

# 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 an 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)

**Fiber Port:** 100BaseFX, SC connector  
**Distance:**  
 Multi-mode: 0 to 4 km, 1310 nm (62.5/125 μm, 500 MHz\*km)  
 Single mode: 0 to 40 km, 1310 nm (9/125 μm, 3.5 PS/(nm\*km))

**Min. TX Output:**  
 Multi-mode: -20 dBm  
 Single-mode: -5 dBm

**Max. TX Output:**  
 Multi-mode: -10 dBm  
 Single-mode: 0 dBm

**Sensitivity:**  
 Multi-mode: -34 to -30 dBm  
 Single-mode: -36 to -32 dBm

#### 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  
**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, IP30 protection

**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 (EN61000-4-4: EFT/B), 0.5 KV surge (EN61000-4-5)

### 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

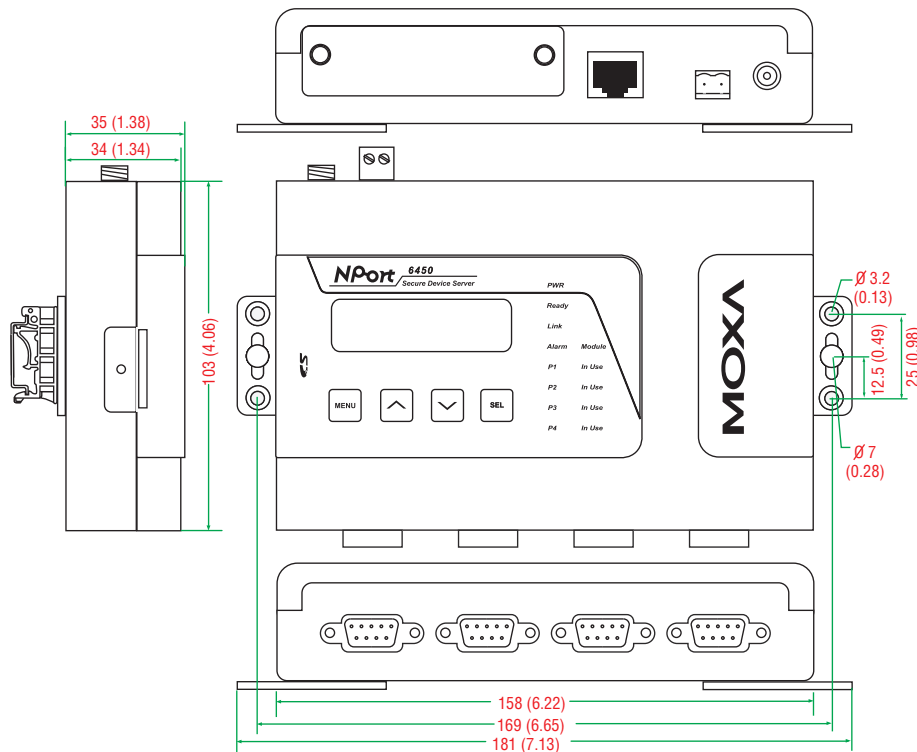
### Warranty

**Warranty Period:** 5 years

**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

### Dimensions

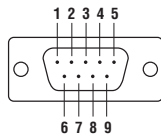
Unit: mm (inch)



### 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		1 10/100BaseTX port	-	-	✓	✓	✓	✓
NM-TX02 NM-TX02-T		2 10/100BaseTX port	-	-	✓	✓	✓	✓
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 with RJ11 connector	-	-	✓	✓	✓	✓

Note: Expansion modules can be purchased separately.