

# NPort® 5600 Rackmount Series

8 and 16-port RS-232/422/485 serial device servers



- > 8 or 16 serial ports supporting RS-232/422/485
- > Standard 19-inch rackmount size
- > 10/100M auto-sensing Ethernet
- > Built-in 15 KV ESD protection for all serial signals
- > Easy IP address configuration with LCD panel (Not include wide temperature models)
- > Choice of configuration methods: Web console, Telnet console, and Windows utility
- > Versatile socket operation modes, including TCP Server, TCP Client, UDP, and Real COM
- > SNMP MIB-II for network management



## Overview

With the NPort® 5600 rackmount series, you not only protect your current hardware investment, but also allow for future network expansion by centralizing the management of your serial devices and distributing management hosts over the network.

### Network Readiness for up to 16 Serial Devices

Only basic configuration is needed with the NPort® 5600 to connect up to 16 serial devices to an Ethernet network.

### 19-inch Rackmount Device Server

NPort® 5600 device servers come with Tx/Rx LEDs for the serial ports on the front panel, and 8 or 16 RJ45 serial port connectors on the rear panel. This makes the NPort® 5600 device servers suitable for standard 19-inch rack mounting, allowing you to simplify operational, maintenance, and administrative tasks.

### Real COM/TTY Ports

Real COM/TTY drivers are provided to make the serial ports on the NPort® 5600 recognizable as Real COM ports by Windows, or Real TTY ports by Linux. In addition to supporting basic data transmission

and reception, the NPort® drivers also support the RTS, CTS, DTR, DSR, and DCD control signals.

### LED Indicators to Ease Your Maintenance Tasks

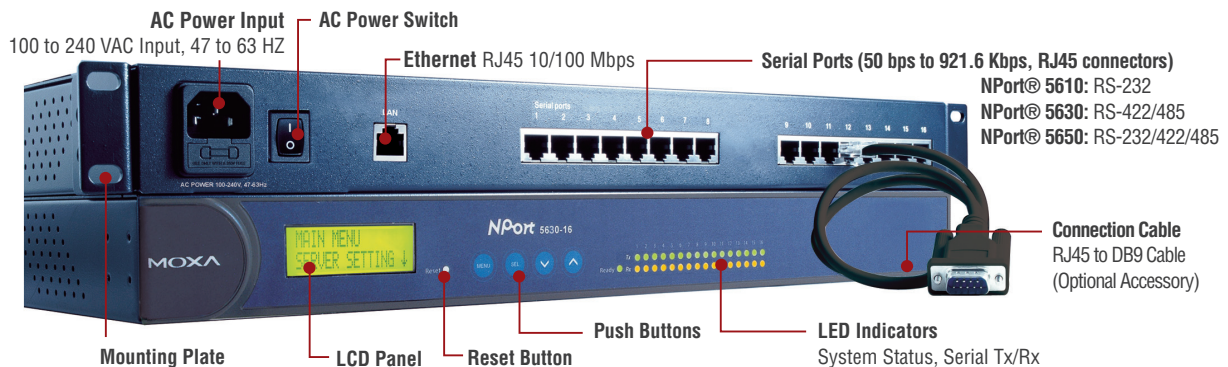
The System LED, serial Tx/Rx LEDs, and Ethernet LEDs (located on the RJ45 connector) provide a great tool for basic maintenance tasks, and help engineers analyze problems in the field. The LEDs not only indicate current system and network status, but also help field engineers monitor the status of attached serial devices.

### Adjustable Termination and Pull High/Low Resistors

When using termination resistors to prevent serial signal reflection, it is important to set the pull high/low resistors correctly so that the electrical signal is not corrupted. Since no set of resistor values is universally compatible for all environments, the NPort® 5650-8/16 has DIP switches on the bottom panel for setting the termination and pull high/low resistor values.



## Appearance



Note: Wide temp. models do not include the LCD Panel and Push Buttons.

## Specifications

### Ethernet Interface

**Number of Ports:** 1

**Speed:** 10/100 Mbps, auto MDI/MDIX

**Connector:** 8-pin RJ45

**Magnetic Isolation Protection:** 1.5 KV built-in

### Optical Fiber Interface (for -M-SC and -S-SC)

	100BaseFX	
	Multi-mode	Single-mode
Wavelength	1300 nm	1310 nm
Max. TX	-14 dBm	0 dBm
Min. TX	-20 dBm	-5 dBm
RX Sensitivity	-32 dBm	-34 dBm
Link Budget	12 dB	29 dB
Typical Distance	5 km <sup>a</sup> 4 km <sup>b</sup>	40 km <sup>c</sup>
Saturation	-6 dBm	-3 dBm

a. 50/125  $\mu$ m, 800 MHz\*km fiber optic cable

b. 62.5/125  $\mu$ m, 500 MHz\*km fiber optic cable

c. 9/125  $\mu$ m, 3.5 PS/(nm\*km) fiber optic cable

### Serial Interface

**Number of Ports:** 8 or 16

**Serial Standards:**

NPort 5610: RS-232

NPort 5630: RS-422/485

NPort 5650: RS-232/422/485

**Connector:** RJ45 (8 pins)

**Serial Line Protection:**

15 KV ESD protection for all signals

**RS-485 Data Direction Control:** ADDC<sup>®</sup> (automatic data direction control)

**Pull High/Low Resistor for RS-485:** 1 K $\Omega$ , 150 K $\Omega$  (NPort 5650-8/16)

### Serial Communication Parameters

**Data Bits:** 5, 6, 7, 8

**Stop Bits:** 1, 1.5, 2

**Parity:** None, Even, Odd, Space, Mark

**Flow Control:** DSR/DTR and RTS/CTS (RS-232 only), XON/XOFF

**Baudrate:** 50 bps to 921.6 Kbps

### Serial Signals

**RS-232:** TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND

**RS-422:** Tx+, Tx-, Rx+, Rx-, GND

**RS-485-4w:** Tx+, Tx-, Rx+, Rx-, GND

**RS-485-2w:** Data+, Data-, GND

### Software

**Network Protocols:** ICMP, IP, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP V1, HTTP, SMTP, SNMP, ARP, PPP, SLIP, RTelnet, RFC2217

**Configuration Options:** Web Console, Telnet Console, Windows Utility

**Windows Real COM Drivers:** Windows 95/98/ME/NT/2000, Windows

XP/2003/Vista/2008/7 x86/x64, Embedded CE 5.0/6.0, XP Embedded

**Fixed TTY Drivers:** SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i

**Linux Real TTY Drivers:** Linux kernel 2.4.x, 2.6.x

**Mini Screen with Push Buttons** (for standard temp. models)

**LCD Panel:** Liquid Crystal Display on the case

**Push Buttons:** Four push buttons for convenient on-site configuration

### Physical Characteristics

**Housing:** Metal, IP30 protection

**Weight:**

NPort 5610-8: 3340 g

NPort 5610-8-48V: 3160 g

NPort 5630-8, 5650-8-S-SC, 5650-8-M-SC: 3380 g

NPort 5650-8: 3360 g

NPort 5610-16: 3420 g

NPort 5610-16-48V: 3260 g

NPort 5630-16: 3400 g

NPort 5650-16: 3460 g

NPort 5650-16-S-SC, 5650-16-M-SC: 3440 g

**Dimensions:**

Without ears: 440 x 45 x 198 mm (17.32 x 1.77 x 7.80 in)

With ears: 480 x 45 x 198 mm (18.90 x 1.77 x 7.80 in)

### Environmental Limits

**Operating Temperature:**

0 to 55°C (32 to 131°F)

Standard Models:

Wide Temp. Models: -40 to 75°C (-40 to 167°F)

**Storage Temperature:** -40 to 75°C (-40 to 167°F)

**Ambient Relative Humidity:** 5 to 95% (non-condensing)

### Power Requirements

**Input Voltage:**

NPort 5610/5630/5650: 100 to 240 VAC, 47 to 63 hz

NPort 5610-48V:  $\pm$ 48 VDC (20 to 72 VDC, -20 to -72 VDC)

**Power Consumption:**

NPort 5610-8/16: 141 mA @ 100 VAC, 93 mA @ 240 VAC

NPort 5630-8/16: 152 mA @ 100 VAC, 98 mA @ 240 VAC

NPort 5610-8/16-48V: 135 mA @ 48 VDC

NPort 5650-8/16: 158 mA @ 100 VAC, 102 mA @ 240 VAC

NPort 5650-8/16-S-SC: 164 mA @ 100 VAC, 110 mA @ 240 VAC

NPort 5650-8/16-M-SC: 174 mA @ 100 VAC, 113 mA @ 240 VAC

### Standards and Certifications

**Safety:** UL 60950-1, EN 60950-1

**EMC:** CE, FCC

**EMI:** EN 55022 Class A, FCC Part 15 Subpart B Class A

**EMS:** EN 55024

**Medical:** EN 60601-1-2 Class B, EN 55011

### Reliability

**Automatic Reboot Trigger:** Built-in WDT (watchdog timer)

**MTBF (mean time between failures):**

NPort 5610-8: 97,294 hrs

NPort 5610-16: 94,928 hrs

NPort 5610-8-48V: 96,758

NPort 5610-16-48V: 94,417 hrs

NPort 5630-8: 118,405 hrs

NPort 5630-16: 91,483 hrs

NPort 5650-8: 117,584 hrs

NPort 5650-16: 104,767 hrs

NPort 5650-8-S-SC: 116,914 hrs

NPort 5650-16-S-SC: 87,528 hrs

NPort 5650-8-M-SC: 116,914 hrs

NPort 5650-16-M-SC: 87,528 hrs

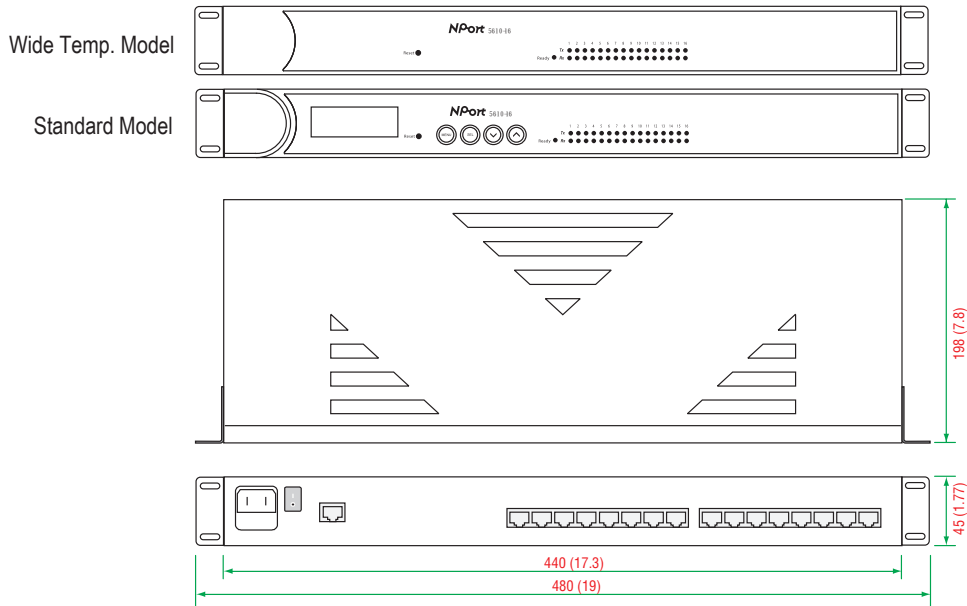
### Warranty

**Warranty Period:** 5 years

**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

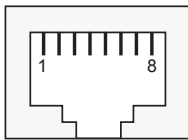
## Dimensions

Unit: mm (inch)



## Pin Assignment

(8-pin RJ45 connector)



**NPort® 5610: RS-232**

PIN	RS-232
1	DSR
2	RTS
3	GND
4	TXD
5	RxD
6	DCD
7	CTS
8	DTR

**NPort® 5630: RS-422/485**

PIN	RS-422/485-4w	RS-485-2w
1	–	–
2	–	–
3	TxD+	–
4	TxD-	–
5	RxD-	Data-
6	RxD+	Data+
7	GND	GND
8	–	–

**NPort® 5650: RS-232/422/485**

PIN	RS-232	RS-422/485-4w	RS-485-2w
1	DSR	–	–
2	RTS	TxD+	–
3	GND	GND	GND
4	TXD	TxD-	–
5	RxD	RxD+	Data+
6	DCD	RxD-	Data-
7	CTS	–	–
8	DTR	–	–

## Ordering Information

### Available Models

- NPort 5610-8:** 8-port RS-232 rackmount device server with RJ45 connectors and 100-240 VAC power input
- NPort 5610-8-48V:** 8-port RS-232 rackmount device server with RJ45 connectors and 48 VDC power input
- NPort 5630-8:** 8-port RS-422/485 rackmount device server with RJ45 connectors and 100-240 VAC power input
- NPort 5650-8:** 8-port RS-232/422/485 rackmount device server with RJ45 connectors and 100-240 VAC power input
- NPort 5650-8-M-SC:** 8-port RS-232/422/485 rackmount device server with RJ45 connectors and 100BaseF(X) multi-mode fiber (SC connector)
- NPort 5650-8-S-SC:** 8-port RS-232/422/485 rackmount device server with RJ45 connectors and 100BaseF(X) single-mode fiber (SC connector)
- NPort 5650-8-T:** 8-port RS-232/422/485 rackmount device server with RJ45 connectors and 100-240 VAC power input, -40 to 75°C operating temperatures
- NPort 5610-16:** 16-port RS-232 rackmount device server with RJ45 connectors and 100-240 VAC power input
- NPort 5610-16-48V:** 16-port RS-232 rackmount device server with RJ45 connectors and 48 VDC power input
- NPort 5630-16:** 16-port RS-422/485 rackmount device server with RJ45 connectors and 100-240 VAC power input
- NPort 5650-16:** 16-port RS-232/422/485 rackmount device server with RJ45 connectors and 100-240 VAC power input
- NPort 5650-16-M-SC:** 16-port RS-232/422/485 rackmount device server with RJ45 connectors and 100BaseF(X) multi-mode fiber (SC connector)
- NPort 5650-16-S-SC:** 16-port RS-232/422/485 rackmount device server with RJ45 connectors and 100BaseF(X) single-mode fiber (SC connector)
- NPort 5650-16-T:** 16-port RS-232/422/485 rackmount device server with RJ45 connectors and 100-240 VAC power input, -40 to 75°C operating temperatures

### Package Checklist

- NPort 5600 series device server
- Power cord
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card