

# NPort W2150A/W2250A Series Quick Installation Guide

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## Overview

The NPort W2150A/W2250A wireless device servers are an ideal choice for connecting serial devices or Ethernet devices, including PLCs, meters, and sensors, to an IP-based wireless LAN or Ethernet LAN.

## Features

- Link any serial device to an IEEE 802.11a/b/g/n network
- 1 and 2-port RS-232/422/485 models, up to 921.6 kbps
- Web-based configuration over Ethernet or wireless LAN
- Enhanced security for remote configuration with HTTPS, SSH
- Secure data access with WEP, WPA, WPA2
- Fast roaming when signal strength is weak
- Wireless Client: data can be seamlessly transferred between serial line, LAN, and WLAN
- Per-port offline port buffering and serial data log
- Dual power inputs via a power jack and terminal block

## Package Checklist

Before installing the NPort W2150A/W2250A device server, verify that the package contains the following items:

- 1 NPort W2150A or NPort W2250A wireless device server
- 1 antenna 2.4/5GHz: ANT-WDB-ARM-02
- 100 to 240 VAC power adapter (excluding T models)\*
- 1 Ethernet cable: CBL-RJ458P-100
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card

**NOTE** The power adapter is suitable for your region.

### *Optional Accessories*

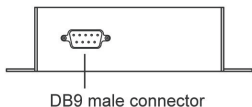
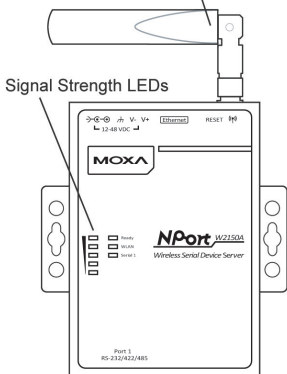
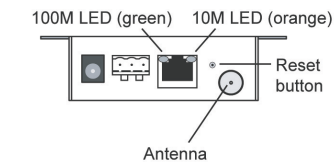
- DK-35A (35 mm DIN-rail mounting kit)
- CBL-PJ21NOPEN-BK-30: Locking barrel plug to bare-wires cable
- Mini DB9F-to-TB: DB9-female-to-terminal-block adapter for RS-422/485 applications

**NOTE** Notify your sales representative if any of the above items are missing or damaged.

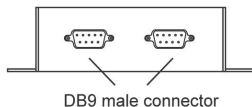
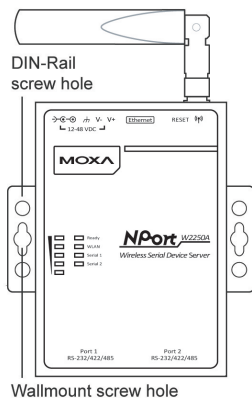
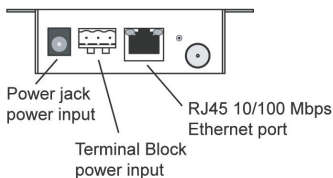
## Hardware Introduction

The NPort W2150A models have one serial port; the NPort W2250A models have two serial ports. Both models support RS-232/422/485 operation with DB9 connectors and include one 10/100M Ethernet port.

### NPort W2150A/W2150A-T



### NPort W2250A/W2250A-T

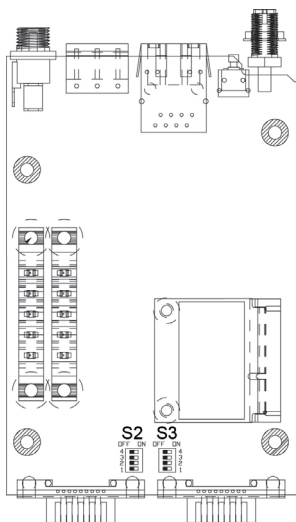


**Reset Button:** The reset button is used to load the factory default settings. Use a pointed object to hold the reset button down for five seconds to load the factory defaults.

Name	Color	Function
<b>End Panel LED Indicators</b>		
Ethernet	Orange	10 Mbps Ethernet connection
	Green	100 Mbps Ethernet connection
	Off	Ethernet cable is disconnected
<b>Top Panel LED Indicators</b>		
Ready	Red	Steady on: Power is on and the NPort is booting up
		Blinking: An IP conflict exists or the DHCP/BOOTP server did not respond properly
	Green	Steady on: The NPort is functioning normally
Blinking: The NPort is responding to Locate function		
	Off	Power is off or a power error condition exists

Name	Color	Function
WLAN	Green	Steady on: Wireless enabled Blinking: The NPort can't establish a WLAN connection with AP (Infrastructure) or station (Ad-Hoc)
	Off	Wireless not enabled
Serial 1 Serial 2	Orange	The serial port is receiving data
	Green	The serial port is transmitting data
	Off	No data is flowing to or from the serial port
Signal Strength	Red	1 Red - The signal strength (RSSI) is lower than -94 dBm
		2 Red - The signal strength (RSSI) is between -94 to -87 dBm
	Green	3 Green - The signal strength (RSSI) is between -87 to -79 dBm
		4 Green - The signal strength (RSSI) is between -79 to -68 dBm
		5 Green - the signal strength (RSSI) is between -68 to -46 dBm

## Pull-High/Low Resistors and Terminal Resistor for RS-422/485



You may need to set the pull-high/low resistors when termination resistors are used in certain RS-422 or RS-485 environments.

	DIP 1	DIP 2	DIP 3	DIP 4
S2(Serial 1) S3(Serial 2)	Pull-high Resistor	Pull-low Resistor	Terminal Resistor	Reserved
ON	1 k $\Omega$	1 k $\Omega$	120 $\Omega$	-
OFF (Default)	150 k $\Omega$	150 k $\Omega$	N/A	-

S3 is for the NPort W2250A only.

**NOTE** Do not use the 1 k $\Omega$  setting while in RS-232 mode. Doing so will degrade the RS-232 signals and reduce the effective communication distance.

## First-time Hardware Installation

- STEP 1:** After removing the NPort W2150A/W2250A from the box, use a crossover Ethernet cable to connect the NPort's RJ45 Ethernet port directly to your computer's Ethernet port.
- STEP 2:** Attach the power adapter to the NPort and then plug the adapter into an electrical outlet.
- STEP 3:** Configure the NPort W2150A/W2250A through the Ethernet port. See the next section on how to install software.

**NOTE** You must connect the Ethernet cable first before powering up your NPort

## Software Installation Information

Insert the Documentation and software CD into your PC. A window should open with several options displayed:

- Click **[Install COM Driver]** and follow the on-screen instructions to install the COM drivers.
- Click **[Documents]** and select **NPort W2150A/W2250A Series User's Manual** to view the user's manual.
- Click **[Install UTILITY]** and follow the on-screen instructions to install the NPort Search Utility. This utility can be used to search for NPort W2150A/W2250A units on the network.

## Setting the IP Address

The factory default IP settings are assigned as follows:

LAN: Static; IP = 192.168.126.254; netmask = 255.255.255.0

WLAN: Static; IP = 192.168.127.254; netmask = 255.255.255.0

If the NPort is configured for DHCP, but the DHCP server cannot be found, then the NPort will use the factory default IP settings.

**NOTE** If you have forgotten the NPort's IP address, use the NPort Search Utility from your PC to locate the NPort. After searching the LAN for NPort units, the NPort Search Utility will display the IP address of each unit.

**NOTE Ethernet Bridge Disabled (default):** Only one network interface can be active at a time. If the Ethernet link is active, the WLAN will be inactive. If the WLAN is active, the Ethernet link will be inactive.

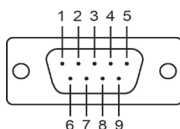
**Ethernet Bridge Enabled:** The LAN and WLAN will both be active. Go to the web console, find the network settings page, and set **Ethernet Bridge** to **Enabled**.

Open the web console to make configuration changes as follows:

- STEP 1:** Open your web browser.
- STEP 2:** In the address bar, enter 192.168.126.254 (the default IP address).
- STEP 3:** The web console will open, and the current configuration settings are shown.
- STEP 4:** For first-time use, click the Wizard in the left navigation panel. The wizard will prompt you to configure the IP address, SSID, and security mode. For other settings, use the factory defaults or modify the settings for your application.

## Pin Assignments and Cable Wiring

Pin	RS-232	RS-422, 4w RS-485	2w RS-485
1	DCD	TxD-(A)	-
2	RXD	TxD+(B)	-
3	TXD	RxD+(B)	Data+(B)
4	DTR	RxD-(A)	Data-(A)
5	GND	GND	GND
6	DSR	-	-
7	RTS	-	-
8	CTS	-	-
9	-	-	-



## Specifications

Power Requirements	
Power Input	12 to 48 VDC
Power Consumption	NPort W2150A: 179 mA @ 12 VDC NPort W2250A: 200 mA @ 12 VDC
Power Connector	Screw-type power jack and terminal block
Physical Characteristics	
Material	Aluminum sheet metal (1 mm)
Dimensions	77 × 111 × 26 mm (no ears, no antenna) 100 × 111 × 26 mm (with ears, no antenna)
Antenna Length	109 mm
Magnetic Isolation	1.5 kV magnetic isolation built in
Environmental Limits	
Operating Temperature	Standard Models: 0 to 55°C (32 to 131°F), 5 to 95%RH Wide Temp. Models: -40 to 75°C (-40 to 167°F), 5 to 95%RH
Storage Temperature	-40 to 85°C (-40 to 185°F), 5 to 95%RH
Regulatory Approvals	
EMC	CE: EN 55022 Class A/EN 55024 ETSI EN 301 489-17, ETSI EN 301 489-1 FCC: FCC Part 17 Subpart B, Class A FCC Part 15 Subpart B, Class A
Safety	UL: UL 60950-1 LVD: EN 60950-1 DSPR: ARIB-STD 33, ARIB-STD 66