

# **NPort W2150A-W4/ NPort W2250A-W4 Series Quick Installation Guide**

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**Technical Support Contact Information**  
**[www.moxa.com/support](http://www.moxa.com/support)**

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**P/N: 1802021503052**



## Overview

The NPort W2150A-W4/W2250A-W4 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

- Links serial and Ethernet devices to an IEEE 802.11a/b/g/n network
- Web-based configuration using built-in Ethernet or WLAN
- Secure boot for Moxa-only allowed firmware allowed to run
- Remote configuration with HTTPS, SSH
- Secure data access with WEP, WPA, WPA2
- Fast roaming for quick automatic switching between access points
- Offline port buffering and serial data log
- Enhanced surge protection for serial, LAN, and power
- Dual power inputs (1 screw-type power jack, 1 terminal block)

## Package Checklist

Before installing the NPort W2150A/W2250A-W4 device server, verify that the package contains the following items:

- 1 NPort W2150A-W4 or NPort W2250A-W4 wireless device server.
- 1 antenna 2.4/5GHz: ANT-WDB-ASM-03 BK.
- 100 to 240 VAC power adapter. (excluding T models)\*
- 1 Ethernet cable: CBL-RJ458P-100.
- Quick installation guide (printed).
- Warranty card.

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

### *Optional Accessories*

- DK35A (35 mm DIN-rail mounting kit; 4 screws included).
- 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.



### **ATTENTION**

To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.



## ATTENTION

이 기기는 업무용 환경에서 사용할 목적으로 적합성 평가를 받은 기기로서 가정용 환경에서 사용하는 경우 전파간섭의 우려가 있습니다.



## ATTENTION

「取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻器材之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前述合法通信，指依電信管理法規定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。」

「應避免影響附近雷達系統之操作。」

**NOTE** Before connecting the NPort W2150A-W4 and NPort W2250A-W4 Series DC power inputs, make sure the DC power source voltage is stable.

- A qualified person must install the wiring for the input terminal block.
- Wire type: Cu.
- Only use 12 to 28 AWG wire size and a torque value of 0.51 N-m.

**NOTE** The operating temperature of the power adapter (included with the NPort W2150A-W4/W2250A-W4) is from 0 to 40°C (32 to 104°F). If your application is not in this range, please use a power adapter supplied according to the requirements below:

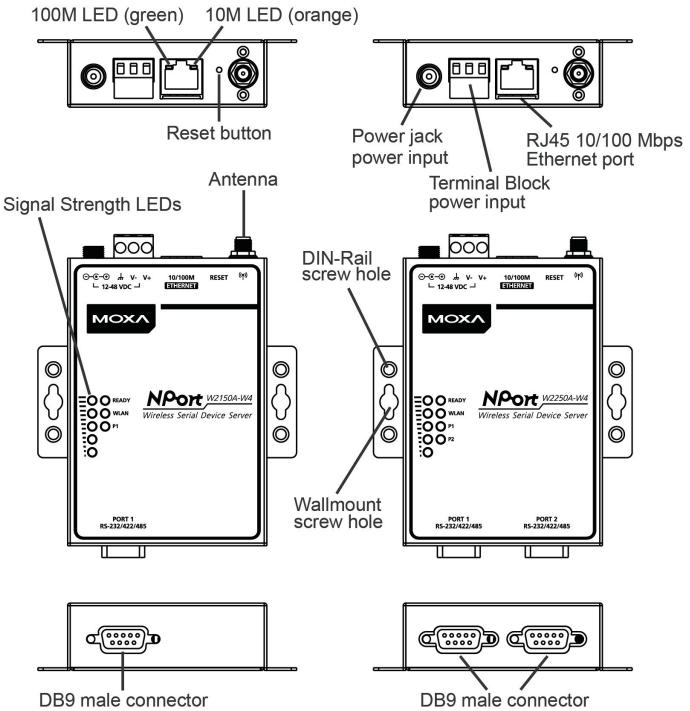
- The external power source must comply with UL listed, IEC 60950-1, or IEC/EN 62368-1.
- Output complies to SELV/ES1, PS2/LPS; output rating 12 to 48 VDC, 0.455 A minimum.
- A minimum ambient temperature of 55°C or 75°C. (55°C for the NPort W2150A-W4 and NPort W2250A-W4; 75°C for the NPort W2150A-W4-T and NPort W2250A-W4-T)

## Hardware Introduction

The NPort W2150A-W4 models have one serial port; the NPort W2250A-W4 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-W4  
NPort W2150A-W4-T**

**NPort W2250A-W4  
NPort W2250A-W4-T**

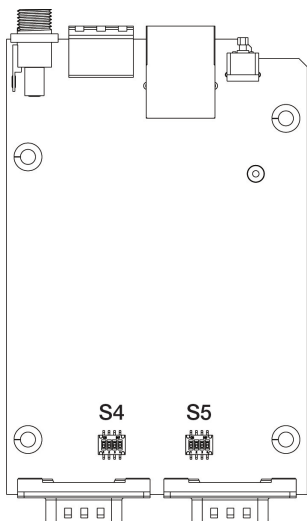


**Reset Button:** The reset button is used to load the factory default settings. Use a pointed object to hold the reset button down for five seconds to load the factory defaults.

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 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.
WLAN	Green	Steady on: Wireless enabled. Blinking: The NPort can't establish a WLAN connection with the AP (Infrastructure).
	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.

Name	Color	Function
Signal Strength	Red	1 Red - The signal strength (RSSI) is lower than -88 dBm.
		2 Red - The signal strength (RSSI) is between -87 to -79 dBm.
	Green	3 Green - The signal strength (RSSI) is between -78 to -68 dBm.
		4 Green - The signal strength (RSSI) is between -67 to -60 dBm.
		5 Green - The signal strength (RSSI) is between -59 to -45 dBm.

## Pull-high/low Resistors and Termination Resistor for RS-422/485



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

	DIP 1	DIP 2	DIP 3	DIP 4
S4 (Serial 1) S5 (Serial 2)	Pull-high Resistor	Pull-low Resistor	Termination Resistor	Reserved
ON	1 k $\Omega$	1 k $\Omega$	120 $\Omega$	-
OFF (Default)	150 k $\Omega$	150 k $\Omega$	N/A	-

S5 is for the NPort W2250A-W4 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.

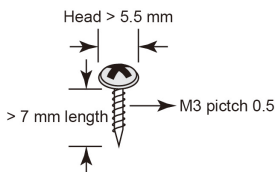
## First-Time Hardware Installation

- STEP 1:** After removing the NPort W2150A-W4/W2250A-W4 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-W4/W2250A-W4 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.

## Wall Mounting (Optional)

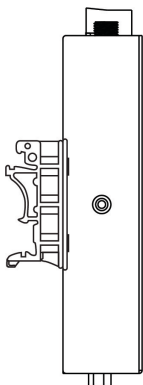
Mounting the NPort W2x50A-W4 Series on the wall requires 2 screws. The heads of the screws should follow the specification of the M3 pitch 0.5 screws with a minimum length > 7mm.



**NOTE** Do not screw the screws in all the way—leave about 2 mm to allow room for sliding the wall mount panel between the wall and the screws.

## DIN-rail Mounting (Optional)

DIN-rail attachments can be purchased separately to attach the NPort W2x50A-W4 Series to a DIN rail. When snapping the attachments to the DIN rail, make sure that the stiff metal springs are at the top.



## Software Installation

For the NPort's configuration, the default IP address of the NPort is:

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 Device Search Utility (DSU) from your PC to locate the NPort. After searching the LAN for NPort units, the DSU will display the IP address of each unit.

**NOTE Ethernet Bridge Disabled (default):** Only one network interface can be activated 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**.

You may log in with the account name **admin** and password **moxa** to change any settings to meet your network topology (e.g., IP address) or serial device (e.g., serial parameters). 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 change the settings for your application.

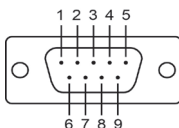
For software installation, download the relative utilities from Moxa's website:

[https://www.moxa.com/support/support\\_home?isSearchShow=1](https://www.moxa.com/support/support_home?isSearchShow=1)

- Download the NPort Windows Driver Manager and install it as the driver to run with Real COM mode of the NPort Series.
- Execute NPort Windows Driver Manager; then map the virtual COM ports on your Windows platform.
- You may refer to the DB9 Male pin assignment section to loop back pin 2 and pin 3 for the RS-232 interface to carry out a self-test on the device.
- Use HyperTerminal or a similar program (you may download Moxa's program, called PComm Lite) to test whether the device is good or not.

## 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
Input Rating	1-port: 12 to 48 VDC, max 429 mA @ 12 VDC 2-port: 12 to 48 VDC, max 455 mA @ 12 VDC
Power Connector	Screw-type power jack or terminal block (only one connection at a time)
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	108 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