

# NPort® 5600 Series

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



- > 8 or 16 serial ports supporting RS-232/422/485
- > Standard 19-inch rackmount size
- > 10/100M auto-sensing Ethernet
- > Easy IP address configuration with LCD panel (excluding wide temperature models)
- > Configure via Telnet/Web/Windows utility
- > Socket modes: TCP server/TCP client/UDP/Real COM
- > SNMP MIB-II for network management
- > Universal high-voltage range: 100 to 240 VAC or 88 to 300 VDC
- > Popular low-voltage ranges:  $\pm 48$  VDC (20 to 72 VDC, -20 to -72 VDC)



## : 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 a standard 19-inch rackmount, 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® 5600 drivers also support the RTS, CTS, DTR, DSR, and DCD control signals.

### LED Indicators to Ease Your Maintenance Tasks

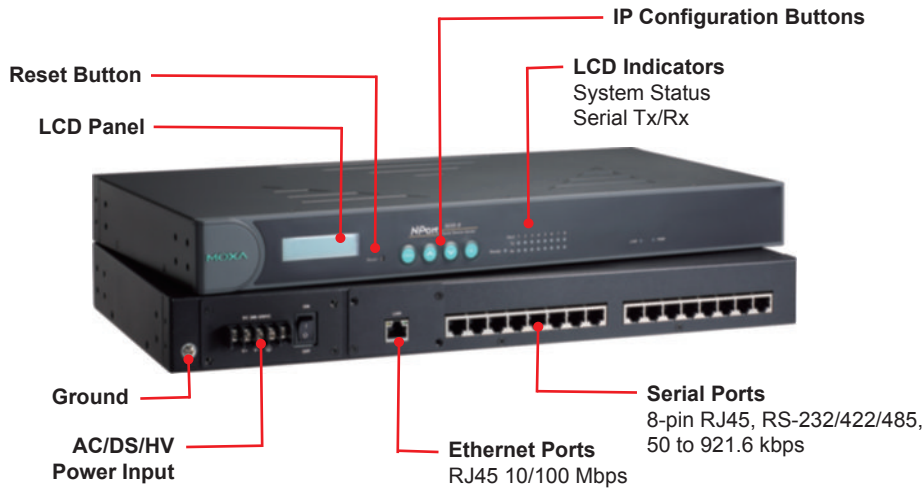
The System LED, serial Tx/Rx LEDs, and Ethernet LEDs (located on the RJ45 connector) provide a great tool for basic maintenance tasks and help engineers analyze problems in the field. The LEDs not only indicate current system and network status, but they also help field engineers monitor the status of 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: LCD panel and configuration buttons not available with wide-temp. models

## 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
Fiber Cable Type		OM1	50/125 μm	G.652
			800 MHz*km	
Typical Distance		4 km	5 km	40 km
Wave-length	Typical (nm)	1300		1310
	TX Range (nm)	1260 to 1360		1280 to 1340
	RX Range (nm)	1100 to 1600		1100 to 1600
Optical Power	TX Range (dBm)	-10 to -20		0 to -5
	RX Range (dBm)	-3 to -32		-3 to -34
	Link Budget (dB)	12		29
	Dispersion Penalty (dB)	3		1

Note: When connecting a single-mode fiber transceiver, we recommend using an attenuator to prevent damage caused by excessive optical power.

Note: Compute the "typical distance" of a specific fiber transceiver as follows: Link budget (dB) > dispersion penalty (dB) + total link loss (dB).

### 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)

**RS-485 Data Direction Control:** ADDC® (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:** Supports standard baudrates (unit=bps):

50, 75, 110, 134, 150, 300, 600, 1200, 1800, 2400, 4800, 7200, 9600, 19200, 38400, 57600, 115200, 230.4k, 460.8k, 921.6k

### Serial Signals

**RS-232:** Tx+, Rx+, 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, IPv4, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP V1, HTTP, SMTP, SNTP, 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/2008/7/8/8.1/10 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded

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

**Linux Real TTY Drivers:** Linux 2.4.x, 2.6.x, 3.x, 4.x

**Android API:** Android 3.1.x and later

**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

**Weight:**

NPort 5610-8: 2,290 g (5.05 lb)

NPort 5610-8-48V: 3,160 g (6.97 lb)

NPort 5650-8-S-SC: 2,440 g (5.38 lb)

NPort 5650-8-M-SC: 2,380 g (5.25 lb)

NPort 5650-8: 2,310 g (5.09 lb)

NPort 5610-16: 2,490 g (5.49 lb)

NPort 5610-16-48V: 3,260 g (7.19 lb)

NPort 5630-16: 2,490 g (5.49 lb)

NPort 5650-16: 2,510 g (5.53 lb)

NPort 5650-16-S-SC: 2,500 g (5.51 lb)

NPort 5650-16-M-SC: 2,440 g (5.38 lb)

NPort 5650-8-HV-T: 3,720 g (8.20 lb)

NPort 5650-16-HV-T: 3,820 g (8.42 lb)

**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:

Standard Models: 0 to 55°C (32 to 131°F)

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

High Voltage Wide Temp. Models: -40 to 85°C (-40 to 185°F)

### Storage Temperature:

Standard Models: -20 to 70°C (-4 to 158°F)

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

High Voltage Wide Temp. Models: -40 to 85°C (-40 to 185°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: ±48 VDC (20 to 72 VDC, -20 to -72 VDC)

NPort 5650-HV: 110 VDC (88 to 300 VDC)

### Input Current:

NPort 5610-8/16: 141 mA @ 100 VAC, 47 to 63 Hz

NPort 5630-8/16: 152 mA @ 100 VAC, 47 to 63 Hz

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

NPort 5650-8/16: 158 mA @ 100 VAC, 47 to 63 Hz

NPort 5650-8/16-S-SC: 164 mA @ 100 VAC, 47 to 63 Hz

NPort 5650-8/16-M-SC: 174 mA @ 100 VAC, 47 to 63 Hz

NPort 5650-8/16-HV: 152 mA @ 88 VDC

## Standards and Certifications

**Safety:** UL 60950-1

**EMC:** EN 55032/24

**EMI:** CISPR 32, FCC Part 15B Class A

### EMS:

NPort 5650-8/16 Series:

IEC 61000-4-2 ESD: Contact: 8 kV; Air: 15 kV

IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m

IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV

IEC 61000-4-5 Surge: Power: 2.5 kV; Signal: 1 kV

IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m; Signal: 3 V/m

IEC 61000-4-8 PFMF

IEC 61000-4-11 DIPs

NPort 5650-8/16-HV Series:

IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV

IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m

IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV

IEC 61000-4-5 Surge: Power: 2 kV

IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m; Signal: 3 V/m

IEC 61000-4-8 PFMF

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

## Reliability

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

**MTBF** (mean time between failures)

### Time:

NPort 5610-8: 877,888 hrs

NPort 5610-16: 666,105 hrs

NPort 5610-8-48V: 870,961

NPort 5630-8: 765,449 hrs

NPort 5630-16: 473,748 hrs

NPort 5650-8: 692,010 hrs

NPort 5650-16: 473,748 hrs

NPort 5650-8-S-SC: 678,053 hrs

NPort 5650-8-M-SC: 678,053 hrs

NPort 5650-16-S-SC: 467,180 hrs

NPort 5650-16-M-SC: 467,180 hrs

NPort 5650-8-HV: 627,078 hrs

NPort 5650-16-HV: 442,626 hrs

NPort 5610-16-48V: 662,111 hrs

**Standard:** Telcordia (Bellcore) Standard TR/SR

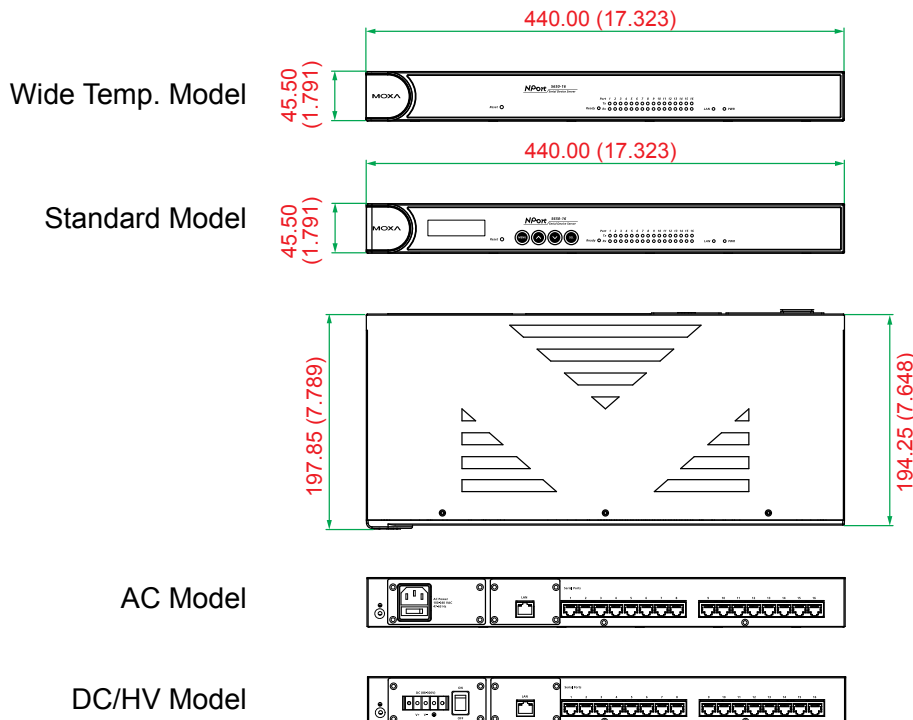
## Warranty

**Warranty Period:** 5 years

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

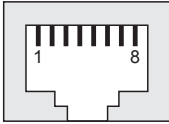
## Dimensions

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 multi-mode fiber (SC connector)

**NPort 5650-8-S-SC:** 8-port RS-232/422/485 rackmount device server with 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 5650-8-HV-T:** 8-port RS-232/422/485 to rackmount device server with RJ45 connectors and 88 to 300 VDC power input, -40 to 85°C operating temperature

**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 multi-mode fiber (SC connector)

**NPort 5650-16-S-SC:** 16-port RS-232/422/485 rackmount device server with 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

**NPort 5650-16-HV-T:** 16-port RS-232/422/485 to rackmount device server with RJ45 connectors and 88 to 300 VDC power input, -40 to 85°C operating temperature

### Optional Accessories (can be purchased separately)

**CBL-RJ45F25-150:** 8-pin RJ45 to DB25 female cable, 150 cm

**CBL-RJ45M25-150:** 8-pin RJ45 to DB25 male cable, 150 cm

**CBL-RJ45F9-150:** 8-pin RJ45 to DB9 female cable, 150 cm

**CBL-RJ45M9-150:** 8-pin RJ45 to DB9 male cable, 150 cm


**Note:** One power cord suitable for your region is included in the product package. Additional power cords can be purchased separately. Please refer to the Power Accessory Selection Guide for details.


### Package Checklist

- 1 NPort 5600 device server
- 1 power cord (suitable for your region, AC models only)
- 1 DIN-rail/wall-mounting kit: WK-45-01
- Quick installation guide (printed)
- Warranty card

**Note:** The package includes one power cord (AC models) suitable for your region.

# Power Accessory Selection Guide

Barrel Plug Type		Locking Barrel Plug	Power Cord					
O/P		12 VDC, 1.5 A, 100 to 240 VAC	10A/250V Power Cord, 183 cm					
Plug Type		CN	US	JP	EU	AU	UK	CN
Model Name		PWR-12150-CN-S2	PWC-C13US-3B-183	PWC-C13JP-3B-183	PWC-C13EU-3B-183	PWC-C13AU-3B-183	PWC-C13UK-3B-183	PWC-C13CN-3B-183
Appearance								
1 port	NPort 6150	✓	–	–	–	–	–	–
	NPort 6250	✓	–	–	–	–	–	–
2 ports	NPort 6250-M-SC	✓	–	–	–	–	–	–
	NPort 6250-S-SC	✓	–	–	–	–	–	–
4 ports	NPort 6450	✓	–	–	–	–	–	–
8 ports	NPort 6610-8	–	✓	✓	✓	✓	✓	✓
	NPort 6650-8	–	✓	✓	✓	✓	✓	✓
	CN2510-8	–	✓	✓	✓	✓	✓	✓
	CN2610-8	–	✓	✓	✓	✓	✓	✓
	CN2610-8-2AC	–	✓	✓	✓	✓	✓	✓
	CN2650-8	–	✓	✓	✓	✓	✓	✓
	CN2650-8-2AC	–	✓	✓	✓	✓	✓	✓
	CN2650I-8	–	✓	✓	✓	✓	✓	✓
16 ports	CN2650I-8-2AC	–	✓	✓	✓	✓	✓	✓
	NPort 6610-16	–	✓	✓	✓	✓	✓	✓
	NPort 6650-16	–	✓	✓	✓	✓	✓	✓
	CN2510-16	–	✓	✓	✓	✓	✓	✓
	CN2610-16	–	✓	✓	✓	✓	✓	✓
	CN2610-16-2AC	–	✓	✓	✓	✓	✓	✓
	CN2650-16	–	✓	✓	✓	✓	✓	✓
	CN2650-16-2AC	–	✓	✓	✓	✓	✓	✓
32 ports	CN2650I-16	–	✓	✓	✓	✓	✓	✓
	CN2650I-16-2AC	–	✓	✓	✓	✓	✓	✓

Barrel Plug Type		Locking barrel plug					
O/P		12 VDC, 2 A, 100 to 240 VAC (desktop type)	2.5A/250V Power Cord, 183 cm				
Plug Type		Must be used with one power cord	US	JP	EU	AU	UK
Model Name		PWR-12125-DT-S2	PWC-C7US-2B-183	PWC-C7JP-2B-183	PWC-C7EU-2B-183	PWC-C7AU-2B-183	PWC-C7UK-2B-183
Appearance							
1 port	NPort 6150	✓	✓	✓	✓	✓	✓
	NPort 6250	✓	✓	✓	✓	✓	✓
2 ports	NPort 6250-M-SC	✓	✓	✓	✓	✓	✓
	NPort 6250-S-SC	✓	✓	✓	✓	✓	✓
4 ports	NPort 6450	✓	✓	✓	✓	✓	✓
8 ports	NPort 6610-8	–	–	–	–	–	–
	NPort 6650-8	–	–	–	–	–	–
16 ports	NPort 6610-16	–	–	–	–	–	–
	NPort 6650-16	–	–	–	–	–	–
32 ports	NPort 6610-32	–	–	–	–	–	–