

MITSUBISHI FX3U-232-BD

MITSUBISHI FX3U-232-BD Communication Expansion Board User Manual

Model: FX3U-232-BD | Brand: MITSUBISHI

1. INTRODUCTION

This manual provides essential information for the safe and effective use of the MITSUBISHI FX3U-232-BD Communication Expansion Board. This module is designed to provide RS-232 communication capabilities for compatible Mitsubishi programmable logic controllers (PLCs), functioning as a servo add-on module/board.

2. SAFETY INFORMATION

Please read and understand all safety precautions before installing, operating, or maintaining the FX3U-232-BD module. Failure to follow these instructions may result in injury or equipment damage.

- Ensure power is disconnected from the PLC and module before installation or removal.
- Do not expose the module to moisture, extreme temperatures, or corrosive environments.
- Handle the module with care to avoid damage to electronic components.
- Only qualified personnel should perform installation and maintenance.
- Verify all connections are secure before applying power.

3. PRODUCT OVERVIEW

The MITSUBISHI FX3U-232-BD is a communication expansion board designed to extend the communication capabilities of Mitsubishi FX3U series PLCs. It provides an RS-232 interface for serial communication with external devices.

3.1. Components

- FX3U-232-BD Communication Expansion Board
- Mounting Screws (if included)

- Instruction Manual (this document)

3.2. Visual Reference



Figure 1: Mitsubishi FX3U-232-BD communication expansion board in its original packaging, alongside the board itself and small screws.



Figure 2: Close-up of the Mitsubishi FX3U-232-BD product label on the cardboard box, showing model number, lot, code, and compliance marks.

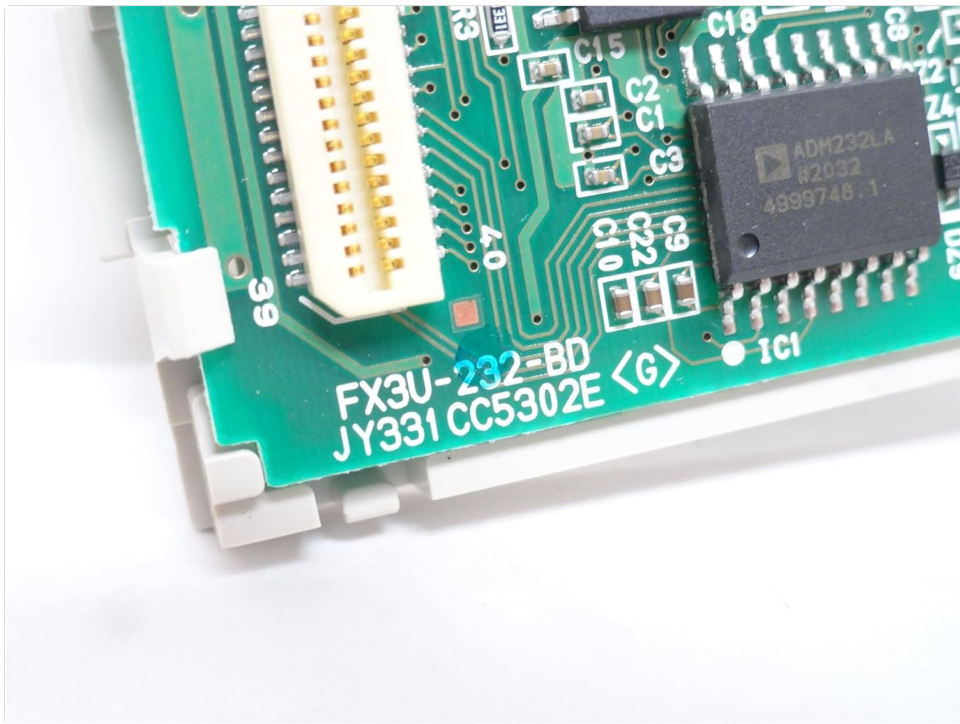


Figure 3: Detailed view of the Mitsubishi FX3U-232-BD circuit board, highlighting the model number printed on the PCB and various electronic components.



Figure 4: Top-down view of the Mitsubishi FX3U-232-BD module, showing the circuit board, connector, and mounting holes.



Figure 5: Front view of the Mitsubishi FX3U-232-BD module, focusing on the 9-pin D-sub (RS-232) connector.



Figure 6: Side view of the Mitsubishi FX3U-232-BD module, showing the RS-232 connector and the module's profile.



Figure 7: Rear view of the Mitsubishi FX3U-232-BD module, showing the back casing and mounting features.

4. SETUP

4.1. Installation

1. **Power Off:** Ensure the PLC system is completely powered off and disconnected from the main power supply.
2. **Locate Expansion Slot:** Identify an available expansion slot on your compatible Mitsubishi FX3U series PLC.
3. **Insert Module:** Carefully align the FX3U-232-BD module with the expansion slot and gently push it into place until it is securely seated. Do not force the module.
4. **Secure Module:** If applicable, use the provided mounting screws to secure the module to the PLC chassis.
5. **Connect Cables:** Connect your RS-232 communication cable to the 9-pin D-sub connector on the FX3U-232-BD module.
6. **Power On:** Once installation is complete and all connections are verified, restore power to the PLC system.

5. OPERATING INSTRUCTIONS

5.1. Basic Operation

The FX3U-232-BD module provides an RS-232 interface for serial communication. Its operation is primarily controlled through the PLC program. Refer to your PLC programming software manual for detailed instructions on configuring the RS-232 port and implementing communication protocols.

- **Communication Parameters:** Configure baud rate, data bits, stop bits, and parity within the PLC

program to match the connected device.

- **Communication Protocols:** Implement the necessary communication protocols (e.g., MODBUS, custom protocols) in your PLC ladder logic or structured text.
- **Data Exchange:** Use dedicated PLC instructions to send and receive data via the RS-232 port.

6. MAINTENANCE

The FX3U-232-BD module is designed for reliable operation with minimal maintenance. However, periodic checks can help ensure longevity and performance.

- **Cleaning:** Keep the module and its connectors clean and free from dust and debris. Use a soft, dry cloth for cleaning. Do not use liquid cleaners.
- **Connection Check:** Periodically inspect all cable connections to ensure they are secure and free from damage.
- **Environmental Conditions:** Ensure the operating environment remains within the specified temperature and humidity ranges.

7. TROUBLESHOOTING

If you encounter issues with your FX3U-232-BD module, refer to the table below for common problems and solutions.

Problem	Possible Cause	Solution
Module not recognized by PLC	Module not properly seated; PLC firmware issue	Ensure module is fully inserted. Check PLC manual for firmware updates or compatibility.
No communication via RS-232	Incorrect wiring; Incorrect communication parameters; PLC program error	Verify cable wiring. Check PLC program for correct baud rate, data bits, stop bits, and parity. Debug PLC communication logic.
Intermittent communication	Loose connections; Electrical noise; Damaged cable	Secure all connections. Ensure proper grounding and shielding. Replace communication cable if damaged.

8. SPECIFICATIONS

The following table outlines the key specifications for the MITSUBISHI FX3U-232-BD Communication Expansion Board:

Specification	Value
Model Number	FX3U-232-BD
Communication Interface	RS-232

Specification	Value
Voltage Compatibility	5V
ROHS Compliant	Yes
Category	Servo Add-On Module/Board
Item Weight	0.06 Kilograms
Manufacturer	MITSUBISHI
Date First Available	September 19, 2015

9. WARRANTY AND SUPPORT

For information regarding product warranty, please refer to the terms and conditions provided at the time of purchase or contact your authorized Mitsubishi distributor.

For technical support, troubleshooting assistance, or further inquiries, please contact Mitsubishi Electric Corporation or visit their official support channels. You can find more information about Mitsubishi products at the [Mitsubishi Store on Amazon](#).