

MOXA® NPort 5100A Series Quick Installation Guide

Second Edition, June 2010

1. 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.

2. Package Checklist

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

- 1 NPort 5100A serial device server
- 4 stick-on pads
- Document & Software CD
- Quick Installation Guide
- Product Warranty Statement

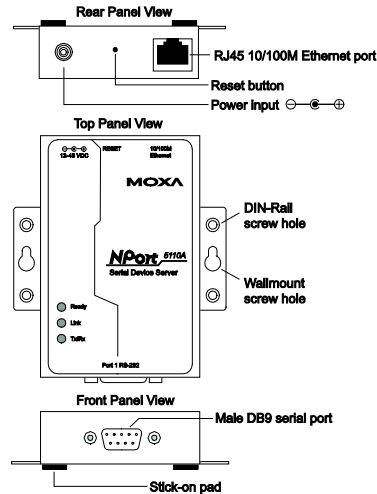
Optional Accessory

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

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

3. Hardware Introduction

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



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.

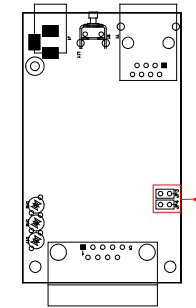
LED Indicators—NPort 5100A’s top panel has three LED indicators, which are described in the following table.

| 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. |

P/N: 1802051000021

| | |
|-----|---|
| Off | No data is 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.

4. Hardware Installation Information

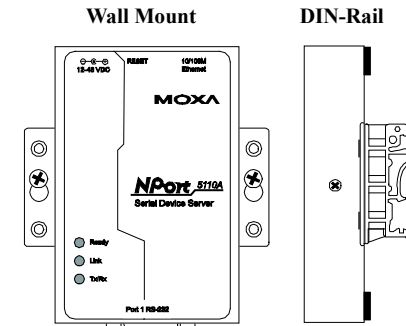
STEP 1: After removing the NPort 5100A series device server from the box, connect the NPort 5100A series device server to a network. Use a standard straight-through Ethernet cable to connect to a hub or switch. When setting up or testing the NPort 5100A series device server, you might find it convenient 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.



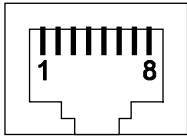
5. Software Installation Information

To install **NPort Administration Suite**, insert the **NPort Document & Software CD** into your computer's CD-ROM drive. Once the **NPort Installation CD** window opens, click on the **Installation** button, and then follow the instructions on the screen.

To view detailed information about **NPort Administration Suite**, click on the **Documents** button, and then select "NPort 5100A Series User's Guide" to open the pdf version of the user's guide.

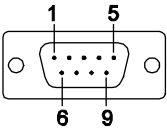
6. Pin Assignments

Ethernet Port Pinouts



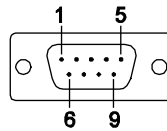
| Pin Number | Ethernet |
|------------|----------|
| 1 | Tx+ |
| 2 | Tx- |
| 3 | Rx+ |
| 6 | Rx- |

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



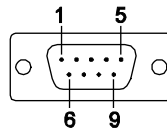
| Pin Number | RS-232 |
|------------|--------|
| 1 | DCD |
| 2 | RxD |
| 3 | TxD |
| 4 | DTR |
| 5 | GND |
| 6 | DSR |
| 7 | RTS |
| 8 | CTS |
| 9 | --- |

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



| Pin Number | 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 Number | 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 | --- | --- | --- |

7. Specifications

Power Requirements

| | |
|-------------------|---|
| Power Input | 12 to 48 VDC |
| Power Consumption | NPort 5110A: 82.5 mA@12V, 47.3 mA@24V NPort 5130A: 89.1 mA@12V, 49.5 mA@24V NPort 5150A: 92.4 mA@12V, 52.8 mA@24V |

Operating Temperature 0 to 60°C (32 to 140°F), for standard models
-40 to 75°C (-40 to 167°F), for -T models

Operating Humidity 5 to 95% RH

Dimensions 75.2 × 80 × 22 mm ←with ears
(2.96 × 3.15 × 0.87 in)
52 × 80 × 22 mm ←without ears
(2.05 × 3.15 × 0.89 in)

Serial Line Protection 15 KV ESD for serial port
Level 1 Surge, EN61000-4-5

Magnetic Isolation 1.5 KV for Ethernet

Power Line Protection Level 2 Burst (EFT), EN61000-4-4
Level 3 Surge, EN61000-4-5

Regulatory Approvals FCC Class A, CE Class A, UL, LVD

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