1. Outline of Product

The 232ADP is an RS-232C communication adapter with a 25-Pin D-Sub. It is an insulated unit for signal exchange. Connected to the main unit of the FX Series PLC, it enables serial data transfer between the PLC and equipment via an RS-232C port.

4. Product Specification

<table>
<thead>
<tr>
<th>Tab</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>50.7 V AC 1 min (between 25-pin D-Sub type port and PLC)</td>
</tr>
<tr>
<td>Insulation resistance</td>
<td>5 MΩ or more, 50 V DC by Megger (between 25-pin D-Sub type port and case)</td>
</tr>
<tr>
<td>Power supply voltage/current</td>
<td>5 V DC (supplied from PLC main unit), max. 200 mA</td>
</tr>
<tr>
<td>Transmission standard</td>
<td>Conforming to RS-232C</td>
</tr>
<tr>
<td>Type of isolation</td>
<td>Photo-coupler isolation</td>
</tr>
<tr>
<td>Transmission distance</td>
<td>15 m or less</td>
</tr>
<tr>
<td>Connection method</td>
<td>25-pin D-Sub type (female)</td>
</tr>
</tbody>
</table>

2. Communication Functions and Applicable PLC

**General specification**

- **Resistance**: 5 MΩ
- **Power supply**: 5 V DC (supplied from PLC main unit), max. 200 mA

**Transmission**

- Data transfer via link protocol between PLC and computer (specified as the master station).

**Installation Manual**

- **Communication port**
  - **Type of isolation**: Photo-coupler isolation
  - **Format**: No protocol
  - **Transmission**: Serial communication without protocol between PLC and equipment via RS-232C interface.

3. Specifications

4.3 Pin Configuration

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ground</td>
</tr>
<tr>
<td>2</td>
<td>Signal requesting preparation for data sending to RS232C device</td>
</tr>
<tr>
<td>3</td>
<td>RD (RXD) Send data</td>
</tr>
<tr>
<td>4</td>
<td>DRD/RSF Send enable (Data Ready flag)</td>
</tr>
<tr>
<td>5</td>
<td>NC</td>
</tr>
<tr>
<td>6</td>
<td>DRD/RSF Send enable (Data Set Ready flag)</td>
</tr>
<tr>
<td>7</td>
<td>SRD/RSF Send request</td>
</tr>
<tr>
<td>8</td>
<td>NC</td>
</tr>
<tr>
<td>9</td>
<td>DRD/RSF Receive data</td>
</tr>
<tr>
<td>10</td>
<td>SRD/RSF Send request</td>
</tr>
<tr>
<td>11</td>
<td>NC</td>
</tr>
<tr>
<td>12</td>
<td>DRD/RSF Receive data</td>
</tr>
<tr>
<td>13</td>
<td>NC</td>
</tr>
<tr>
<td>14</td>
<td>SD (TXD) Send data</td>
</tr>
<tr>
<td>15</td>
<td>NC</td>
</tr>
<tr>
<td>16</td>
<td>NC</td>
</tr>
<tr>
<td>17</td>
<td>NC</td>
</tr>
<tr>
<td>18</td>
<td>NC</td>
</tr>
<tr>
<td>19</td>
<td>NC</td>
</tr>
<tr>
<td>20</td>
<td>NC</td>
</tr>
<tr>
<td>21</td>
<td>NC</td>
</tr>
<tr>
<td>22</td>
<td>NC</td>
</tr>
<tr>
<td>23</td>
<td>NC</td>
</tr>
<tr>
<td>24</td>
<td>NC</td>
</tr>
<tr>
<td>25</td>
<td>NC</td>
</tr>
</tbody>
</table>

**Note:**
- This pin configuration is for the RS-232C port on the 232ADP as shown below.
- The pin 4, 5, 6, and 7 are not used.
- Short-circuited inside.

**Mounting on DIN rail**

Fix the 232ADP to the DIN rail, DIN46277 (35 mm (1.37”) wide) to DIN rail mounting slot using a tool such as a slotted screwdriver.

**Dismounting from DIN rail**

Slightly pull down the DIN rail mounting clip using a tool such as a slotted screwdriver.
1. Outline of Product
The 232ADP is an RS-232C communication adapter with a 25-Pin D-Sub. It is an insulated unit for signal exchange. Connected to the main unit of the FX Series PLC, it enables serial data transfer between the PLC and equipment via an RS-232C port.

2. Communication Functions and Applicable PLC
(Available in indicated version or later)

3. Installation

4. Product Specification

4.1 Specification
All other specifications than the equivalents are equal to those of the FX Series PLC main unit.

General specification
Without voltage 500 V AC, 1 min (between 25-pin D-Sub type port and PLC)
Insulation resistance 5 MΩ or more, 500 V DC by Megger (between 25-pin D-Sub type port and case)
Power supply specification
Power supply voltage, current 5 V DC (supplied from PLC main unit), max. 200 mA
Transmission standard
Conforming to RS-232C
Type of transfer
Full-duplex
Transmission distance
15 m or less
Communication port
25-pin D-Sub type (female)
Performance specification
Number or occupied I/O points
0 points (unrelated to maximum number of controlled points of the PLC)
Number of terminals (Corresponding to RS-232C)
FX/FX-FX/FS Half-duplex
FX/FX-FX/FS (No side) Half-duplex (Earlier than Ver. 2.00)
FX/FX-FX/FS (Half-duplex also possible)
Read rate
Following read rate can be specified when using computer line or no protocol communication. 300/1200/2400/4800/9600/19200 bps
Communication format
Computer line (dedicated protocol: format 1/format 4), no protocol, optional
LED display
Power: red, RD: red, SD: red

2. RS-232C Specification
The pin configuration of the RS-232C port on the 232ADP is as shown below.

3.1 How to Install to FX Series PLC
Installatation to FX/FX-FX/FS
Turn OFF the PLC before beginning any work.
1) Remove the panel cover from the top face of the main unit.
2) Take off the resin cover from the left side of the main unit.
3) Install the following board to the port on the main unit.

3.2 How to Install to Panel Face
Direct installation to the panel face
Directly fix to the panel face using 2 sets of a screw (M4), a spring washer, and a flat washer in the mounting holes. Tightening torque: 0.7 to 1.0 Nm

3.3 How to Install to Panel Face
Fix the 232ADP to the DIN rail, DIN46277 (35 mm (1.37") wide) using a screw such as a slotted screwdriver.

Mounting on DIN rail
Dismounting from DIN rail

Associated Manuals
PROGRAMMING MANUAL, PROGRAMMING MANUAL II, or FX COMMUNICATION USER’S MANUAL mentioned below are not provided in a product with a contact agent where the product was purchased but required for the manuals accordingly.

HIMEJI WORKS : 840, CHIYODA CHO, HIMEJI, JAPAN
1. Outline of Product
The 232ADP is an RS-232C communication adapter with a 25-Pin D-Sub. It is an insulated unit for signal exchange. Connected to the main unit of the FX Series PLC, it enables serial data transfer between the PLC and equipment via an RS-232C port.

2. Communication Functions and Applicable PLC (Available in indicated version or later)
Communication functions and applicable PLCs are as follows:
- Communication functions:
  - Computer link: V1.20
  - Non protocol communication: V1.20

- Applicable PLCs:
  - FX2N

3. Installation
Caution
Use in the environments specified under the following general specification in this manual.
Do not install the product in environments with excessive dust, corrosive or flammable gas, oily smoke, moisture or rain, excessive heat, regular impact shocks or excessive vibration. As it may result in electrical shock, fire, malfunction, damage or deterioration on the product.
- Make sure to shut off the power outside the product before beginning or installing it. Otherwise, electric shock or serious damage to the product may occur.
- Never drop wires or chips when this adapter is being mounted as wires or chips may cause fire, breakage, or malfunction.
- Securely install the 232ADP to the designated port. Poor connection may cause malfunction.

3.1 How to Install to FX Series PLC
Installation to FX/SFX/FX/FXON
Turn OFF the PLC before beginning any work.
1) Remove the panel cover from the left side of the main unit.
2) Take off the resin cover from the right side of the main unit.
3) Install the board on the main unit.
Installation to Fx/Fx/Fx/Fx/Fx
Turn OFF the PLC before beginning any work.
1) Remove the cover of the port for a special adapter provided on the left side of the main unit.
2) Connect the board of the 232ADP to the port for a special adapter.

3.2 How to Install to Panel Face
Direct installation to the panel face
Fix the 232ADP to the DIN rail. For the position and dimensions of mounting screw holes, refer to the external dimensions.

4. Product Specification
4.1 Specification
All other specifications than the followings are equivalent to those of the FX Series PLC main unit.
- Withstand voltage: 500 V AC, 1 min (between 25-pin D-Sub type port and PLC)
- General specification:
  - Voltage, current: 5 V DC (supplied from PLC main unit), max. 200 mA
  - Transmission standard: Conforming to RS-232C
  - Type of isolation: Photo-coupler isolation
  - Transmission distance: 15 m or less
  - Connection method: 25-pin D-Sub type (female)

Performance specification:
(Number of optional I/O ports 0-5, not unlimited to maximum number of controlled points of the PLC)
- Communication method:
  - FX: Both half-duplex, FX: Half-duplex
- Communication description:
  - Computer link (dedicated protocol: format 1/format 4), no protocol, optional
- LED display:
  - Power: red, RD: red

4.2 Outside Dimensions and Part Names

Board name
FX0N-232ADP

Corresponding model
FX0N-232ADP

4) Fix the above board using the M3 screws supplied. Tightening torque: 0.3 to 0.6 N·m
5) Connect the FX0N-232ADP to the port on the main unit.
6) FX0N-232ADP

4.3 Pin Configuration
The pin configuration of the RS-232C port on the 232ADP is as shown below.

Pin 4: 5 are not used. Short-circuited inside.
Pin 5: EPR/DR/DRS (Data Terminal Ready)
Pin 6: NC
Pin 7: EDR (Send request) (Data Terminal Ready)
Pin 8: NC
Pin 9: SGS (Signal Ground)
Pin 10: DR (Data received) (Data Set Ready)
Pin 11: NC
Pin 12: DR (Send enable) (Data Set Ready)
Pin 13: NC
Pin 14: DR (Receive data)
Pin 15: NC
Pin 16: DR (Send) (Data Sat Ready)
Pin 17: NC
Pin 18: X3
Pin 19: X2
Pin 20: X1
Pin 21: NC
Pin 22: X8
Pin 23: X7
Pin 24: X6
Pin 25: X5
Pin 26: X4
Pin 27: X3
Pin 28: X2
Pin 29: X1
Pin 30: NC
1. Outline of Product

The FX32ADP is an RS-232C communication adapter with a 25-Pin D-Sub. It is an insulated unit for signal exchange. Connected to the main unit of the FX Series PLC, it enables serial data transfer between the PLC and equipment via an RS-232C port.

2. Communication Functions and Applicable PLC (Available in indicated version or later)

<table>
<thead>
<tr>
<th>Function</th>
<th>FX32ADP</th>
<th>FX2N-232ADP</th>
<th>FX0N-232ADP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data transfer via RS-232C line between PLC and computer (specified as the master station).</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Serial communication without protocol between PLC and equipment via RS-232C interface.</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>Optional port available for variable programming tool when 232ADP is connected to PLC.</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Program transfer or monitoring enabled via module and phone line connected to serial port of PLC.</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

3. Installation

Caution

- Use in the environments specified under the general specification in the manual. Do not use the product in environments with excessive dust or flammable gas, corrosive or flammable gas, oily smoke, moisture or rain, excessive heat, regular impact shocks or excessive vibration, as it may result in electrical shock, fire, malfunction, damage or deterioration on the product.
- Make sure to shut off the power outside the product before installing or wiring it. Otherwise, electrical shock or serious damage to the product may occur.
- Never drop wire chips or shavings into the vent slits when drilling screw holes or performing wiring, as they may cause fire, breakdown, or malfunction.
- Securely install the 232ADP to the designated port. Poor contact may cause malfunction.

3.1 How to Install to FX Series PLC

Installation to FX0/FX0N/FX2N

1. Turn OFF the PLC before beginning any work.
2. Remove the panel cover from the top face of the main unit.
3. Take off the resin cover from the left side of the main unit.
4. Install the following board to the port on the main unit.

Installation to FX2N

1. Remove the cover of the port for a special adapter provided on the left side of the main unit.
2. Take off the resin cover from the left side of the main unit.
3. Install the following board to the port on the main unit.

Installation to FX32ADP

1. Turn OFF the PLC before beginning any work.
2. Remove the cover of the port for a special adapter provided on the left side of the main unit.
3. Connect the 232ADP to the port on the left side of the main unit.

4. Connect the 232ADP to the FX Series PLC.

3.2 How to Install to Panel Face

Direct installation to the panel face

Directly fix to the panel face using 2 sets of a screw (M4), a spring washer, and a flat washer in the mounting holes.

Mounting on DIN rail

Fix the 232ADP to the DIN rail. (DIN42677 (35 mm (1.37") width)

Dismounting from DIN rail

Slightly pull down the DIN rail mounting clip using a tool such as a slotted screwdriver.

4. Product Specification

<table>
<thead>
<tr>
<th>General specification</th>
<th>Power supply specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Withstand voltage</td>
<td>Power supply voltage, current</td>
</tr>
<tr>
<td>500 V AC, 1 min (between 25-pin D-Sub type port and PLC)</td>
<td>5 V DC (supplied from PLC main unit), max. 200 mA</td>
</tr>
<tr>
<td>Serial standard</td>
<td>Power supply voltage, current</td>
</tr>
<tr>
<td>Conforming to RS-232C</td>
<td>5 V DC (supplied from PLC main unit), max. 200 mA</td>
</tr>
<tr>
<td>Type of transmission</td>
<td>Power supply voltage, current</td>
</tr>
<tr>
<td>Full-duplex</td>
<td>Power supply voltage, current</td>
</tr>
<tr>
<td>Transmission distance</td>
<td>Power supply voltage, current</td>
</tr>
<tr>
<td>15 m or less</td>
<td>Power supply voltage, current</td>
</tr>
<tr>
<td>Communication format</td>
<td>Power supply voltage, current</td>
</tr>
<tr>
<td>Computer link (dedicated protocol: format 1/format 4), no protocol, optional</td>
<td>Power supply voltage, current</td>
</tr>
<tr>
<td>Standard Communication: 300/600/1200/2400/4800/9600/19200 bps</td>
<td>Power supply voltage, current</td>
</tr>
</tbody>
</table>

Additional information:

- Use in the environments specified under the general specification in the manual.
- Do not use the product in environments with excessive dust or flammable gas, corrosive or flammable gas, oily smoke, moisture or rain, excessive heat, regular impact shocks or excessive vibration, as it may result in electrical shock, fire, malfunction, damage or deterioration on the product.
- Make sure to shut off the power outside the product before installing or wiring it. Otherwise, electrical shock or serious damage to the product may occur.
- Never drop wire chips or shavings into the vent slits when drilling screw holes or performing wiring, as they may cause fire, breakdown, or malfunction.
- Securely install the 232ADP to the designated port. Poor contact may cause malfunction.

Notes on the Symbols Used in this Manual

- Under no circumstances will Mitsubishi Electric be liable or responsible for any consequential damage that may arise as a result of the installation or use of this equipment.
- All examples and diagrams shown in this manual are intended only as an aid to the understanding of the actual operation of the product based on the examples shown.
- Please contact a Mitsubishi distributor for more information concerning applications in life critical situations or high reliability.

Associated Manuals

- Programming Manual
- Programming Manual II
- Special Adapter Connection Board manual

This manual describes the installation and specifications of the FX32ADP. For details on wiring with communication equipment, system configuration and communication setting, and program examples, refer to the FX COMMUNICATION USER’S MANUAL.