

# MOXA® NPort 5100 Series Quick Installation Guide

Second Edition, June 2009

## 1. Overview

NPort 5100 series device servers are compact, palm-sized data communication devices that allow you to control RS-232 (NPort 5110), RS-422/485 (NPort 5130), and RS-232/422/485 (NPort 5150) serial devices over a TCP/IP-based Ethernet.

**Note:** “-T” indicates an extended temperature model.

## 2. Package Checklist

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

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

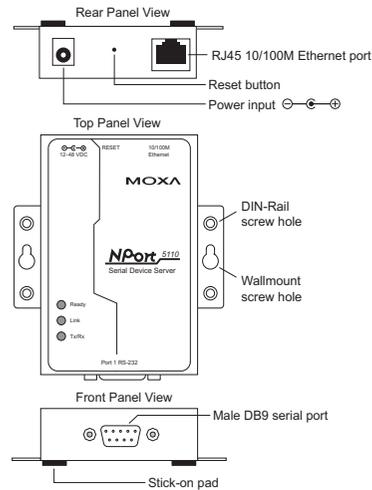
### Optional Accessory

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



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

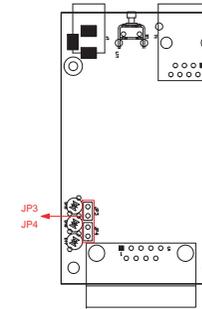
**Reset Button**—Press the Reset button continuously for 5 sec to load *factory defaults*: Use a pointed object, such as a straightened paper clip or toothpick, to press the reset button. This will cause the Ready LED to blink on and off. The factory defaults will be loaded once the Ready LED stops blinking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

**LED Indicators**—NPort 5100’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 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 NPort is functioning normally.                               |
| Blinking: The NPort has been located by NPort Administrator’s Location function |           |   |
|   | Off       | Power is off, or power error condition exists.  |
| Link  | Orange    | 10 Mbps Ethernet connection.  |
|   | Green     | 100 Mbps Ethernet connection.   |
|   | Off       | Ethernet cable is disconnected, or has a short.   |

|       |        |   |
|-------|--------|---|
| Tx/Rx | Orange | Serial port is receiving data.                                    |
|       | Green  | Serial port is transmitting data.                                 |
|       | 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 KΩ setting with RS-232 mode, since doing so will degrade the RS-232 signals and shorten the communication distance.

## 4. Hardware Installation Information

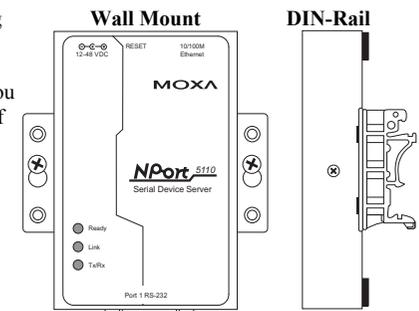
**STEP 1:** After removing the NPort 5100 series device server from the box, the first thing you should do is connect the power adaptor.

**STEP 2:** Connect the NPort 5100 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 5100 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 3:** Connect the NPort 5100 series device server’s serial port to a serial device.

**STEP 4:** Placement options

In addition to placing the NPort 5100 on a desktop or other horizontal surface, you may also make use of the DIN-Rail or Wall Mount options, as illustrated here.



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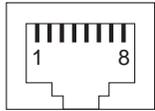
## 5. Software Installation Information

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 5100 Series User's Guide" to open the pdf version of the user's guide.

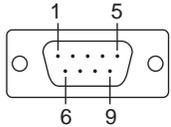
## 6. Pin Assignments

### Ethernet Port Pinouts



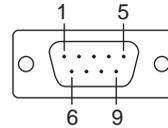
| Pin Number | Ethernet |
|------------|----------|
| 1          | Tx+      |
| 2          | Tx-      |
| 3          | Rx+      |
| 6          | Rx-      |

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



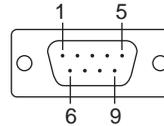
| Pin Number | RS-232 |
|------------|--------|
| 1          | DCD    |
| 2          | RxD    |
| 3          | TxD    |
| 4          | DTR    |
| 5          | GND    |
| 6          | DSR    |
| 7          | RTS    |
| 8          | CTS    |
| 9          | ---    |

### NPort 5130—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 5150—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 5110: 128.7 mA@12V, 72 mA@24V<br>NPort 5130: 200 mA@12V, 106 mA@24V<br>NPort 5150: 200 mA@12V, 106 mA@24V |

**Operating Temperature** 0 to 55°C (32 to 131°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 ←including 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

**Magnetic Isolation** 1.5 KV for Ethernet

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

**Regulatory Approvals** FCC Class A, CE Class A, UL, TÜV

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