FX1N-BAT Battery Unit

USER'S MANUAL

This manual contains test diagrams and explanations which include the reader in the basic precautions and operation of the FX1N-BAT safety and should be read and understood before attempting to use the unit.

Further information for the FX1N series PLC can be found in the FX1N Series Hardware Manual.

For installation of the FX1N-BAT module, consult the FX1N-BAT hardware manual in order to ensure correct installation and to prevent a local and regional accidents which apply to the installation sites.

For help on the operation of the FX1N-BAT please consult the nearest Mitsubishi Electric distributor.

The FX1N-BAT is a lithium metal battery and must be treated as hazardous waste. In EU member states, there is a separate collection system for waste batteries. In other countries, contact your National Authority for guidelines on disposal.

This section describes the precautions for disposing of waste batteries in EU member states.

To market or export batteries and/or devices with built-in batteries, which are likely to contain hazardous substances, to third countries, the importer must ensure that the standards required by EU legislation are satisfied.

5. Installation

1.1.1 Lot Number

LOT. (1)

3) Turn Off the power to the PLC.

2) Remove the top cover of the PLC.

3) Open the side cover of the FX1N-BAT using the L-shaped wrench shown in the figure on the left.

4) Loosen any two set screws on the FX1N-BAT as shown in the figure on the left.

5) Remove the FX1N-BAT.

6) Install the new FX1N-BAT onto the PLC.

7) Turn On the power to the PLC.

This product has been manufactured as a general-purpose part for general industrial application and does not mean its use for special purposes, such as nuclear power, electric power, etc. Mitsubishi Electric Corporation assumes no responsibility for any problems involving industrial property rights which may arise as a result of using the contents noted in this manual.

WARNING

1.4 Precautions for Battery Transportation

When transporting lithium batteries, follow the transportation regulations.

1.3.1 Precautions when using an expansion board

1) Supply power to the PLC for 48 hours or more.

2) Turn Off the power to the PLC.

3) Loosen any two set screws of the existing FX1N-BAT.

4) Loosen any two set screws on the new FX1N-BAT as shown in the figure on the left.

5) Remove the FX1N-BAT.

6) Install the new FX1N-BAT onto the PLC.

7) Turn On the power to the PLC.

The FX1N-BAT has been designed for use in industrial applications.

The FX1N-BAT is a lithium metal battery and must be treated as hazardous waste. In EU member states, there is a separate collection system for waste batteries. In other countries, contact your National Authority for guidelines on disposal.

This section describes the precautions for disposing of waste batteries in EU member states.

To market or export batteries and/or devices with built-in batteries, which are likely to contain hazardous substances, to third countries, the importer must ensure that the standards required by EU legislation are satisfied.

5.1.1.2 Lot Number

LOT.

3) Turn Off the power to the PLC.

2) Remove the top cover of the PLC.

3) Open the side cover of the FX1N-BAT using the L-shaped wrench shown in the figure on the left.

4) Loosen any two set screws on the FX1N-BAT as shown in the figure on the left.

5) Remove the FX1N-BAT.

6) Install the new FX1N-BAT onto the PLC.

7) Turn On the power to the PLC.
The symbol shown in the figure above on the batteries, devices, or their packaging indicates that batteries need to be disposed of separately from other wastes. This symbol serves as a guide for the proper disposal of waste batteries in EU member states.

5. Precautions for Battery Transportation

When transporting rechargeable batteries, it is important to follow certain precautions to ensure safety and compliance with local regulations. Here are some key points to consider:

- **Precautionary notes:**
  - **For safe use:**
    - This product has been manufactured for general-purpose use and has not been designed or manufactured for use in the automobile industry.
    - The user is responsible for ensuring that this product is used in compliance with local rules and regulations. Mitsubishi Electric will not be held responsible for any problems involving industrial property rights which may result from the use of the product in an unusual manner.

- **For safe use:**
  - This symbol is used for products that cause damage to batteries, such as short-circuiting, which can lead to overheating or explosion. It is important to avoid such conditions to ensure the safety of the battery.

- **For safe use:**
  - This symbol indicates that the product is manufactured under optimal quality control. However, the user should exercise caution when using the product in environments or situations that may affect its performance, such as extreme temperature or humidity, or in hazardous environments.

- **For safe use:**
  - This symbol is used to indicate that the product has been manufactured in an environmentally friendly manner. Mitsubishi Electric is committed to minimizing its environmental impact and promoting sustainable practices in its operations.

5.1 Transport guidelines

- **Compliance with local and national regulations:**
  - When transporting batteries or devices containing batteries, it is important to comply with the local and national regulations in the relevant jurisdictions.

- **Handling of batteries:**
  - When handling batteries, it is important to follow the guidelines provided by the manufacturer to ensure safe and proper handling.

- **Disposal of batteries:**
  - Batteries should be disposed of according to local regulations. It is important to follow the guidelines provided by the manufacturer to ensure proper disposal and minimize environmental impact.

6. Handling of Batteries and Devices with Built-In Batteries

This section describes the precautions for handling batteries and devices with built-in batteries. It includes guidelines for the installation, operation, and maintenance of such devices.

6.1 Disposal precautions

- **For safe use:**
  - Mitsubishi Electric is committed to environmental protection and waste management. It is important to follow the guidelines provided by the manufacturer to ensure proper disposal and minimize environmental impact.

- **For safe use:**
  - Mitsubishi Electric is committed to providing products that meet international safety and quality standards. It is important to follow the guidelines provided by the manufacturer to ensure the safety and reliability of the product.

6.2 Exportation precautions

- **For safe use:**
  - Mitsubishi Electric is committed to providing products that meet international safety and quality standards. It is important to follow the guidelines provided by the manufacturer to ensure the safety and reliability of the product.

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FX1N-BAT BATTERY UNIT
USER'S MANUAL

1. Introduction

1.1. Purpose

The FX1N-BAT is used to ensure that the capacitor-backed devices and clock data do not become random values when power is not supplied to the PLC for a long time (10 days or more) after the "BATT.V" LED lights. The FX1N-BAT should be used within its expiration date (life cycle: 2 years at 25°C).

1.2. Scope

This manual describes the precautions when installing and using the FX1N-BAT. It contains information on the precautions, the installation procedure, and the disposal of the FX1N-BAT.

1.3. Conventions

- Vertical layout: This manual is written in a vertical layout. Therefore, the figures are shown in the same layout.
- Diagrams: Diagrams are used to illustrate the installation and usage of the FX1N-BAT.
- Specifications: The specifications of the FX1N-BAT are listed in the Appendix section.
- Symbols: Symbols are used to indicate the precautions and installation of the FX1N-BAT.

2. Specifications

2.1. General Specifications

- Voltage range: 24VDC
- Current consumption: 2mA
- Operating temperature: 0°C to 55°C
- Storage temperature: -20°C to 70°C
- Humidity: 95% or less (non-condensing)

2.2. Input/Output

- Inputs: 24VDC, 1mA
- Outputs: 24VDC, 1mA

3. Installation

3.1. Precautions

- The FX1N-BAT should be installed close to the FX1N-BAT, with a distance of 10cm or less.
- The FX1N-BAT should be installed in a well-ventilated area.
- The FX1N-BAT should be installed in an area where there is no water or liquid leakage.
- The FX1N-BAT should be installed in an area where there is no impact damage.
- The FX1N-BAT should be installed in an area where there is no dust or dirt accumulation.
- The FX1N-BAT should be installed in an area where there is no electromagnetic interference.

4. Maintenance

4.1. Cleaning

- Use a soft, dry cloth to clean the FX1N-BAT. Do not use chemicals or solvents.
- Do not install the FX1N-BAT in areas where liquid leakage or water may occur.
- Do not install the FX1N-BAT in areas where the FX1N-BAT is exposed to direct sunlight.
- Do not install the FX1N-BAT in areas where there is no dust or dirt accumulation.
- Do not install the FX1N-BAT in areas where there is no electromagnetic interference.

4.2. Inspection

- Inspect the FX1N-BAT at least once a year.
- Check the FX1N-BAT for any damage or malfunction.
- Check the FX1N-BAT for any dust or dirt accumulation.
- Check the FX1N-BAT for any electromagnetic interference.

5. Accessories

- Accessories: Top cover for FX1N-BAT
- Specifications: 80.0 x 60.0 x 10.0 mm

6. Troubleshooting

6.1. Troubleshooting

- The FX1N-BAT is not powered up.
- The FX1N-BAT is not in the operation mode.
- The FX1N-BAT is not in the correct installation.
- The FX1N-BAT is not in the correct operation mode.
- The FX1N-BAT is not in the correct status.

7. Conclusion

The FX1N-BAT is a highly reliable and easy-to-use battery unit. It is essential to follow the precautions and installation procedures to ensure the correct operation of the FX1N-BAT.