

NPort® 6450

4-port RS-232/422/485 secure terminal server



- > LCD panel for easy IP address configuration
- > Secure operation modes for Real COM, TCP Server, TCP Client, Pair Connection, Terminal, and Reverse Terminal
- > 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



Overview

The NPort® 6450 is a 4-port device server that uses the SSL and SSH protocols to transmit encrypted serial data over Ethernet. Up to 4 serial devices of any type can be connected to the NPort® 6450, with

all four devices using the same IP address. The Ethernet port can be configured for a normal or secure TCP/IP connection.

No Data Loss if Ethernet Connection Fails

The NPort® 6450 is a reliable device server that provides users with secure serial-to-Ethernet data transmission and a customer-oriented hardware design. If the Ethernet connection fails, the NPort® 6450 will queue all serial data in its internal 64 KB port buffer. When the Ethernet

connection is re-established, the NPort® 6450 will immediately release all data in the buffer in the order that it was received. Users can increase the port buffer size by installing a SD card.

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	-14 dBm	0 dBm
Min. TX	-20 dBm	-5 dBm
RX Sensitivity	-32 dBm	-34 dBm
Link Budget	12 dB	29 dB
Typical Distance	5 km ^a 4 km ^b	40 km ^c
Saturation	-6 dBm	-3 dBm

a. 50/125 μm, 800 MHz*km fiber optic cable
 b. 62.5/125 μm, 500 MHz*km fiber optic cable
 c. 9/125 μm, 3.5 PS/(nm*km) fiber optic cable

Serial Interface

Number of Ports: 4
Serial Standards: RS-232/422/485
Connector: DB9 male
RS-485 Data Direction Control: ADDC® (Automatic Data Direction Control)

Serial Line Protection: 15 KV ESD protection for all signals

Console Port: Serial port 1 doubles as RS-232 console port

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

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, 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 x86/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, 3.0.x

Management: SNMP MIB-II

IP Routing: Static, RIP-1, 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: 1020 g

Dimensions:

Without ears: 158 x 103 x 35 mm (6.22 x 4.06 x 1.38 in)

With ears: 181 x 103 x 35 mm (7.13 x 4.06 x 1.38 in)

Environmental Limits

Operating Temperature: 0 to 55°C (32 to 131°F)

Storage Temperature: -40 to 75°C (-40 to 167°F)

Ambient Relative Humidity: 5 to 95% (non-condensing)

Power Requirements

Input Voltage: 12 to 48 VDC

Power Consumption: 730 mA @ 12 V, 330 mA @ 24 V

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): 120,354 hrs

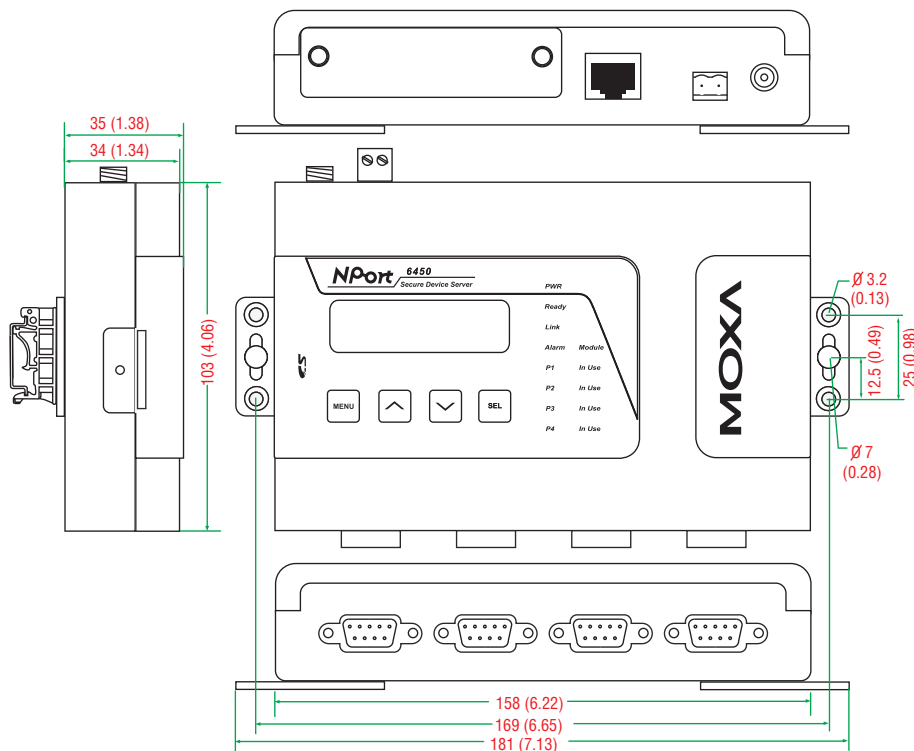
Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty

Dimensions

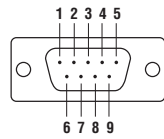
Unit: mm (inch)



Pin Assignment

PIN	RS-232	RS-422/485-4w	RS-485-2w
1	DCD	TxD-(A)	-
2	RxD	TxD+(B)	-
3	TxD	RxD+(B)	Data+(B)
4	DTR	RxD-(A)	Data-(A)
5	GND	GND	GND
6	DSR	-	-
7	RTS	-	-
8	CTS	-	-

DB9 male connector



Ordering Information

Available Models








NPort 6450: 4-port secure device server, RS-232/422/485 to Ethernet

Optional Accessories (can be purchased separately)

DK-35A: Mounting Kit for 35-mm DIN-Rail

Package Checklist

- 1 NPort 6450 secure device server
- 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 	-	-	✓	✓	✓	✓
NM-TX02 NM-TX02-T 	-	-	✓	✓	✓	✓
NM-FX01-S-SC NM-FX01-S-SC-T 	-	-	✓	✓	✓	✓
NM-FX01-M-SC NM-FX01-M-SC-T 	-	-	✓	✓	✓	✓
NM-FX02-S-SC NM-FX02-S-SC-T 	-	-	✓	✓	✓	✓
NM-FX02-M-SC NM-FX02-M-SC-T 	-	-	✓	✓	✓	✓
NM-Modem NM-Modem-T 	-	-	✓	✓	✓	✓

Note: Expansion modules can be purchased separately.