# NPort IA5150/5250 Series Quick Installation Guide

**Version 6.3, January 2021**

**Technical Support Contact Information**
**www.moxa.com/support**



**P/N: 1802051500216**

## Overview

NPort IA device servers deliver easy and reliable serial-to-Ethernet connectivity for the industrial automation market. The servers support several operation modes—TCP Server, TCP Client, UDP, Real COM, Pair Connection, and Ethernet Modem—ensuring the compatibility of network software, and they are an ideal choice for connecting RS-232/422/485 serial devices, such as PLCs, sensors, meters, motors, drives, barcode readers, and operator displays. NPort IA device servers come with a compact and rugged DIN-rail mountable casing.

## Package Checklist

Before installing NPort IA device servers, verify that the package contains the following items:

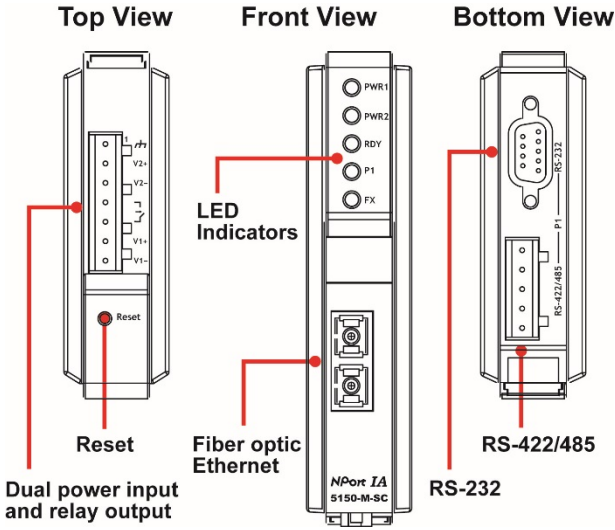
- 1 NPort IA Series device server
- NPort IA Series quick installation guide

***Optional Accessories***

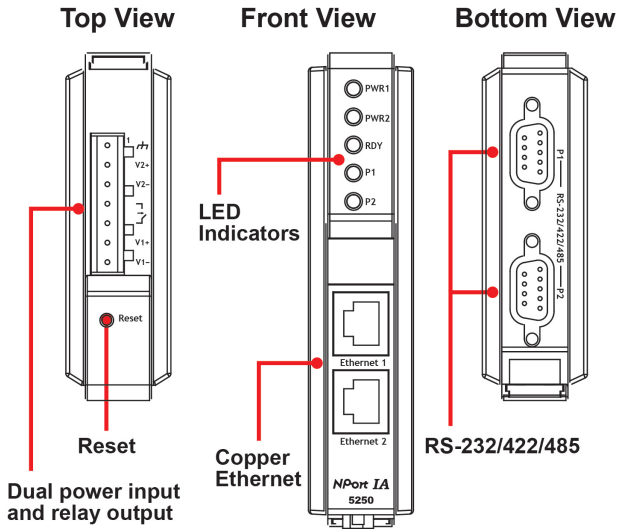
- **DR-4524:** 5W/2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC input
- **DR-75-24:** 75W/3.2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC input
- **DR-120-24:** 120W/5A DIN-rail 24 VDC power supply with 88 to 132 VAC/176 to 264 VAC input by switch

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

**NPort IA5150 Series Appearance**



**NPort IA5250 Appearance**




**Reset Button—***Press the Reset button for 5 seconds to load factory defaults.* Use a pointed object, such as a straightened paper clip or toothpick, to press the reset button. This will cause the Ready LED to blink on and off. The factory defaults will be loaded once the Ready LED stops blinking (after about 5 seconds). At this point, you should release the reset button.

**NPort IA LED Indicators (front panel)**

| Name | Color | Function |
|---|---|---|
| PWR1,PWR2 | Red | Power is being supplied to power input PWR1, PWR2. |
| Ready | Red | Steady on: Power is on, and the NPort IA is booting up.<br>Blinking: Indicates an IP conflict, the DHCP or BOOTP server did not respond properly, or a relay output occurred. |
| | Green | Steady on: Power is on, and the NPort IA is functioning normally.<br>Blinking: The device server has been located by the Administrator's Location function. |
| | Off | Power is off, or a power-error condition exists. |
| Ethernet | Orange | 10 Mbps Ethernet connection. |
| | Green | 100 Mbps Ethernet connection. |
| | Off | Ethernet cable is disconnected, or has a short. |
| P1, P2 | Orange | Serial port is receiving data. |
| | Green | Serial port is transmitting data. |
| | Off | No data is being transmitted or received through the serial port. |
| FX | Orange | Steady on: Ethernet fiber connection, but port is idle.<br>Blinking: Fiber port is transmitting or receiving data. |

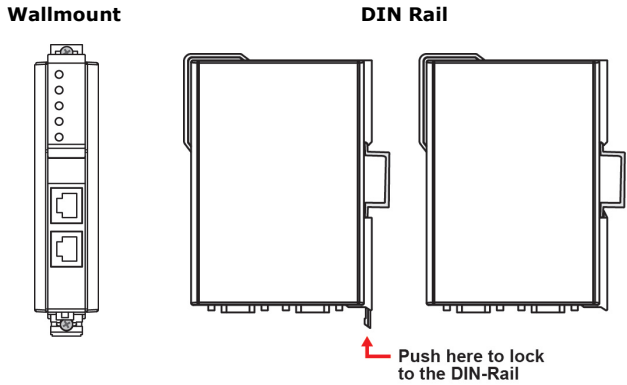
## Hardware Installation Procedure

**STEP 1:** After removing the NPort IA from the box, the first thing you should do is connect the power adapter. Connect the 12-48 VDC power line with the NPort IA's terminal block, or connect the DIN-rail power supply with the NPort IA's terminal block.

**STEP 2:** Connect the NPort IA to a network. Use a standard straight-through Ethernet cable to connect to a hub or switch. When setting up or testing the NPort IA, you might find it convenient to connect directly to your computer's Ethernet port. In this case, use a crossover Ethernet cable.

**STEP 3:** Connect the NPort IA's serial port to a serial device.

**STEP 4:** The NPort IA is designed to be attached to a DIN rail or mounted on a wall. The two sliders on the NPort IA's rear panel serve a dual purpose. For wall mounting, both sliders should be extended. For DIN-rail mounting, start with one slider pushed in, and the other slider extended. After attaching the NPort IA on the DIN rail, push the extended slider in to lock the device server to the rail. The two placement options are illustrated in the accompanying figures.




## Software Installation Information

For the NPort's configuration, the default IP address of the NPort is: LAN: Static; IP = 192.168.127.254; netmask = 255.255.255.0.

**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.

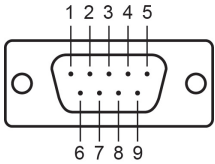
You may log in with the password **moxa** to change any setting to meet your network topology (e.g., IP address) or serial device (e.g., serial parameters). For first-time use, click the Wizard in the left navigation panel. The wizard will prompt you to configure the IP address, SSID, and security mode. For other settings, use the factory defaults or modify the settings for your application.
For software installation, download the relative utilities from Moxa's website:

https://www.moxa.com/support/support_home.aspx?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 Ports 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.

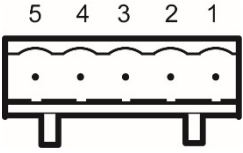
## Pin Assignments and Cable Wiring

**RS-232/422/485 (Male DB9) Pinouts**




| PIN | RS-232 | RS-422/RS-485 (4W) | RS-485 (2W) |
|---|---|---|---|
| 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 | – | – | – |

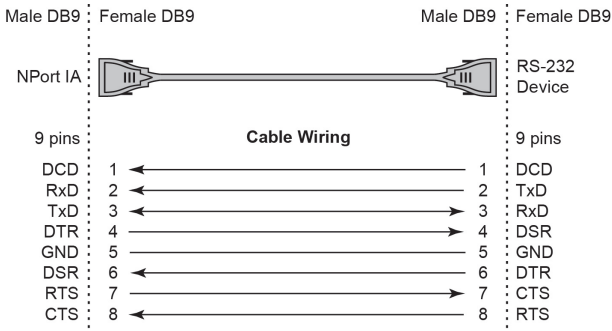
**4W/2W RS-485/RS-422 (Terminal Block) Pinouts**



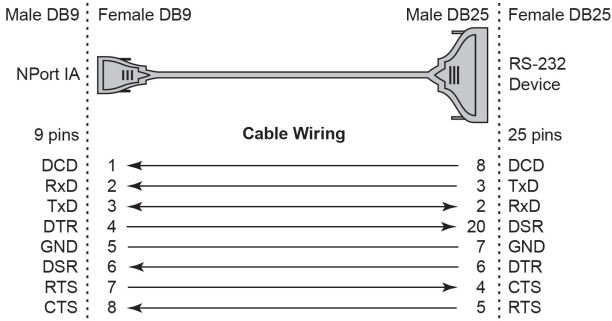

| PIN | RS-485 (2W) | RS-422/ RS-485 (4W) |
|---|---|---|
| 1 | – | TxD+(B) |
| 2 | – | TxD-(A) |
| 3 | Data+(B) | RxD+(B) |
| 4 | Data-(A) | RxD-(A) |
| 5 | – | GND |

Four cables are available as optional accessories that can be used to connect the NPort IA to RS-232 serial devices. For your convenience, we show precise cable wiring diagrams for each of the two cables.

**Female DB9 to Male DB9**




**Female DB9 to Male DB25**




## ATEX and IECEx Information

1. Certificate number: DEMKO 07 ATEX 0690059x
2. Ambient range (-40°C ≤ Tamb ≤ 75°C)
3. Certification string (Ex nA IIC T3)
4. Standards covered (EN60079-0:2006, EN60079-15:2005, IECEx UL 13.0023X, IEC 60079-0 Ed. 6, IEC 60079-15 Ed. 4)
5. Conditions of safe usage:

   The Ethernet Communication Devices are to be mounted in an IP54 enclosure and used in an area with a pollution degree of not more than 2, as defined by IEC 60664-1.

   A 4-$mm^2$ conductor must be used when a connection to the external grounding screw is utilized.

   Conductors suitable for use in an ambient temperature of 114°C must be used for the Power Supply Terminal.

   Provisions shall be made, either in the apparatus or external to the apparatus, to prevent the rated voltage to exceed the transient disturbance by more than 40%.