NPort 5100 Series
Quick Installation Guide

Version 4.3, January 2021

Technical Support Contact Information
www.moxa.com/support

MOXA®

Overview

NPort 5100 series of 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.

Package Checklist

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

- 1 NPort 5100 Series 1-port serial device server
- 100 to 240 VAC power adapter (excluding T models)
- 4 stick-on pads
- Quick Installation Guide
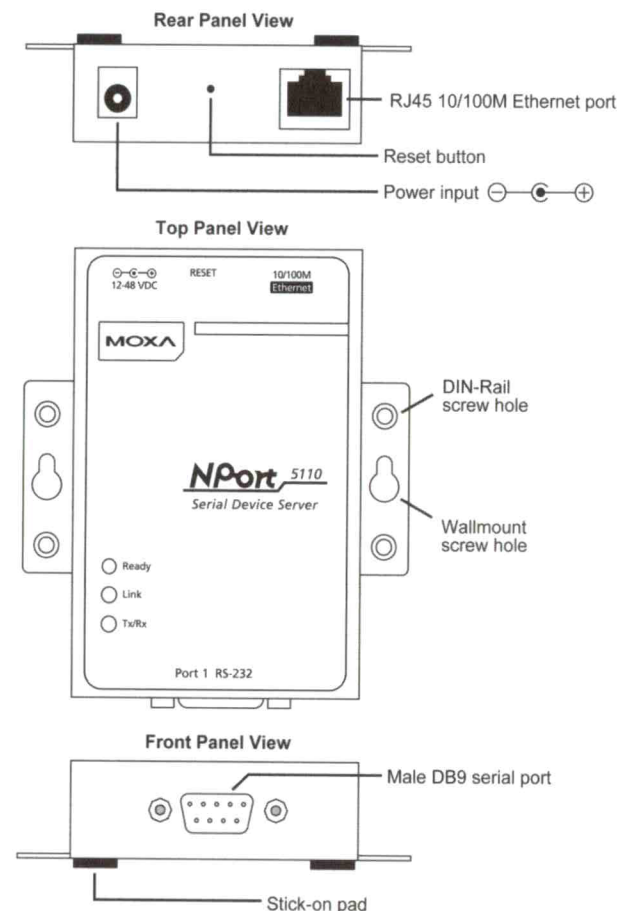- Warranty card

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 5100 series of 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.

Rear Panel View

- RJ45 10/100M Ethernet port
- Reset button
- Power input

Top Panel View

- DIN-Rail screw hole
- Wallmount screw hole

Front Panel View

- Male DB9 serial port
- Stick-on pad

> **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

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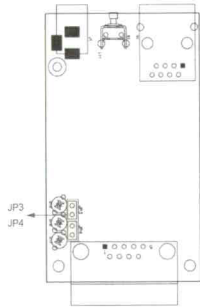
Jumpers are used to set the pull high/low resistor values. The default is 150 KΩ. Short the jumpers to set this value to 1 KΩ. Do not use the KΩ setting with RS-232 mode, since doing so will degrade the RS-232 signals and shorten the communication distance.

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## Hardware Installation Information

STEP 1: After removing the NPort 5100 device server from the box, connect the NPort 5100 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 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 5100 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 5100 on a desktop or other horizontal surface, you may also make use of the DIN-Rail or Wall Mount options, as illustrated here.
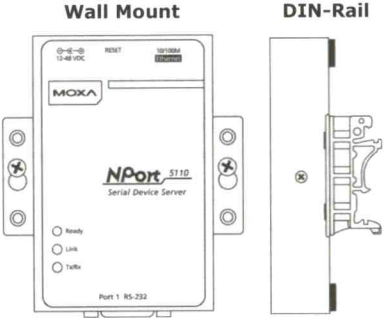
Wall Mount   **DIN-Rail**

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.

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 password moxa to change any setting 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 the 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, NPort Search Utility, and more.

NOTE For the NPort with DB Male serial ports, 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.
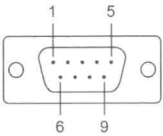
Pin Assignments

Ethernet Port Pinouts

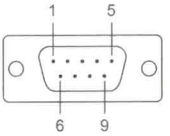| Pin No.	Ethernet
1	Tx+
2	Tx-
3	Rx+
6	Rx-
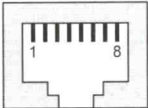
NPort 5110—DB9 male (RS-232) port pinouts

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

NPort 5130—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 5150—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	–	–	–
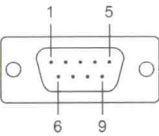
Specifications

Power Requirements	
Power Input	12 to 48 VDC
Power Consumption	NPort 5110: 128.7 mA @ 12V, 72 mA @ 24V NPort 5130: 200 mA @ 12V, 106 mA @ 24V 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 x 80 x 22 mm ←including ears (2.96 x 3.15 x 0.87 in) 52 x 80 x 22 mm ←without ears (2.05 x 3.15 x 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, LVD