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# 5100A Series Shop Moxa Industrial Networking Installation Guide

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**NPort 5100A Series**
**Quick Installation Guide**
**Version 3.3, December 2019**

**Contents**

## Overview

NPort 5100A series device servers are compact, palm-sized data communication devices that allow you to control RS-232 (NPort 5110A), RS-422/485 (NPort 5130A), and RS-232/422/485 (NPort 5150A) serial devices over a TCP/IP-based Ethernet.
**NOTE** "-T" indicates an extended temperature model.

## Package Checklist

Before installing the NPort 5100A series device server, verify that the package contains the following items:

- 1 NPort 5100A serial device server

- 100 to 240 VAC power adapter (excluding T models)

- 4 stick-on pads

- Quick Installation Guide

- Product Warranty Statement
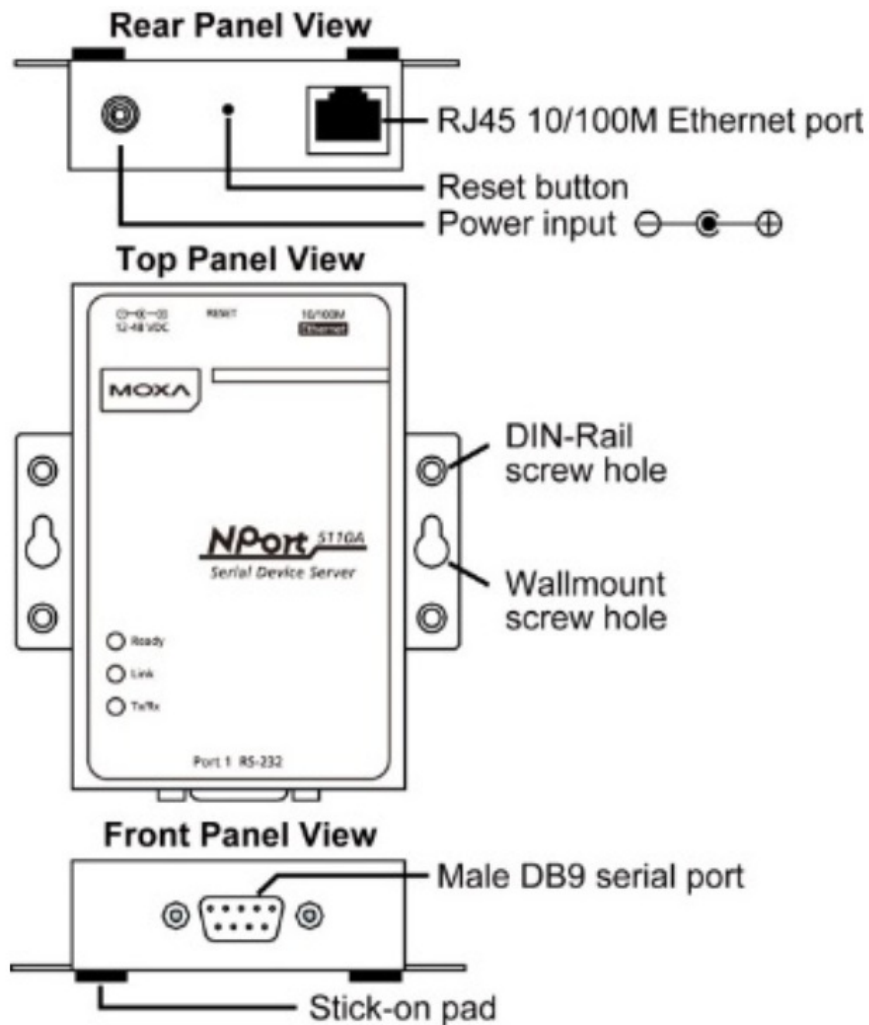
### Optional Accessories

- DK-35A: DIN-Rail Mounting Kit (35 mm)

**NOTE** Notify your sales representative if any of the above items are missing or damaged.
**NOTE** The operating temperature of the power adapter in the box is from 0 to 40°C. If your application is out of this range, please use a power adapter supplied by UL Listed External Power Supply (The power output meets SELV and LPS and rated 12 – 48 VDC, minimum current 0.73 A). Moxa has power adapters with wide temperature range (-40 to 75°C, -40 to 167°F), the PWR-12150-(plug type)-SA-T series, for your reference.

## Hardware Introduction

As shown in the following figures, NPort 5100A series device servers have one male DB9 port for transmitting RS-232 (NPort 5110A), RS422/485 (NPort 5130A), or RS-232/422/485 (NPort 5150A) serial data.

## Rear Panel View

- RJ45 10/100M Ethernet port
- Reset button
- Power input ⊖—◉—⊕

## Top Panel View

⊖—◉—⊖
12-48 VDC    RESET    10/100M
                      Ethernet

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NPort 5110A
Serial Device Server

- DIN-Rail screw hole
- Wallmount screw hole

○ Ready
○ Link
○ Tx/Rx

Port 1  RS-232

## Front Panel View

- Male DB9 serial port
- Stick-on pad

**NOTE** The NPort 5110A, NPort 5130A, and NPort 5150A have the same form factor.

**Reset Button**—Press and hold the Reset button for 5 seconds to load factory defaults: Use a pointed object, such as a straightened paper clip or toothpick, to depress 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, release the reset button.

**LED Indicators**—The NPort 5100A's top panel has three LED indicators, described in the following table.

| LED Name | LED Color | LED Function | |
|---|---|---|---|
| Ready | Red | Steady on: | Power is on and the NPort is booting up. |
| | | Blinking: | Indicates an IP conflict, or DHCP or BOOTP server is not responding properly. |
| | Green | Steady on: | Power is on and the NPort is functioning normally. |
| | | Blinking: | The NPort has been located by the NPort Administrator's Location function. |
| | Off | Power is off, or a power error. | |
| Link | Orange | 10 Mbps Ethernet connection. | |
| | Green | 100 Mbps Ethernet connection. | |
| | Off | Ethernet cable is disconnected. | |
| Tx/Rx | Orange | Serial port is receiving data. | |
| | Green | Serial port is transmitting data. | |
| | Off | Data is not being transmitted or received through the serial port. | |

**Adjustable pull high/low resistor for RS-422/485 (150 KΩ or 1 KΩ)**
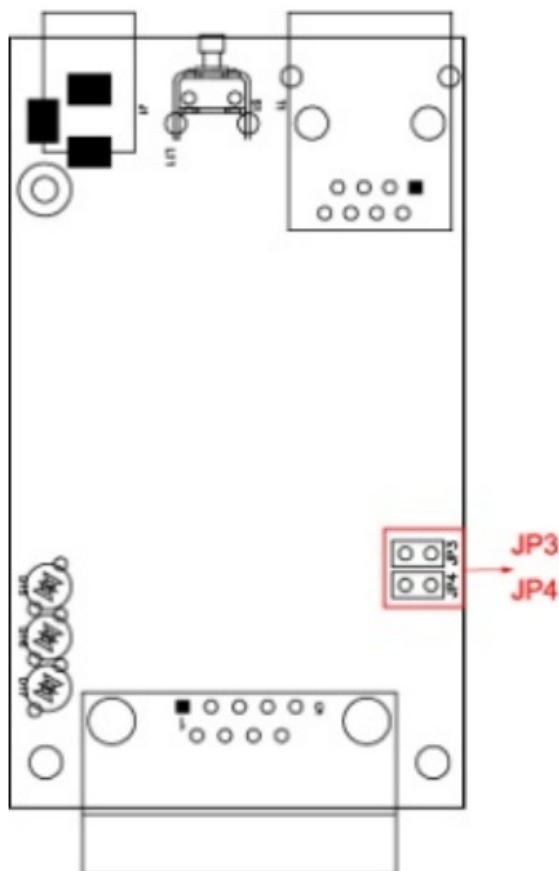


Jumpers are used to set the pull high/low resistor values. The default is 150 KΩ. Short the jumpers to set this value to 1 KΩ. Do not use the 1 KΩ setting with RS-232 mode, since doing so will degrade the RS-232 signals and shorten the communication distance.

**Hardware Installation Information**

**STEP 1**: After removing the NPort 5100A series device server from the box, connect the NPort 5100A series device server to a network. Use a standard straight-through Ethernet cable to connect to a hub or switch.
When setting up or testing the NPort 5100A series device server, you might find it convenient to connect directly to your computer's Ethernet port. In this case, use a cross-over Ethernet cable.
**STEP 2:** Connect the NPort 5100A series device server's serial port to a serial device.
**STEP 3**: Connect the power adaptor.
**STEP 4:** Placement options.
In addition to placing the NPort 5100A on a desktop or other horizontal surface, you may also make use of the DIN-Rail or Wall Mount options, as illustrated below.
**NOTE** The operating temperature of the power adapter in the box is from 0 to 40°C. If your application is out of this range, please use a power adapter supplied by UL Listed External Power Supply (The power output meets SELV and LPS and rated 12 – 48 VDC, minimum current 0.73 A). Moxa has power adapters with wide temperature range (-40 to 75°C, -40 to 167°F), the PWR-12150-(plug type)-SA-T series, for your reference.
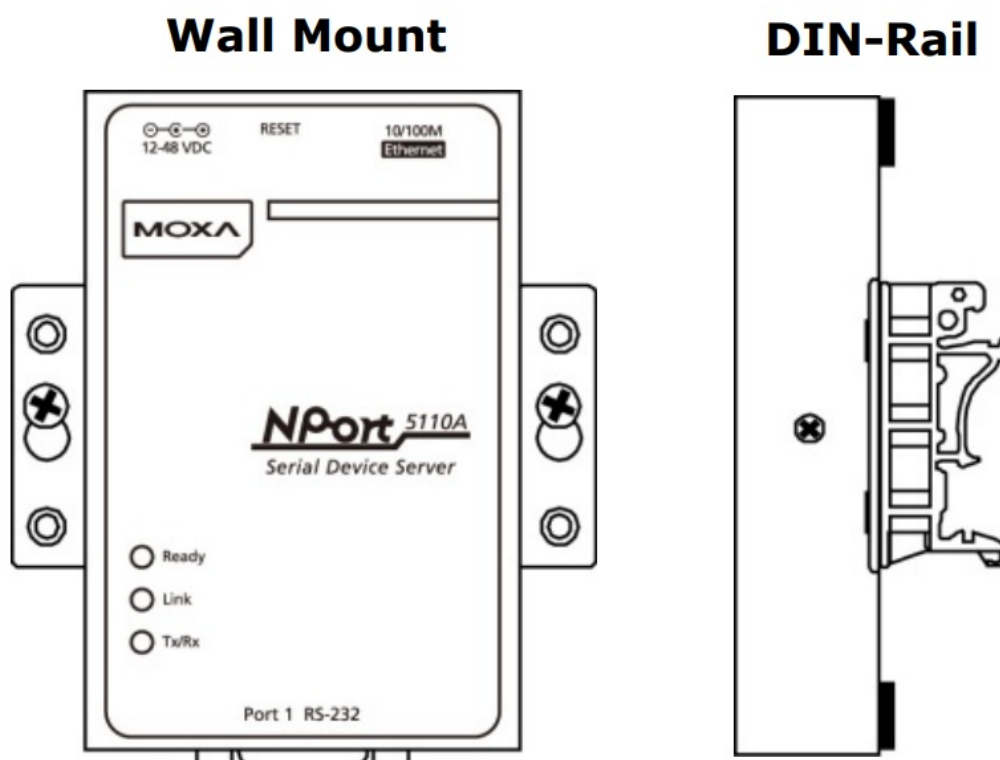


## Software Installation Information

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
You may log in with the default account and password (account: admin; password: moxa) to change any settings to meet your network topology (e.g., IP address) or serial device (e.g., serial parameters). If you would like to apply the Real COM mode to your
application, you will need to install NPort's driver on your desktop. You may also refer to Moxa's support website **https://www.moxa.com/support** for the user's manual, driver, SNMP MIB, and NPort Search Utility.
**NOTE** For the NPort with DB Male serial ports, you may refer to 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.
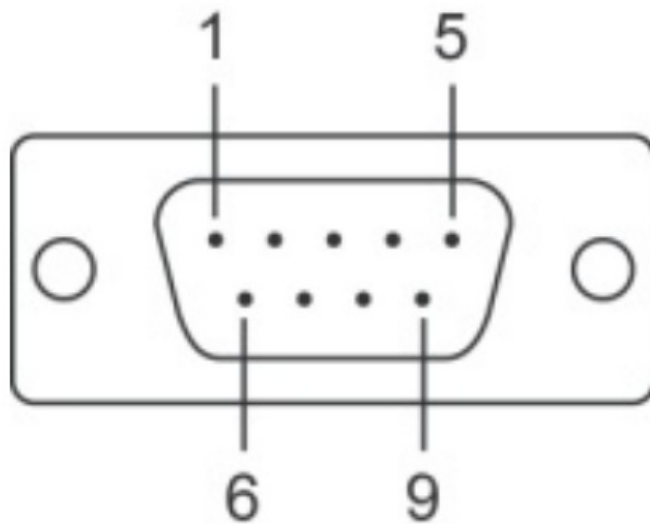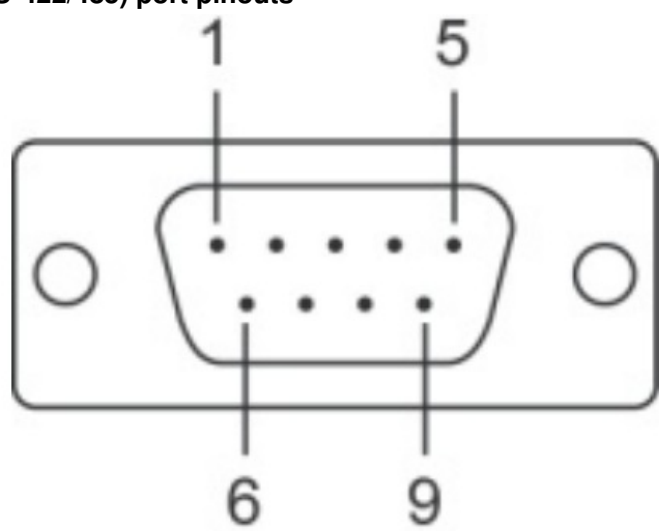
## Pin Assignments

### Ethernet Port Pinouts
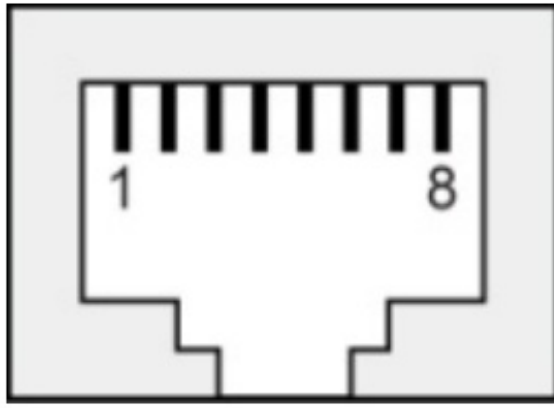
| Pin No. | Ethernet |
| --- | --- |
| 1 | Tx+ |
| 2 | Tx- |
| 3 | Rx+ |
| 4 | Rx- |

**NPort 5110A—DB9 male (RS-232) port pinouts**

| Pin No. | RS-232 |
|---------|--------|
| 1 | DCD |
| 2 | RxD |
| 3 | TxD |
| 4 | DTR |
| 5 | GND |
| 6 | DSR |
| 7 | RTS |
| 8 | CTS |
| 9 | – |

**NPort 5130A—DB9 male (RS-422/485) port pinouts**



| Pin No. | RS-422/485-4W | RS-485-2W |
|---------|---------------|-----------|
| 1 | TXD-(A) | – |
| 2 | TXD+(B) | – |
| 3 | RXD+(B) | Data+(B) |
| 4 | RXD-(A) | Data-(A) |
| 5 | GND | GND |
| 6 | – | – |
| 7 | – | – |
| 8 | – | – |
| 9 | – | – |

**NPort 5150A—DB9 male (RS-232/422/485) port pinouts**
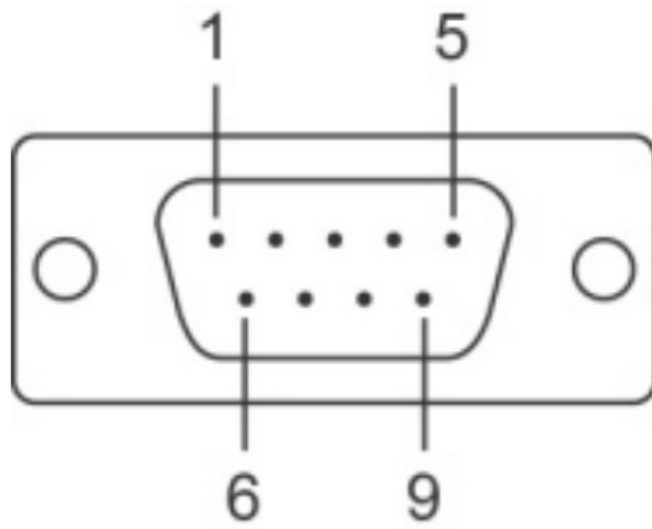
| Pin No. | RS-232 | RS-422/485- 4W | RS-485-2W |
|---------|--------|----------------|-----------|
| 1 | DCD | TXD-(A) | – |
| 2 | RxD | TXD+(B) | – |
| 3 | TxD | RXD+(B) | Data+(B) |
| 4 | DTR | RXD-(A) | Data-(A) |
| 5 | GND | GND | GND |
| 6 | DSR | – | – |
| 7 | RTS | – | – |
| 8 | CTS | – | – |
| 9 | – | – | – |

**Specifications**

| Power Requirements | |
|---|---|
| Power Input | 12 to 48 VDC |
| Power Consumption | NPort 5110A:<br>82.5 mA @ 12V, 47.3 mA @ 24V NPort 5130A:<br>89.1 mA @ 12V, 49.5 mA @ 24V NPort 5150A:<br>92.4 mA @ 12V, 52.8 mA @ 24V |
| Environmental Limits | |
| Operating Temperature | Standard Models:<br>0 to 60°C (32 to 140°F) Wide Temp. Models:<br>-40 to 75°C (-40 to 167°F) |
| Ambient Humidity | 5 to 95% RH |
| Dimensions | |
| With ears | 75.2 x 80 x 22 mm (2.96 x 3.15 x 0.87 in) |
| Without ears | 52 x 80 x 22 mm (2.05 x 3.15 x 0.89 in) |
| Protection | |
| Serial Line Protection | Level 1 Surge, EN 61000-4-5 |
| Magnetic Isolation | 1.5 kV for Ethernet |
| Power Line Protection | Level 2 Burst (Er), EN 61000-4-4 Level 3 Surge, EN 61000-4-5 |
| Regulatory Approvals | |
| FCC Class A, CE Class A, UL, LVD | |

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## Documents / Resources

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## References

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