



NPort 6450 Series Quick Installation Guide

Third Edition, June 2008

1. Overview

The NPort 6450 series of secure serial device servers provide reliable serial-to-Ethernet connectivity for a wide range of serial devices. The NPort 6450 supports TCP Server, TCP Client, UDP, and Pair-Connection operation modes to ensure the compatibility of network software. In addition, the NPort 6450 also supports Secure TCP Server, Secure TCP Client, Secure Pair-Connection, and Secure Real COM modes for security critical applications such as banking, telecom, access control and remote site management.

2. Package Checklist

Before installing the NPort 6450, please verify that the package contains the following items:

Standard Accessories

- 1 NPort 6450
- Document & Software CD
- Quick Installation Guide
- Power adaptor
- Product Warranty Statement
- 2 wall mount ears

Optional Accessories

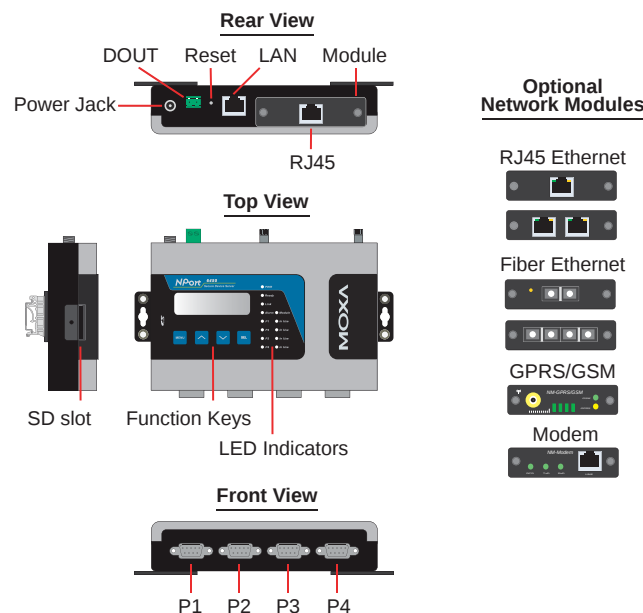
- DK-35A: 35 mm DIN-rail mounting kit
- DIN-rail power supply
- CBL-RJ45M9-150: 8-pin RJ45 to male DB9 cable
- CBL-RJ45M25-150: 8-pin RJ45 to male DB25 cable
- NM-TX01: Network module with one 10/100BaseTX Ethernet port (RJ45 connector; supports cascade redundancy and RSTP/STP)
- NM-FX01-S-SC: Network module with one 100BaseFX single mode fiber port (SC connector; supports cascade redundancy and RSTP/STP)
- NM-FX02-S-SC: Network module with two 100BaseFX single mode fiber ports (SC connectors; supports cascade redundancy and RSTP/STP)
- NM-FX01-M-SC: Network module with one 100BaseFX multi mode fiber port (SC connector; supports cascade redundancy and RSTP/STP)

(Optional Accessories continued on next page)

- NM-FX02-M-SC: Network module with two 100BaseFX multi mode fiber ports (SC connectors; supports cascade redundancy and RSTP/STP)
- NM-GPRS/GSM: GPRS/GSM modem module\
- NM-Modem: One PSTN modem port with RJ11 connector

NOTE: Please notify your sales representative if any of the above items are missing or damaged.

3. Hardware Introduction

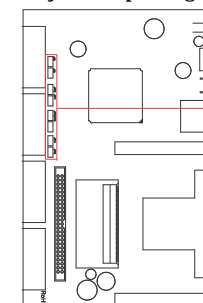


Reset Button—Press the Reset button continuously for 5 sec to load factory defaults: Use a pointed object, such as a straightened paper clip or toothpick, to press the reset button. This will cause the Ready LED to blink on and off. The factory defaults will be loaded once the Ready LED stops blinking (after about 5 seconds). At this point, you should release the reset button.

LED Indicators

Name	Color	Function	
PWR	Red	Power is being supplied to the power input.	
Ready	Red	Steady on:	NPort is booting up.
		Blinking:	IP conflict, DHCP or BOOTP server problem, or relay output problem.
	Green	Steady on:	Power is on and the NPort 6450 is functioning normally.
		Blinking:	NPort is responding to Locate function.
	Off	Power is off, or power error condition exists.	
Link	Orange	10 Mbps Ethernet connection.	
	Green	100 Mbps Ethernet connection.	
	Off	Ethernet cable is disconnected, or has a short.	
P1-P4	Orange	Serial port is receiving data.	
	Green	Serial port is transmitting data.	
	Off	Serial port is idle.	
FX	Orange	Steady on:	Ethernet port is idle.
		Blinking:	Fiber port is transmitting or receiving data.
Alarm	Red	The relay output (DOUT) is open (exception).	
	Off	The relay output (DOUT) is shorted (normal condition).	
Module	Green	A network module has been detected.	
	Off	No network module is present.	
GSM	Green	GSM connection	
GPRS	Orange	GPRS connection	
GPRS/GSM Signal Strength	Green	The signal quality is indicated by the number of LEDs that are lit; 4 LEDs indicates maximum signal strength.	

Adjustable pull high/low resistor for RS-422/485 (150 K Ω or 1 K Ω)



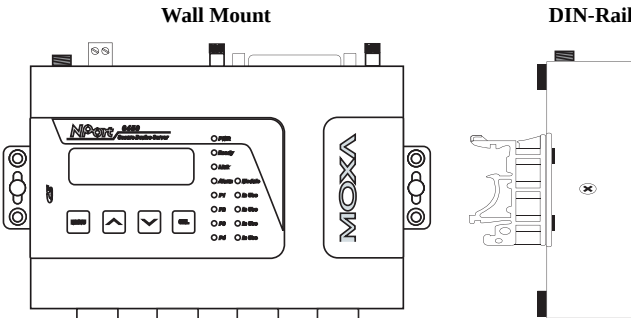
Jumpers are used to set the pull high/low resistors. The default is 150 K Ω . Short the jumpers to set this value to 1 K Ω . Do not use the K Ω setting with RS-232 mode, since doing so will degrade the RS-232 signals and shorten the communication distance.

4. Hardware Installation Procedure

- STEP 1:** Connect the 12-48 VDC power adaptor to the NPort 6250 and then plug the power adaptor into a DC outlet.
- STEP 2:** For first-time configuration, use a cross-over Ethernet cable to connect the NPort 6250 directly to your computer's Ethernet cable. For connecting to a network, use a standard straight-through Ethernet cable to connect to a hub or switch.
- STEP 3:** Connect the NPort 6250's serial port(s) to serial device(s).

Placement Options

The NPort 6250 can be placed flat on a desktop or other horizontal surface. In addition, you may use the DIN-Rail or Wall Mount options, as illustrated below.



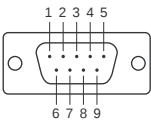
5. Software Installation Information

The Document & Software CD contains the User's Manual, NPort Search Utility, and the PComm Lite Suite. Insert the CD and follow the on-screen instructions. Please refer to the User's Manual for additional details on using the NPort Search Utility and PComm Lite.

6. Pin Assignments and Cable Wiring

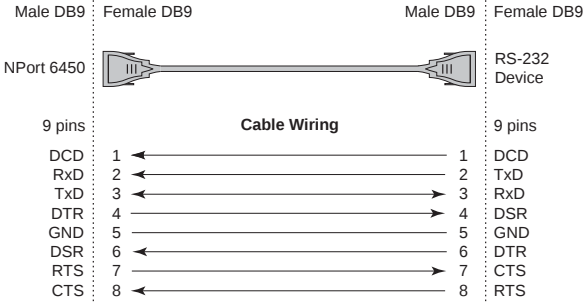
RS-232/422/485 Pin Assignments (male DB9)

Pin	RS-232	RS-422 4-wire RS-485	2-wire RS-485
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	---	---
9	---	---	---

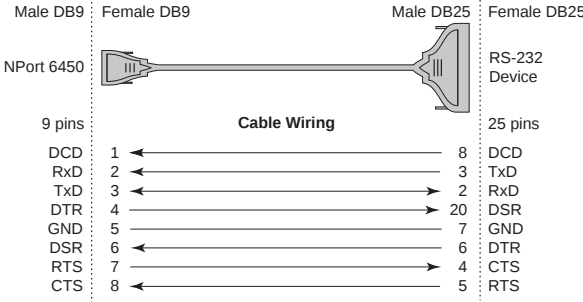


Optional cables are available to connect RS-232 devices. Pin assignments for the cables are shown below:

CBL-RJ45M9-150: 8-pin RJ45 to male DB9



CBL-RJ45M25-150: 8-pin RJ45 to male DB25



7. Specifications

LAN

Ethernet: 10/100 Mbps, RJ45
Protection: Built-in 1.5 KV magnetic isolation

Optical Fiber (for fiber port modules)

Distance: Multi mode: 0 to 2 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: -14 dBm; Single mode: 0 dBm
Sensitivity: Multi mode: -34 to -30 dBm, Single mode: -36 to -32 dBm

GPRS/GSM (for GPRS/GSM modules)

Standard: GSM and GPRS
Band Selection: Quad-band 850/900 MHz, and 1800/1900 MHz
Tx Power: 1 watt GSM 1800/1900, 2 watts EGSM 900/GSM 850
GPRS: Multi-slot Class 10, Coding Schemes: CS1 to CS4
Terminal Device Class B
CSD: Data transmission rate up to 14,400 bps
SMS: Point-to-point Text/PDU: Mobile Originated (MO) and Mobile Terminated (MT) Cell Broadcast: in accordance with GSM 07.05)
SIM Control: 3.3V/1.8V interface

Serial

Interfaces: RS-232/422/485 (male DB9)

No. of Ports: 4

Serial Communication Parameters

Parity: None, Even, Odd, Space, Mark

Data Bits: 5, 6, 7, 8

Stop Bit(s): 1, 1.5, 2

Flow Control: RTS/CTS, XON/XOFF, DTR/DSR

Speed: 50 bps to 921.6 kbps

Additional Features

Console Port: RS-232 (please see the User's Manual for detailed operating instructions)

Memory: One SD socket

Software Features

Protocols: ICMP, IP, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP, DDNS, HTTP, SMTP, HTTPS, SSL, SSH, PPPoE

Utilities: Windows utility for Windows 98, ME, NT, 2000, XP, 2003, Vista, XP x64, 2003 x64, Vista x64

Security: DES/3DES/AES

OS Driver: Real COM drivers: Windows 95, 98, ME, NT, 2000, XP, XP x64, 2003, 2003 x64, Vista, Vista x64

Real TTY drivers: Linux 2.4 and 2.6

Fixed TTY drivers: SCO Unix, SCO OpenServer 5, OpenServer 6, UnixWare 7, UnixWare 2.1, SVR4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD 5, FreeBSD 6

Configuration: Web Console, Serial/Telnet Console, Windows utility

Power Requirements

Power Input: 12 to 48 VDC

Mechanical Specifications

Material: SECC sheet metal (1 mm)

Environment

Operating Temperature: 0-55°C (32 to 131°F), 5 to 95% RH

Storage Temperature: -20 to 85°C (-4 to 185°F), 5 to 95%RH

Temperature:

Regulatory Approvals

EMC: FCC Class A, CE Class A

Safety: UL, CUL, TUV

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