

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

LED Indicators to Ease Your Maintenance Tasks

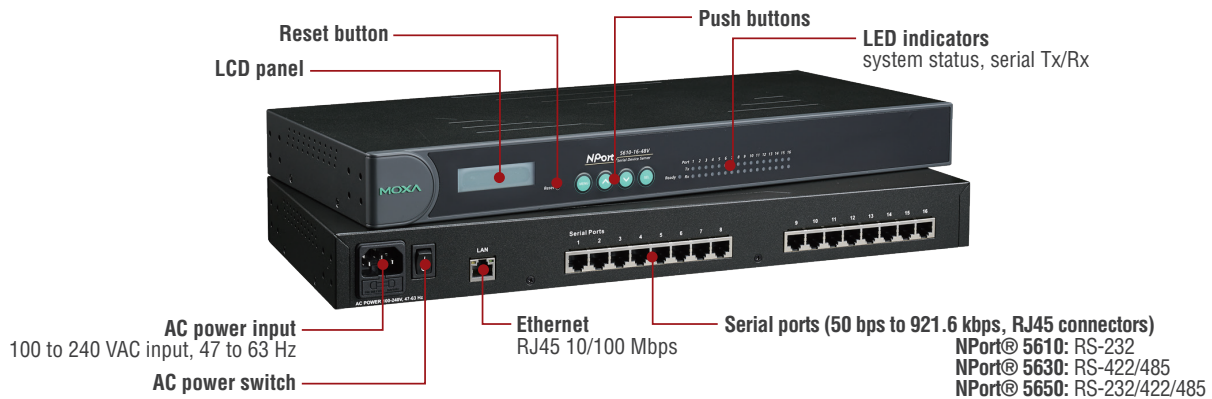
The System LED, serial Tx/Rx LEDs, and Ethernet LEDs (located on the RJ45 connector) provide a great tool for basic maintenance tasks and help engineers analyze problems in the field. The LEDs not only indicate current system and network status, but they also help field engineers monitor the status of 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 μ m 800 MHz*km	G.652
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 Ω , 150 k Ω (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: 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, SNTIP, 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

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: 3,340 g (7.36 lb)
 NPort 5610-8-48V: 3,160 g (6.97 lb)
 NPort 5630-8, 5650-8-S-SC, 5650-8-M-SC: 3,380 g (7.45 lb)
 NPort 5650-8: 3,360 g (7.41 lb)
 NPort 5610-16: 3,420 g (7.54 lb)
 NPort 5610-16-48V: 3,260 g (7.19 lb)
 NPort 5630-16: 3,400 g (7.50 lb)
 NPort 5650-16: 3,460 g (7.63 lb)
 NPort 5650-16-S-SC, 5650-16-M-SC: 3,440 g (7.58 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: 97,294 hrs
 NPort 5610-16: 94,928 hrs
 NPort 5610-8-48V: 96,758 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 5650-8-M-SC: 116,914 hrs
 NPort 5650-16-S-SC: 87,528 hrs
 NPort 5650-16-M-SC: 87,528 hrs
 NPort 5650-8-HV: 725,390 hrs
 NPort 5650-16-HV: 531,264 hrs
 NPort 5610-16-48V: 926,643 hrs

Standard:

NPort 5610-8/5610-16/5610-8-48V/NPort
 5630-8/5630-16/5650-8/5650-16/5650-8-S-SC/5650-8-M-SC/5650-
 16-S-SC/5650-16-M-SC: MIL-HDBK-217F
 NPort 5650-8-HV/5650-16-HV/5610-16-48V: Telcordia (Bellcore)
 Standard TR/SR

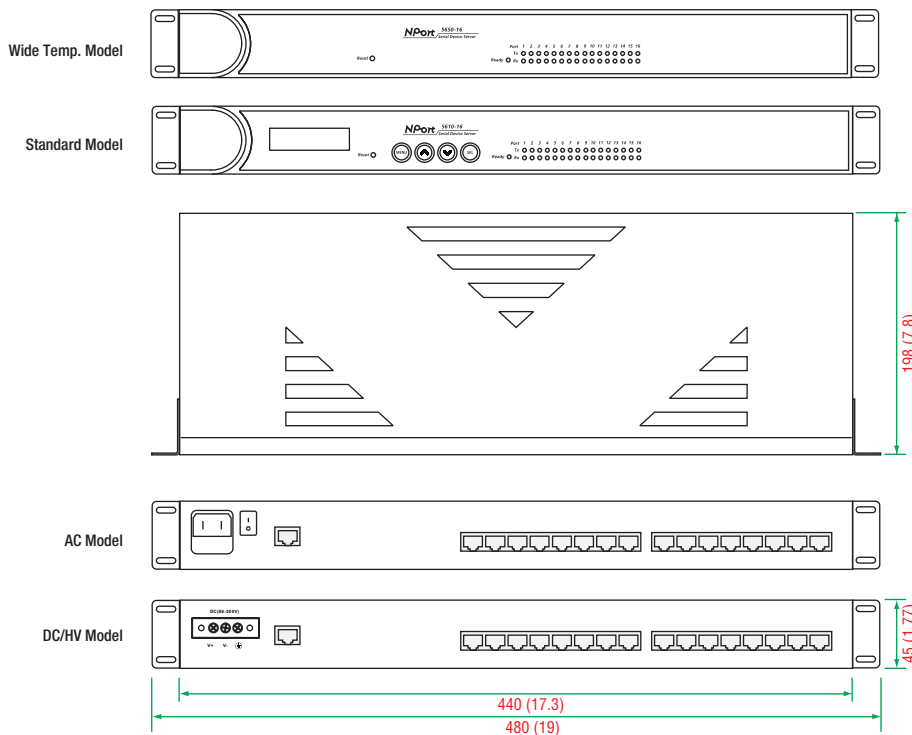
Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty

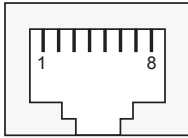
Dimensions

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
- Documentation and software CD
- 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				
O/P		12 VDC 0.5 A, 100 to 240 VAC (Switch-Mode)				
Plug Type		US/JP	EU	AU	UK	CN
Appearance						
Model Name		PWR-12050-WPUSJP-S1	PWR-12050-WPEU-S1	PWR-12050-WPAU-S1	PWR-12050-WPUK-S1	PWR-12050-WPCN-S1
1 Port	NPort 5110	-	-	-	-	-
	NPort 5130	-	-	-	-	-
	NPort 5150	-	-	-	-	-
	NPort 5110A	✓	✓	✓	✓	✓
	NPort 5130A	✓	✓	✓	✓	✓
	NPort 5150A	✓	✓	✓	✓	✓
	DE-211	-	-	-	-	-
	DE-311	-	-	-	-	-
	NPort P5150A	✓	✓	✓	✓	✓
	NPort W2150A	✓	✓	✓	✓	✓
NPort Z2150/Z3150	✓	✓	✓	✓	✓	
2 Ports	NPort 5210	-	-	-	-	-
	NPort 5230	-	-	-	-	-
	NPort 5232	-	-	-	-	-
	NPort 5232I	-	-	-	-	-
	NPort 5210A	✓	✓	✓	✓	✓
	NPort 5230A	✓	✓	✓	✓	✓
	NPort 5250A	✓	✓	✓	✓	✓
	NPort W2250A	✓	✓	✓	✓	✓

Barrel Plug Type		Non-Locking Barrel Plug				
O/P		12 VDC 0.5 A, 100 to 240 VAC (Switch-Mode)				
Plug Type		US/JP	EU	AU	UK	CN
Appearance						
Model Name		PWR-12050-WPUSJP-S2	PWR-12050-WPEU-S2	PWR-12050-WPAU-S2	PWR-12050-WPUK-S2	PWR-12050-WPCN-S2
1 Port	NPort 5110	✓	✓	✓	✓	✓
	NPort 5130	✓	✓	✓	✓	✓
	NPort 5150	✓	✓	✓	✓	✓
	NPort 5110A	-	-	-	-	-
	NPort 5130A	-	-	-	-	-
	NPort 5150A	-	-	-	-	-
	DE-211	✓	✓	✓	✓	✓
	DE-311	✓	✓	✓	✓	✓
	NPort P5150A	-	-	-	-	-
	NPort W2150A	-	-	-	-	-
NPort Z2150/Z3150	-	-	-	-	-	
2 Ports	NPort 5210	✓	✓	✓	✓	✓
	NPort 5230	✓	✓	✓	✓	✓
	NPort 5232	✓	✓	✓	✓	✓
	NPort 5232I	✓	✓	✓	✓	✓
	NPort 5210A	-	-	-	-	-
	NPort 5230A	-	-	-	-	-
	NPort 5250A	-	-	-	-	-
	NPort W2250A	-	-	-	-	-

Power Accessory Selection Guide

Barrel Plug Type		Non-Locking Barrel Plug				
O/P		12 VDC 1.25/1.5 A, 100 to 240 VAC				
Plug Type		US/JP	EU	AU	UK	CN
Appearance						
Model Name		PWR-12125-USJP-S1	PWR-12150-EU-S2	PWR-12150-AU-S2	PWR-12150-UK-S2	PWR-12125-CN-S1
4 Ports	NPort 5410	✓	✓	✓	✓	✓
	NPort 5430	✓	✓	✓	✓	✓
	NPort 5430I	✓	✓	✓	✓	✓
	NPort 5450	✓	✓	✓	✓	✓
	NPort 5450I	✓	✓	✓	✓	✓
8 Ports	NPort 5610-8	-	-	-	-	-
	NPort 5630-8	-	-	-	-	-
	NPort 5650-8	-	-	-	-	-
	NPort 5650-8-M-SC	-	-	-	-	-
	NPort 5650-8-S-SC	-	-	-	-	-
	NPort 5610-8-DT	-	-	-	-	-
	NPort 5610-8-DT-J	-	-	-	-	-
	NPort 5650-8-DT	-	-	-	-	-
	NPort 5650-8-DT-J	-	-	-	-	-
	NPort 5650I-8-DT	-	-	-	-	-
NPort 5610-8-DTL	-	-	-	-	-	
16 Ports	NPort 5610-16	-	-	-	-	-
	NPort 5630-16	-	-	-	-	-
	NPort 5650-16	-	-	-	-	-

Barrel Plug Type		Locking Barrel Plug						
O/P		12 VDC 2 A, 100 to 240 VAC (desktop type)	10A/250V Power Cord, 183 cm					
Plug Type		Must accompany with one power cord	US	JP	EU	AU	UK	CN
Appearance								
Model Name		PWR-12200-DT-S1	PWC-C13US-3B-183	PWC-C13JP-3B-183	PWC-C13EU-3B-183	PWC-C13AU-3B-183	PWC-C13UK-3B-183	PWC-C13CN-3B-183
4 Ports	NPort 5410	-	-	-	-	-	-	-
	NPort 5430	-	-	-	-	-	-	-
	NPort 5430I	-	-	-	-	-	-	-
	NPort 5450	-	-	-	-	-	-	-
	NPort 5450I	-	-	-	-	-	-	-
8 Ports	NPort 5610-8	-	✓	✓	✓	✓	✓	✓
	NPort 5630-8	-	✓	✓	✓	✓	✓	✓
	NPort 5650-8	-	✓	✓	✓	✓	✓	✓
	NPort 5650-8-M-SC	-	✓	✓	✓	✓	✓	✓
	NPort 5650-8-S-SC	-	✓	✓	✓	✓	✓	✓
	NPort 5610-8-DT	✓	✓	✓	✓	✓	✓	✓
	NPort 5610-8-DT-J	✓	✓	✓	✓	✓	✓	✓
	NPort 5650-8-DT	✓	✓	✓	✓	✓	✓	✓
	NPort 5650-8-DT-J	✓	✓	✓	✓	✓	✓	✓
	NPort 5650I-8-DT	✓	✓	✓	✓	✓	✓	✓
NPort 5610-8-DTL	✓	✓	✓	✓	✓	✓	✓	
16 Ports	NPort 5610-16	-	✓	✓	✓	✓	✓	✓
	NPort 5630-16	-	✓	✓	✓	✓	✓	✓
	NPort 5650-16	-	✓	✓	✓	✓	✓	✓