NPort 5600 Series

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

Features and Benefits

- Standard 19-inch rackmount size
- Easy IP address configuration with LCD panel (excluding wide-temperature models)
- Configure by Telnet, web browser, or Windows utility
- Socket modes: TCP server, TCP client, UDP
- SNMP MIB-II for network management
- Universal high-voltage range: 100 to 240 VAC or 88 to 300 VDC
- Popular low-voltage ranges: ±48 VDC (20 to 72 VDC, -20 to -72 VDC)

Certifications

Introduction

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

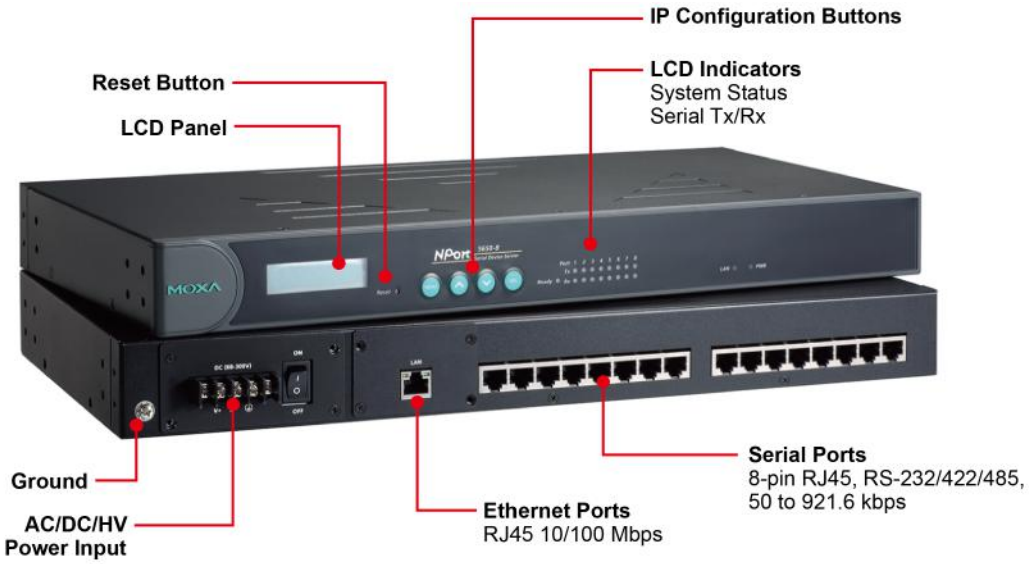
LED Indicators to Ease Your Maintenance Tasks

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

10/100BaseT(X) Ports (RJ45 connector)	1
Magnetic Isolation Protection	1.5 kV (built-in)

Optical Fiber

		100BaseFX		
		Multi-Mode		Single-Mode
Fiber Cable Type		OM1	50/125 µm 800 MHz x km	G.652
Typical Distance		4 km	5 km	40 km
Wavelength	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).

Ethernet Software Features

Configuration Options	Web Console (HTTP), Windows Utility, Telnet Console
Management	ARP, BOOTP, DHCP Client, DNS, HTTP, IPv4, SMTP, SNMPv1, TCP/IP, Telnet, UDP, ICMP, Rtelnet, RFC2217, PPP, SLIP
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	Kernel version: 2.4.x, 2.6.x, 3.x, 4.x
Android API	Android 3.1.x and later
Time Management	SNTP

Serial Interface

Connector	8-pin RJ45
No. of Ports	8 or 16 ports
Serial Standards	NPort 5610 Series: RS-232 NPort 5630 Series: RS-422, RS-485 NPort 5650 Series: RS-232, RS-422, RS-485
Operation Modes	Disabled, Ethernet Modem, Pair Connection, Real COM, Reverse Telnet, RFC2217, TCP Client, TCP Server, UDP
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
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Parity	None, Even, Odd, Space, Mark
Flow Control	None, RTS/CTS (RS-232 only), DTR/DSR (RS-232 only), XON/XOFF
Pull High/Low Resistor for RS-485	1 kilo-ohm, 150 kilo-ohms
Terminator for RS-485	120 ohms
RS-485 Data Direction Control	ADDC® (automatic data direction control)

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

Power Parameters

Input Current	NPort 5610-8-48V/16-48V: 135 mA @ 48 VDC NPort 5650-8-HV-T/16-HV-T: 152 mA @ 88 VDC NPort 5610-8/16: 141 mA @ 100 VAC NPort 5630-8/16: 152 mA @ 100 VAC NPort 5650-8/8-T/16/16-T: 158 mA @ 100 VAC NPort 5650-8-M-SC/16-M-SC: 174 mA @ 100 VAC NPort 5650-8-S-SC/16-S-SC: 164 mA @ 100 VAC
Input Voltage	HV Models: 88 to 300 VDC AC Models: 100 to 240 VAC, 47 to 63 Hz DC Models: ±48 VDC, 20 to 72 VDC, -20 to -72 VDC

Reliability

Automatic Reboot Trigger	Built-in WDT

Physical Characteristics

Housing	Metal
Installation	19-inch rack mounting
Dimensions (with ears)	480 x 45 x 198 mm (18.90 x 1.77 x 7.80 in)
Dimensions (without ears)	440 x 45 x 198 mm (17.32 x 1.77 x 7.80 in)
Weight	NPort 5610-8: 2,290 g (5.05 lb) NPort 5610-8-48V: 3,160 g (6.97 lb) NPort 5610-16/5630-16: 2,490 g (5.49 lb) NPort 5610-16-48V: 3,260 g (7.19 lb) NPort 5650-8/5650-8-T: 2,310 g (5.09 lb) NPort 5650-8-M-SC: 2,380 g (5.25 lb) NPort 5650-8-S-SC/5650-16-M-SC: 2,440 g (5.38 lb) NPort 5650-8-HV-T: 3,720 g (8.20 lb) NPort 5650-16/5650-16-T: 2,510 g (5.53 lb) NPort 5650-16-S-SC: 2,500 g (5.51 lb) NPort 5650-16-HV-T: 3,820 g (8.42 lb)
Interactive Interface	LCD panel display (standard temp. models only) Push buttons for configuration (standard temp. models only)

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 (package included)	Standard Models: -20 to 70°C (-4 to 158°F) Wide Temp. Models: -40 to 75°C (-40 to 185°F) High-Voltage Wide Temp. Models: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

Standards and Certifications

EMI	CISPR 32, FCC Part 15B Class A
EMC	EN 55032/24
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 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
Medical	EN 60601-1-2 Class B, EN 55011
Safety	UL 60950-1

MTBF

Time	NPort 5610-8: 877,888 hrs NPort 5610-8-48V: 870,961 hrs NPort 5610-16: 666,105 hrs NPort 5610-16-48V: 662,111 hrs NPort 5630-8: 765,449 hrs NPort 5630-16: 473,748 hrs NPort 5650-8: 692,010 hrs NPort 5650-8-T: 692,010 hrs NPort 5650-8-HV-T: 627,078 hrs NPort 5650-8-M-SC: 678,053 hrs NPort 5650-8-S-SC: 678,053 hrs NPort 5650-16: 473,748 hrs NPort 5650-16-T: 473,748 hrs NPort 5650-16-HV-T: 442,626 hrs NPort 5650-16-M-SC: 467,180 hrs NPort 5650-16-S-SC: 467,180 hrs
Standards	AC models: MIL-HDBK-217F HV models: Telcordia (Bellcore) Standard TR/SR

Warranty

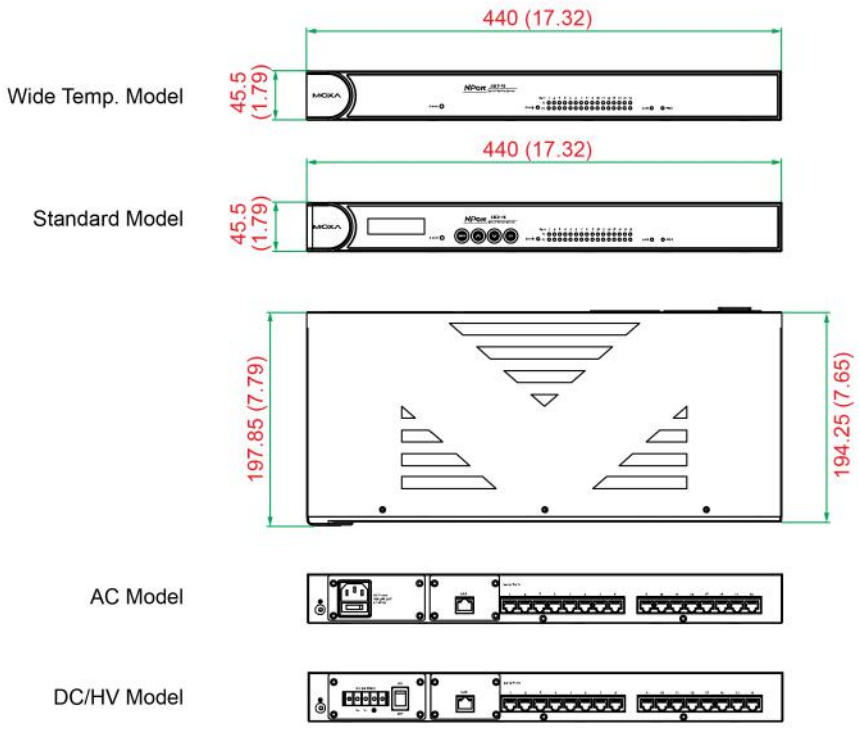
Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x NPort 5600 Series device server
Installation Kit	1 x rack-mounting kit
Cable	1 x power cord, suitable for your region (AC models)
Documentation	1 x document and software CD 1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	Ethernet Interface Connector	Serial Interface	No. of Serial Ports	Operating Temp.	Input Voltage
NPort 5610-8	8-pin RJ45	RS-232	8	0 to 55°C	100-240 VAC
NPort 5610-8-48V	8-pin RJ45	RS-232	8	0 to 55°C	±48 VDC
NPort 5630-8	8-pin RJ45	RS-422/485	8	0 to 55°C	100-240 VAC
NPort 5610-16	8-pin RJ45	RS-232	16	0 to 55°C	100-240 VAC
NPort 5610-16-48V	8-pin RJ45	RS-232	16	0 to 55°C	±48 VDC
NPort 5630-16	8-pin RJ45	RS-422/485	16	0 to 55°C	100-240 VAC
NPort 5650-8	8-pin RJ45	RS-232/422/485	8	0 to 55°C	100-240 VAC
NPort 5650-8-M-SC	Multi-mode fiber SC	RS-232/422/485	8	0 to 55°C	100-240 VAC
NPort 5650-8-S-SC	Single-mode fiber SC	RS-232/422/485	8	0 to 55°C	100-240 VAC
NPort 5650-8-T	8-pin RJ45	RS-232/422/485	8	-40 to 75°C	100-240 VAC
NPort 5650-8-HV-T	8-pin RJ45	RS-232/422/485	8	-40 to 85°C	88-300 VDC
NPort 5650-16	8-pin RJ45	RS-232/422/485	16	0 to 55°C	100-240 VAC
NPort 5650-16-M-SC	Multi-mode fiber SC	RS-232/422/485	16	0 to 55°C	100-240 VAC
NPort 5650-16-S-SC	Single-mode fiber SC	RS-232/422/485	16	0 to 55°C	100-240 VAC
NPort 5650-16-T	8-pin RJ45	RS-232/422/485	16	-40 to 75°C	100-240 VAC
NPort 5650-16-HV-T	8-pin RJ45	RS-232/422/485	16	-40 to 85°C	88-300 VDC

Accessories (sold separately)

Cables

CBL-RJ458P-100	8-pin RJ45 CAT5 Ethernet cable, 1 m
CBL-RJ45F25-150	RJ45 to DB25 female serial cable, 1.5 m
CBL-RJ45M25-150	RJ45 to DB25 male serial cable, 1.5 m
CBL-RJ45F9-150	RJ45 to DB9 female serial cable, 1.5 m
CBL-RJ45M9-150	RJ45 to DB9 male serial cable, 1.5 m
CBL-RJ45SF25-150	RJ45 to DB25 female serial shielded cable, 1.5 m
CBL-RJ45SM25-150	RJ45 to DB25 male serial shielded cable, 1.5 m
CBL-RJ45SF9-150	RJ45 to DB9 female serial shielded cable, 1.5 m
CBL-RJ45SM9-150	RJ45 to DB9 male serial shielded cable, 1.5 m

Connectors

ADP-RJ458P-DB9F	DB9 female to RJ45 connector
ADP-RJ458P-DB9M	RJ45 to DB9 male connector

Rack-Mounting Kits

WK-45-01	Wall-mounting kit, 2 L-shaped plates, 6 screws, 45 x 57 x 2.5 mm

Power Cords

PWC-C13AU-3B-183	Power cord with Australian (AU) plug, 1.83 m
PWC-C13CN-3B-183	Power cord with three-prong China (CN) plug, 1.83 m
PWC-C13EU-3B-183	Power cord with Continental Europe (EU) plug, 1.83 m
PWC-C13JP-3B-183	Power cord with Japan (JP) plug, 7A/125V, 1.83 m

PWC-C13UK-3B-183	Power cord with United Kingdom (UK) plug, 1.83 m
PWC-C13US-3B-183	Power cord with United States (US) plug, 1.83 m