

NPort® 6600 Series

8/16/32-port RS-232/422/485 rackmount 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



: 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 EDS, 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.

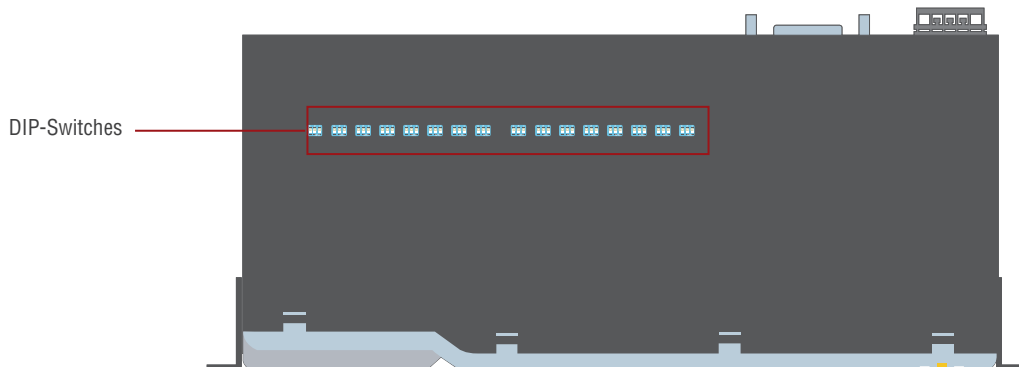


Note: The LCD panel is only available with standard temperature models.

: 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)

| | 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: ADCC® (Automatic Data Direction Control)

Serial Line Protection: 15 KV ESD protection for all signals

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: 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

Memory Expansion Slot

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

Software

Network Protocols: ICMP, IP, 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 x86/x64, 2012 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

Linux Real TTY Drivers: Linux kernel 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: 3600g

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)

Storage Temperature: -40 to 75°C (-40 to 167°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: 100 to 240 VAC

DC Models: ±48 VDC (20 to 72 VDC, -20 to -72 VDC)

Power Consumption:

AC Models: 285 mA @ 100 VAC, 190 mA @ 240 VAC

DC Models: 293 mA @ 48 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

EMC: CE, FCC

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

EMS:

EN 55024,

EN 61000-4-2 (ESD) Level 2/3,

EN 61000-4-3 (RS) Level 2,

EN 61000-4-4 (EFT) Level 2,

EN 61000-4-5 (Surge) Level 2,

EN 61000-4-6 (CS) Level 2,

EN 61000-4-8 Level 1,

EN 61000-4-11

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

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: 135,370 hrs

NPort 6650-16: 101,783 hrs

NPort 6650-32: 68,177 hrs

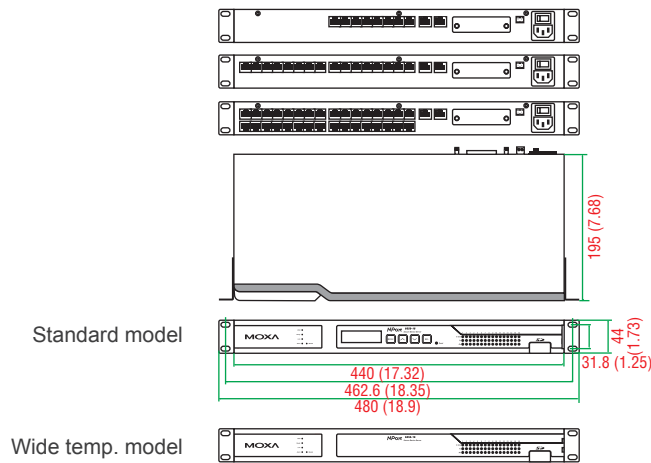
Warranty

Warranty Period: 5 years

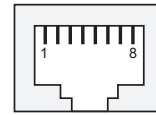
Details: See www.moxa.com/warranty

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 6650-8-48V: 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 6650-32: 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 6650-8-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 6650-16-T: 16-port RS-232/422/485 to Ethernet secure terminal server, 100 to 240 VAC power input, -40 to 75°C operating temperature

Optional Accessories (can be purchased separately)

Serial Cables and Adaptors: See Appendix A for details

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

| 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 | – | – | ✓ | ✓ | ✓ | ✓ |
| NM-FX02-M-SC NM-FX02-M-SC-T | | 2 100BaseFX ports, multi mode, SC connector | – | – | ✓ | ✓ | ✓ | ✓ |
| NM-Modem NM-Modem-T | | 1 PSTN modem port, RJ11 connector | – | – | ✓ | ✓ | ✓ | ✓ |

Note: Expansion modules can be purchased separately.