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› MOXA NPort 5150-1 Port RS-232/422/485 Serial Device Server Instruction Manual

Moxa NPort 5150

MOXA NPort 5150-1 Port RS-232/422/485 Serial Device Server Instruction Manual

Model: NPort 5150

1. INTRODUCTION

1.1 Product Overview

The MOXA NPort 5150 is a compact 1-port serial device server designed to make your industrial serial devices network-ready in an instant. It supports RS-232, RS-422, and RS-485 serial interfaces, allowing for flexible integration into various network environments. This device is ideal for connecting legacy serial equipment to an Ethernet network, enabling remote access and management.

Key features include:

- Small size for easy installation.
- Real COM/TTY drivers for Windows and Linux operating systems.
- Standard TCP/IP interface and versatile operation modes.
- Easy-to-use Windows utility for configuring multiple device servers.
- SNMP MIB-II for network management.
- Configuration options via Telnet, web browser, or Windows utility.
- Adjustable pull high/low resistor for RS-485 ports.



Figure 1: Front view of the MOXA NPort 5150 serial device server. This image displays the front of the MOXA NPort 5150 serial device server, highlighting its compact design and integrated mounting brackets. Visible features include the 12-48 VDC power input, RESET button, 10/100M Ethernet port, and the DB9 serial port labeled 'Port 1 RS-232/422/485'. LED indicators for Ready, Link, and Tx/Rx are also present.

2. SETUP AND INSTALLATION

2.1 Package Contents

Before proceeding with installation, please verify that your package contains the following items:

- MOXA NPort 5150 Serial Device Server unit.
- Power adapter (may be sold separately depending on region/bundle).

- Quick Installation Guide.
- Product CD (containing drivers and utilities).



Figure 2: MOXA NPort 5150 Product Box. The top of the MOXA NPort 5150 product box, displaying the model number 'NPort 5150/EU V1.2.2' and a barcode with the identifier 'TBCBE1066056'. The box also indicates 'Made in Taiwan' and regulatory compliance marks (CE, FCC, UKCA).

2.2 Physical Installation

The NPort 5150 is designed for easy installation in various environments. It features integrated mounting brackets for secure attachment to a wall or panel.

1. Choose a suitable location for the device, ensuring adequate ventilation and access to power and network connections.
2. Use appropriate screws to mount the device securely via its integrated brackets.

2.3 Power Connection

The NPort 5150 operates on a 12-48 VDC power input.

1. Connect the power adapter (if included) to the DC power input jack on the NPort 5150.
2. Plug the power adapter into a suitable power outlet.
3. Ensure the power source provides stable voltage within the specified range.



Figure 3: Power adapter for MOXA NPort 5150. This image shows a typical power adapter compatible with the MOXA NPort 5150, featuring a two-prong plug and a barrel connector for DC power input.

2.4 Network Connection

Connect the NPort 5150 to your Ethernet network.

1. Connect a standard Ethernet cable (RJ45) from your network switch or router to the 10/100M Ethernet port on the NPort 5150.
2. Verify that the Link LED on the NPort 5150 illuminates, indicating a successful network connection.

2.5 Serial Connection

Connect your serial device(s) to the NPort 5150.

1. Identify the correct serial cable type (RS-232, RS-422, or RS-485) required for your device. The NPort 5150 features a DB9 male connector.
2. Connect your serial device to the 'Port 1 RS-232/422/485' DB9 connector on the NPort 5150.
3. Ensure the serial communication settings (baud rate, data bits, parity, stop bits, flow control) on your serial device match the configuration settings of the NPort 5150.

3. OPERATION

3.1 LED Indicators

The NPort 5150 features several LED indicators to provide status information:

- **Ready LED:** Indicates the device is powered on and operating correctly.
- **Link LED:** Indicates a successful Ethernet link connection.
- **Tx/Rx LED:** Flashes to indicate data transmission (Tx) or reception (Rx) activity on the serial port.

3.2 Configuration

The NPort 5150 can be configured using various methods:

- **Windows Utility:** Moxa provides an easy-to-use Windows utility for discovering and configuring NPort devices on your network. This is often the most straightforward method for initial setup.
- **Web Browser:** The device has a built-in web server, allowing configuration through a standard web browser by entering the device's IP address.
- **Telnet:** For command-line configuration, you can use a Telnet client to connect to the device's IP address.

For detailed instructions on using the configuration utilities and setting up specific operation modes (e.g., Real COM mode, TCP Server/Client mode, UDP mode), please refer to the comprehensive user manual available on the official Moxa website.

3.3 Operation Modes

The NPort 5150 supports various operation modes to suit different application requirements. These modes define how the serial data is encapsulated and transmitted over the Ethernet network. Common modes include:

- **Real COM/TTY Mode:** Creates virtual COM ports on a host PC, allowing existing serial applications to communicate with network-connected serial devices as if they were directly connected.

- **TCP Server/Client Mode:** Enables the NPort to act as a TCP server, listening for incoming connections, or as a TCP client, initiating connections to a remote host.
- **UDP Mode:** For connectionless communication, allowing data to be sent and received via UDP packets.

4. MAINTENANCE

4.1 Cleaning

To ensure optimal performance and longevity of your NPort 5150, follow these cleaning guidelines:

- Disconnect power before cleaning.
- Use a soft, dry cloth to wipe the exterior of the device.
- Do not use liquid cleaners, aerosols, or solvents, as these may damage the device.

4.2 Environmental Considerations

The NPort 5150 is designed for industrial environments, but proper environmental conditions are still important:

- Ensure the operating temperature and humidity are within the specified ranges (refer to Section 6: Technical Specifications).
- Avoid exposing the device to excessive dust, moisture, or direct sunlight.
- Provide adequate airflow around the device to prevent overheating.

5. TROUBLESHOOTING

This section provides solutions to common issues you might encounter with your NPort 5150.

Problem	Possible Cause	Solution
Device not powering on (No LEDs)	No power supply; Faulty power adapter; Incorrect voltage.	Check power cable connection; Verify power outlet; Ensure power adapter is functional and provides correct voltage (12-48 VDC).
No network connection (Link LED off)	Ethernet cable disconnected or faulty; Network switch/router issue; Incorrect network settings.	Check Ethernet cable connection; Try a different cable; Verify network switch/router status; Ensure NPort's IP settings are compatible with your network.
Serial communication issues (Tx/Rx LED not flashing)	Incorrect serial cable; Mismatched serial settings (baud rate, parity, etc.); Application not sending/receiving data; Device server not configured correctly.	Verify serial cable type and pinout; Ensure serial settings on NPort and connected device match; Check your application's serial port usage; Review NPort configuration (e.g., operation mode).
Cannot access web console or Telnet	Incorrect IP address; Network firewall blocking access; Device server not fully booted.	Verify the NPort's IP address; Check firewall settings on your PC and network; Wait for the Ready LED to be solid before attempting access.

If you continue to experience issues after attempting these troubleshooting steps, please refer to the detailed user manual on the Moxa website or contact Moxa technical support.

6. TECHNICAL SPECIFICATIONS

The following table outlines the technical specifications for the MOXA NPort 5150 serial device server:

Feature	Specification
Brand	Moxa
Model Number	NPort 5150
Operating System Compatibility	Linux, Windows
Item Weight	12.7 ounces (approx. 360 grams)
Product Dimensions (LxWxH)	3.15 x 2.95 x 0.87 inches (approx. 8 x 7.5 x 2.2 cm)
Manufacturer	Moxa Inc.
Hardware Interface	Serial Interface (DB9 male)
Compatible Devices	Serial Devices with RS-232, RS-422, or RS-485 Interfaces
UPC	613739924235
Ethernet Port	10/100 Mbps Auto-sensing
Power Input	12-48 VDC

7. WARRANTY AND SUPPORT

Moxa products are designed for reliability and performance. For specific warranty terms and conditions applicable to your NPort 5150, please refer to the warranty information provided with your product or visit the official Moxa website.

For technical support, driver downloads, firmware updates, and comprehensive documentation, please visit the official Moxa website:

www.moxa.com

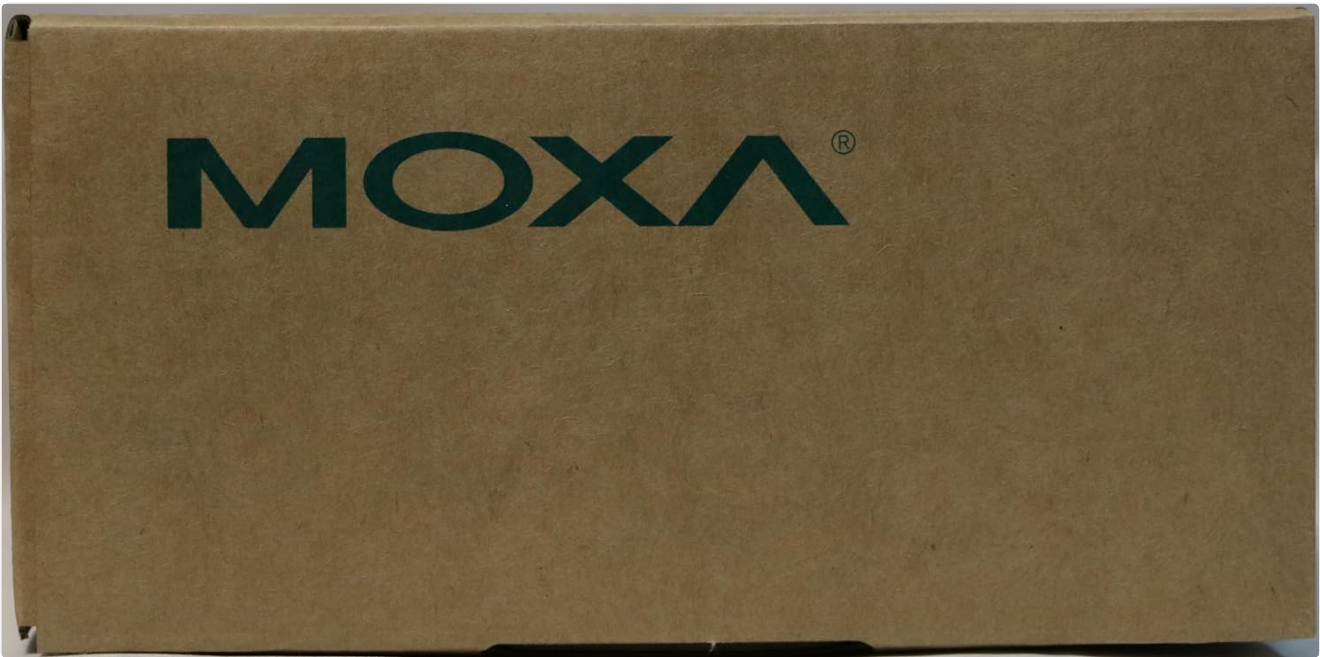


Figure 4: MOXA Product Box Front. The front of the MOXA product box, prominently featuring the MOXA logo and the official website address 'www.moxa.com'.

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