooting

- If a communication error message appears while operating the programming tool or the programming software, check the following:
  - Whether the USB-AW is properly connected to the personal computer.
  - Whether the USB-AW is turned on.
  - Whether the USB-AW is properly connected to the personal computer.

11. Precautions

- Before using the USB-AW, make sure that the personal computer and the USB-AW are connected properly.
- Before using the USB-AW, make sure that the personal computer and the USB-AW are connected properly.
- Before using the USB-AW, make sure that the personal computer and the USB-AW are connected properly.

12. Specifications

- Voltage: 5 V DC (5 V DC power is supplied from the USB port)
- Current consumption: 30 mA / 5 V DC (5 V DC power is supplied from the USB port)
- USB: USB2.0 (For full speed)
- Baud Rate: 4800, 9600, 19200 bps
- Communication: half-duplex
- Operation environment: 5°C to 35°C, 10% to 85%RH without condensation
- Data communication: 30 mA / 5 V DC (5 V DC power is supplied from the USB port)
- USB: USB2.0 (For full speed)
1. Outline

The FX3U-USB-BD (hereafter called USB-BD) is an expansion board equipped with an onboard USB port. When USB-BD is installed in a FX3U or FX3UC CPU, data transfer to a PC via USB port and receiving can be performed.

1.1 Specifications

- Internal processor: 32-bit floating point processor
- Memory: 4K words of RAM
- Dimensions: 56 x 70 x 21mm (W x H x D)
- Weight: Approx. 170g
- USB cable (included with the product)

2. Installation Method

1) Power off the PLC. Disconnect all the cables connected to the PLC.
2) Using a flat head screwdriver as shown in the figure (A) remove the 8 screws of the static protection board cover (B) making sure not to damage the screws or the static protection board.
3) Remove the static protection board cover (B) permanently away from the outer case.
4) Make sure the expansion board (fig. C) is in the panel with the Latin and Greek characters on it visible. Then attach the static protection board (D).
5) For the expansion board (fig. D) to the main unit, please align the 8 holes and do not use any screws. Then press in the expansion board (D) until it clicks in place.

3. Specifications

3.1 Applicable PLC

Refer to the FX3U Series User’s Manual / Hardware Manual. For general specifications, refer to the following manuals.

3.2 General Specifications

- The home address is equivalent to the PLC main unit.

3.3 Power Supply Specification

- Current consumption: 10mA (DC 5V power is supplied from USB-BD)
- Isolation: 1000V (between communication interface and earth)
- Interface distance: 6m (Max. entrelectrical isolation 25m (Max.)

4. System Configuration

5. Communication

- A screen that is equivalent to the one below is displayed by clicking [ Start ]
- Please confirm the COM number to which the driver is allocated (COM and LPT). Connect the product to a driver-installed USB port, or install the USB Serial Port software to the current port.
- Power on the PLC and personal computer to establish USB communication with the PLC. Click [ Start ]
- Please contact a certified electronic waste disposal company for the precautionary for personal safety.

6. Driver Installation

- The USB driver for Windows 8 is stored.
- The USB driver for Windows 7 64-bit version is stored.
- The USB driver for Windows 7 32-bit version is stored.
- The USB driver for Windows XP is used.
- The USB driver for Windows Millennium Edition is used.

7. Installation Confirmation of Driver

If communication cannot be established between the PLC and a personal computer, confirm the following status by checking the SD LED and RD LED.

8. Uninstalling Driver

If driver installation is required after already establishing USB communication.

9. Caution on use

10. Troubleshooting

- The product has been manufactured under strict quality control. However, the product may be subject to malfunction due to external forces such as static electricity and vibration. Use the product in accordance with the instructions provided in this manual. Check for proper operation of the product before use.

11. Software

- The USB driver software is Ver. 1.70.
- For Windows XP, Windows XP 64-bit, Windows Vista, Windows Vista 64-bit, Windows 7, Windows 7 64-bit, Windows 8, Windows 8 64-bit, and Windows 10, the USB Serial Port software is to be installed to be used.

12. User Service

- Please contact a nearest service center for any question or problem involved in this manual. Mitsubishi Electric Corporation shall not be held responsible for any troubles involving industrial property rights which may arise from the use of this manual.