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› NHJLFKSA FX3U-48MT-DSS PLC Module Instruction Manual

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1. INTRODUCTION

This manual provides essential information for the safe and efficient installation, operation, and maintenance of the NHJLFKSA FX3U-48MT-DSS Programmable Logic Controller (PLC) module. Please read this manual thoroughly before using the product to ensure correct usage and to prevent accidents or damage.

The FX3U-48MT-DSS is a high-performance PLC module designed for industrial automation applications, offering reliable control and processing capabilities.

2. SAFETY INFORMATION

Always observe the following safety precautions to prevent electric shock, fire, injury, or damage to the product.

- **Electrical Safety:** Ensure all power is disconnected before performing any installation, wiring, or maintenance. Only qualified personnel should perform electrical work.
- **Proper Grounding:** The PLC module must be properly grounded to prevent electrical hazards.
- **Environment:** Install the PLC in an environment free from excessive dust, moisture, corrosive gases, high temperatures, and strong vibrations.
- **Wiring:** Use appropriate wire gauges and ensure all connections are secure. Do not apply voltage exceeding the specified ratings to any terminal.
- **Handling:** Handle the module with care to avoid physical damage. Do not drop or subject it to strong impacts.

3. PRODUCT OVERVIEW

The NHJLFKSA FX3U-48MT-DSS is a compact and powerful PLC module. It features a robust design suitable for various industrial control tasks. The module integrates inputs, outputs, and a central processing unit (CPU) into a single unit.



Figure 3.1: Front view of the NHJLFKSA FX3U series PLC module, showing power indicators, terminal blocks for inputs and outputs, and the model designation. This view highlights the main operational interface.



Figure 3.2: Side view of the NHJLFKSA FX3U series PLC module, illustrating communication ports (e.g., RS-485, LAN) and additional input/output indicators. This perspective shows connectivity options.

4. SETUP

4.1 Mounting

The FX3U-48MT-DSS module is designed for DIN rail mounting. Ensure the DIN rail is securely fastened within the control cabinet. Snap the PLC module onto the DIN rail until it clicks into place.

4.2 Wiring

All wiring should be performed with the power supply disconnected. Refer to the wiring diagrams below and the labels on the module for correct connections.

- **Power Supply:** Connect the 24V DC power supply to the designated power terminals (typically marked L+ and M or 24V and 0V). Ensure correct polarity.
- **Inputs:** Connect input devices (e.g., sensors, switches) to the input terminals (X0, X1, etc.). The FX3U-48MT-DSS typically supports DC sink/source inputs.
- **Outputs:** Connect output devices (e.g., relays, contactors) to the output terminals (Y0, Y1, etc.). The 'MT' in the model name indicates transistor outputs, suitable for high-speed switching.
- **Grounding:** Connect the functional ground terminal to the control panel's ground bus.

Note: Specific wiring diagrams are typically provided in the product packaging or on the module itself. Always consult these for precise connections.

5. OPERATING INSTRUCTIONS

5.1 Power On

After completing all wiring and verifying connections, apply power to the PLC module. The 'POWER' indicator LED should illuminate.

5.2 Programming

The FX3U-48MT-DSS is programmed using compatible PLC programming software (e.g., Mitsubishi GX Works2 or GX Developer). Connect the PLC to a computer via the programming port (typically USB or RS-422/RS-485). Develop your ladder logic or structured text program, then download it to the PLC.

5.3 Run Mode

Once the program is downloaded, switch the PLC to 'RUN' mode (either via software or a physical switch if present). The 'RUN' indicator LED will illuminate, and the PLC will begin executing the loaded program.

5.4 Indicator Lights

- **POWER:** Indicates that power is supplied to the module.
- **RUN:** Indicates that the PLC is in run mode and executing the program.
- **ERR (Error):** Indicates a system error or program error. Refer to the programming software for error details.
- **OUT (Output):** Individual LEDs illuminate when the corresponding output is active.

6. MAINTENANCE

Regular maintenance ensures the longevity and reliable operation of your PLC module.

- **Cleaning:** Periodically clean the module's exterior with a soft, dry cloth. Do not use solvents or abrasive cleaners. Ensure ventilation openings are free from dust and debris.
- **Connection Checks:** Regularly inspect all wiring connections for tightness and signs of corrosion. Re-tighten as necessary.
- **Environmental Monitoring:** Ensure the operating environment remains within specified temperature, humidity, and vibration limits.
- **Firmware Updates:** Check the manufacturer's website for any available firmware updates that may improve performance or address issues. Follow update instructions carefully.

7. TROUBLESHOOTING

If you encounter issues with your FX3U-48MT-DSS module, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
PLC does not power on (POWER LED off)	No power supply, incorrect wiring, faulty power supply.	Check power connections and voltage. Verify power supply functionality.
ERR LED is illuminated	System error, program error, hardware fault.	Connect to programming software to read error codes. Check program logic. Inspect hardware.

Problem	Possible Cause	Solution
Inputs not responding	Sensor wiring error, faulty sensor, incorrect input configuration in program.	Verify sensor operation and wiring. Check PLC input status in software. Review program logic.
Outputs not activating	Output device wiring error, faulty output device, incorrect output logic in program, overloaded output.	Verify output device operation and wiring. Check PLC output status in software. Review program logic. Ensure output current limits are not exceeded.

For persistent issues, consult the programming software's help documentation or contact technical support.

8. SPECIFICATIONS

The following are the general specifications for the NHJLFKSA FX3U-48MT-DSS PLC module. Please refer to the product label for exact and detailed specifications.

Feature	Specification
Model	FX3U-48MT-DSS
Brand	NHJLFKSA
Product Type	Programmable Logic Controller (PLC) Module
Input Type	DC Inputs (typically 24V DC)
Output Type	Transistor Outputs (Sink/Source)
Number of I/O Points	48 (e.g., 24 Inputs, 24 Outputs)
Power Supply	24V DC (Typical, refer to product label)
Weight	50 Grams
Assembly Required	No
GTIN/EAN	9430533710724
ASIN	B0DT9TK2XJ

Note: The package dimensions provided (3 x 2 x 1 cm) appear to be for a very small item. Please refer to the physical product or manufacturer's official documentation for accurate product dimensions.

9. WARRANTY AND SUPPORT

For information regarding product warranty, please refer to the warranty card included with your purchase or contact the seller/manufacturer directly. Technical support may be available through the point of purchase or the NHJLFKSA official channels.

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