NPort® 6600 Series

8/16/32-port RS-232/422/485 rackmount secure terminal servers

- Up to 32 ports for high density environments
- Non-standard baudrates supported with high precision
- Port buffers for storing serial data when the Ethernet is off-line
- Supports IPv6
- Ethernet redundancy (STP/RSTP/Turbo Ring) with network module
- Modular design for scalability
- DES/3DES/AES for highly secure data transmissions
- 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

The NPort® 6600 series of secure device servers is the right choice for applications that use large numbers of serial devices packed into a small space. Security breaches are intolerable and the NPort® 6600 ensures data transmission integrity with support of DES, 3DES, and AES encryption algorithms. Serial devices of any type can be connected to the NPort® 6600, and each serial port on the NPort® can be configured independently for RS-232, RS-422, or RS-485 transmission.

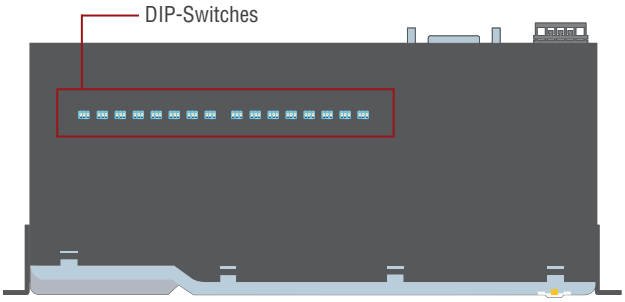
LCD Panel Makes Configuration Easy

The NPort® 6600 has a built-in LCD panel for configuration. The panel displays the server name, serial number, and IP address, and any of the device server's configuration parameters, such as IP address, netmask, and gateway address, can be updated easily and quickly.

Note: The LCD panel is only available with standard temperature models.

Adjustable Resistor Values for RS-485 Communication

The NPort® 6600 provides adjustable termination, pull high, and pull low resistors for RS-485 communication. In some critical environments, termination resistors may be needed to prevent the reflection of serial signals, and the pull high and pull low resistors may need adjusting to maintain the integrity of the electrical signal. Since no set of resistor values works for every environment, the NPort® 6600 allows manual adjustment of the resistor values for each serial port using built-in DIP switches.



Specifications

Ethernet Interface

Number of Ports: 1
Speed: 10/100 Mbps, auto MDI/MDIX
Connector: 8-pin RJ45
Magnetic Isolation: 1.5 kV built-in

Optical Fiber Interface (with network module)

Table:

	100BaseFX	
	Multi-mode	Single-mode
Wavelength	1300 nm	1310 nm
Max. TX	-10 dBm	0 dBm
Min. TX	-20 dBm	-5 dBm
RX Sensitivity	-34 to -30 dBm	-36 to -32 dBm
Link Budget	12 dB	29 dB
Typical Distance	4 km[a]	40 km[b]
Saturation	-6 dBm	-3 dBm

a. 62.5/125 µm, 500 MHz*km fiber optic cable
b. 9/125 µm, 3.5 PS/(nm*km) fiber optic cable

Serial Interface

Number of Ports: 8, 16, or 32
Serial Standards:
NPort 6610: RS-232
NPort 6650: RS-232/422/485
Connector: 8-pin RJ45
RS-485 Data Direction Control: ADDC® (Automatic Data Direction Control)
Console Port: Dedicated RS-232 console port on rear panel (8-pin RJ45)

Serial Communication Parameters

Data Bits: 5, 6, 7, 8
Stop Bits: 1, 1.5, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: RTS/CTS, DTR/DSR, XON/XOFF
Baudrate: 50 bps to 921.6 kbps (supports non-standard baudrates)
Pull High/Low Resistor for RS-485: 1 kΩ, 150 kΩ
Terminator for RS-485: 120 Ω

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

Memory Expansion Slot

Slot Type: SD socket (supports up to 2 GB)

Software

Network Protocols: ICMP, IPv4/v6, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP V1/V2c/V3, HTTP, SMTP, ARP, PPPoE
Security Protocols: DES, 3DES, AES, SSH, SSL
Configuration Options: Web Console, Serial Console, Telnet Console, Windows Search Utility
Windows Real COM Drivers: Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1 (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
Management: SNMP MIB-II
IP Routing: Static, RIP-I, RIP-II

Operation Modes

Standard: Real COM, TCP Server, TCP Client, UDP, Pair Connection, RFC2217, Terminal, Reverse Telnet, Ethernet Modem, Printer, PPP, Disabled
Secure: Secure Real COM, Secure TCP Server, Secure TCP Client, Secure Pair Connection, SSH, Reverse SSH

Applications

Terminal Sessions: 8 sessions per port

Physical Characteristics

Housing: Metal
Weight:
NPort 6600-8: 3460 g
NPort 6600-16: 3580 g
NPort 6600-32: 3600 g
Dimensions:
Without ears: 440 x 195 x 44 mm (17.32 x 7.68 x 1.73 in)
With ears: 480 x 195 x 44 mm (18.9 x 7.68 x 1.73 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: -40 to 75°C (-40 to 167°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)
Altitude: Up to 2000 m
Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.

Power Requirements

Input Voltage:
AC Models: 140 mA / 100 VAC (8 ports), 192 mA / 100 VAC (16 ports), 285 mA / 100 VAC (32 ports)
DC Models: ±48 VDC (20 to 72 VDC, -20 to -72 VDC), 110 VDC (88 to 300 VDC)
Power Consumption:
AC Models: 285 mA @ 100 VAC, 190 mA @ 240 VAC
DC Models: 293 mA @ 48 VDC, 200 mA @ 88 VDC, 65 mA @ 300 VDC
Alarm Contact: Relay output with current carrying capacity of 1 A @ 24 VDC
Power Line Protection: 1 kV burst (EN 61000-4-4: EFT/B), 0.5 kV surge (EN 61000-4-5)

Standards and Certifications

Safety: UL 60950-1, EN 60950-1
EMI: EN 55022 Class A, FCC Part 15 Subpart B Class A
EMS:
EN 61000-4-2 ESD: contact 4 kV; air 8 kV
EN 61000-4-3 RS: 3 V/m (80 MHz to 1 GHz)
EN 61000-4-4 EFT: Power 4 kV; Signal 2 kV
EN 61000-4-5 Surge: AC 1 kV (AC models); DC 2 kV (DC/HV models); Signal 1 kV
EN 61000-4-6 CS: 3 V
EN 61000-4-8
EN 61000-4-11: AC models only
Freefall: IEC-68-2-6, IEC-68-2-34, IEC-68-2-32
Vibration: IEC-68-2-6, IEC-68-2-34
Green Product: RoHS, CRoHS, WEEE
EMC: 55022/24

Reliability

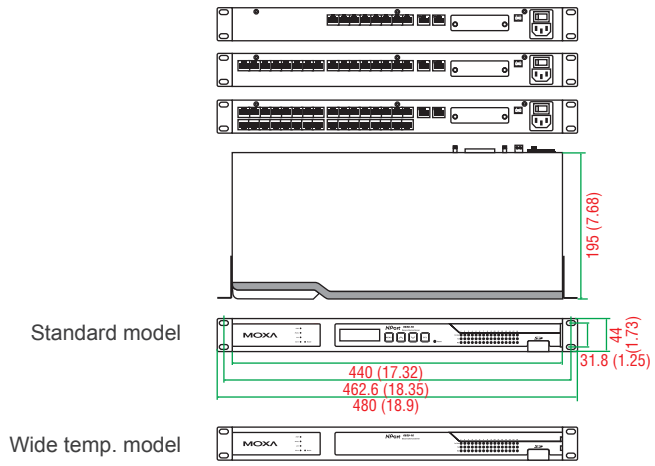
Alert Tools: Built-in buzzer and RTC (real-time clock)
Automatic Reboot Trigger: Built-in WDT (watchdog timer)
MTBF (mean time between failures):
NPort 6610-8: 135,891 hrs
NPort 6610-16: 102,373 hrs
NPort 6610-32: 68,707 hrs
NPort 6650-8: 636,600 hrs
NPort 6650-16: 439,673 hrs
NPort 6650-32: 310,078 hrs
NPort 6650-8-HV-T: 501,171 hrs
NPort 6650-16-HV-T: 380,006 hrs
NPort 6650-32-HV-T: 290,914 hrs

Warranty

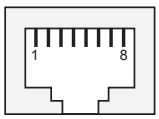
Warranty Period: 5 years
Details: See www.moxa.com/warranty

Dimensions and Pin Assignment

Unit: mm (inch)



8-pin RJ45 connector



PIN	RS-232	RS-422/ 485-4W	RS-485-2w
1	DSR (in)	–	–
2	RTS (out)	TxD+	–
3	GND	GND	GND
4	TxD (out)	TxD-	–
5	RxD (in)	RxD+	Data+
6	DcD (in)	RxD-	Data-
7	CTS (in)	–	–
8	DTR (out)	–	–

Ordering Information

Available Models

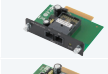
NPort 6610-8: 8-port RS-232 to Ethernet secure terminal server, 100 to 240 VAC power input, 0 to 55°C operating temperature
NPort 6610-8-48V: 8-port RS-232 to Ethernet secure terminal server, ±48 VDC power input, 0 to 55°C operating temperature
NPort 6610-16: 16-port RS-232 to Ethernet secure terminal server, 100 to 240 VAC power input, 0 to 55°C operating temperature
NPort 6610-16-48V: 16-port RS-232 to Ethernet secure terminal server, ±48 VDC power input, 0 to 55°C operating temperature
NPort 6610-32: 32-port RS-232 to Ethernet secure terminal server, 100 to 240 VAC power input, 0 to 55°C operating temperature
NPort 6610-32-48V: 32-port RS-232 to Ethernet secure terminal server, ±48 VDC power input, 0 to 55°C operating temperature
NPort 6650-8: 8-port RS-232/422/485 to Ethernet secure terminal server, 100 to 240 VAC power input, 0 to 55°C operating temperature
NPort 6650-8-T: 8-port RS-232/422/485 to Ethernet secure terminal server, 100 to 240 VAC power input, -40 to 75°C operating temperature
NPort 6650-8-HV-T: 8-port RS-232/422/485 to Ethernet secure terminal server, 88 to 300 VDC power input, -40 to 85°C operating temperature
NPort 6650-8-48V: 8-port RS-232/422/485 to Ethernet secure terminal server, ±48 VDC power input, 0 to 55°C operating temperature
NPort 6650-16: 16-port RS-232/422/485 to Ethernet secure terminal server, 100 to 240 VAC power input, 0 to 55°C operating temperature
NPort 6650-16-48V: 16-port RS-232/422/485 to Ethernet secure terminal server, ±48 VDC power input, 0 to 55°C operating temperature
NPort 6650-16-T: 16-port RS-232/422/485 to Ethernet secure terminal server, 100 to 240 VAC power input, -40 to 75°C operating temperature
NPort 6650-16-HV-T: 16-port RS-232/422/485 to Ethernet secure terminal server, 88 to 300 VDC power input, -40 to 85°C operating temperature
NPort 6650-32: 32-port RS-232/422/485 to Ethernet secure terminal server, 100 to 240 VAC power input, 0 to 55°C operating temperature
NPort 6650-32-48V: 32-port RS-232/422/485 to Ethernet secure terminal server, ±48 VDC power input, 0 to 55°C operating temperature
NPort 6650-32-HV-T: 32-port RS-232/422/485 to Ethernet secure terminal server, 88 to 300 VDC power input, -40 to 85°C operating temperature

Package Checklist

- 1 NPort 6600 device server
- CBL-RJ45M9-150: 8-pin RJ45 to DB9 male connection cable, 150 cm
- Power cord (AC models only)
- 2 rackmount ears
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card

Optional Accessories (can be purchased separately)

Serial Cables and Adapters: See Appendix A for details

Expansion Modules			Use with the following NPort models					
			6150	6250	6450	6610-8 6650-8	6610-16 6650-16	6610-32 6650-32
NM-TX01 NM-TX01-T		1 10/100BaseT(X) port	–	–	✓	✓	✓	✓
NM-TX02 NM-TX02-T		2 10/100BaseT(X) ports	–	–	✓	✓	✓	✓
NM-FX01-S-SC NM-FX01-S-SC-T		1 100BaseFX port, single mode, SC connector	–	–	✓	✓	✓	✓
NM-FX01-M-SC NM-FX01-M-SC-T		1 100BaseFX port, multi mode, SC connector	–	–	✓	✓	✓	✓
NM-FX02-S-SC NM-FX02-S-SC-T		2 100BaseFX ports, single mode, SC connector	–	–	✓	✓	✓	✓
								

Note: Expansion modules can be purchased separately.