NPort® 6250 Series

2-port RS-232/422/485 secure terminal servers

- Secure operation modes for Real COM, TCP Server, TCP Client, Pair Connection, Terminal, and Reverse Terminal
- Nonstandard baudrates supported with high precision
- Choice of network medium: 10/100BaseT(X) or 100BaseFX
- Enhanced remote configuration with HTTPS and SSH
- Port buffers for storing serial data when the Ethernet is offline
- Supports IPv6
- Generic serial commands supported in Command-by-Command mode
- ISA99 / IEC 62443-4-2 compliant

Overview

The 2-port NPort® 6250 device servers use the SSL and SSH protocols to transmit encrypted serial data over Ethernet. Models are available for connecting to a 10/100BaseT(X) copper Ethernet or 100BaseT(X) fiber network. Both single-mode and multi-mode fiber are supported.

Zero Data Loss if Ethernet Connection Fails

The NPort® 6250 device servers help guarantee reliability by providing users with secure serial-to-Ethernet data transmission and a customer-oriented hardware design. If the Ethernet connection fails, the NPort® 6250 will queue all serial data in its internal 64 KB port buffer. When the Ethernet connection is re-established, the NPort® 6250 will immediately release all of the 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 (NPort 6250-S-SC/6250-M-SC)

		100BaseFX		
		Multi-Mode		Single-Mode
Fiber Cable Type		OM1	50/125 µm 800 MHz*km	G.652
Typical Distance		4 km	5 km	40 km
Wave-length	Typical (nm)	1300		1310
	TX Range (nm)	1260 to 1360		1280 to 1340
	RX Range (nm)	1100 to 1600		1100 to 1600
Optical Power	TX Range (dBm)	-10 to -20		0 to -5
	RX Range (dBm)	-3 to -32		-3 to -34
	Link Budget (dB)	12		29
	Dispersion Penalty (dB)	3		1

Note: When connecting a single-mode fiber transceiver, we recommend using an attenuator to prevent damage caused by excessive optical power.
Note: Compute the "typical distance" of a specific fiber transceiver as follows: Link budget (dB) > dispersion penalty (dB) + total link loss (dB).

Serial Interface

Number of Ports: 2
Serial Standards: RS-232/422/485
Connector: DB9 male
RS-485 Data Direction Control: ADDC® (Automatic Data Direction Control)
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 nonstandard 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 slot (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, HTTPS
Security Protocols: SSLv3, TLSv1.0/1.1/1.2
Configuration Options: Web Console, Serial Console, Telnet Console, Windows Utility
Windows Real COM Drivers: Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1/10 (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: 730 g (1.61 lb)
Dimensions:
Without ears: 77 x 111 x 29 mm (3.30 x 4.37 x 1.1 in)
With ears: 89 x 111 x 29 mm (3.50 x 4.37 x 1.1 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)

Power Requirements

Input Voltage: 12 to 48 VDC
Input Current:
NPort 6250: 333 mA @ 12 VDC
NPort 6250-M-SC: 428 mA @ 12 VDC
NPort 6250-S-SC: 376 mA @ 12 VDC
Power Line Protection: 1 kV burst (EN 61000-4-4: EFT/B), 1 kV surge (EN 61000-4-5)

Standards and Certifications

Safety: UL 60950-1
EMC: EN 55022/24
EMI: CISPR 22, FCC Part 15B Class A
EMS:
IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV
IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m
IEC 61000-4-4 EFT: Power: 1 kV; Signal: 0.5 kV
IEC 61000-4-5 Surge: Power: 1 kV; Signal: 1 kV
IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m; Signal: 3 V/m
IEC 61000-4-8 PFMF
IEC 61000-4-11 DIPs
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
Transportation: NEMA TS2 (excluding fiber models)

Reliability

Alert Tools: Built-in buzzer and RTC (real-time clock)
Automatic Reboot Trigger: Built-in WDT (watchdog timer)

MTBF (mean time between failures)

Time:
NPort 6250: 1,947,486 hrs
NPort 6250 Multi-mode fiber: 1,092,794 hrs
NPort 6250 Single-mode fiber: 1,477,682 hrs
Standard: Telcordia (Bellcore) Standard TR/SR

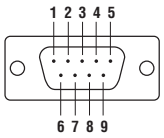
Warranty

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

Pin Assignment

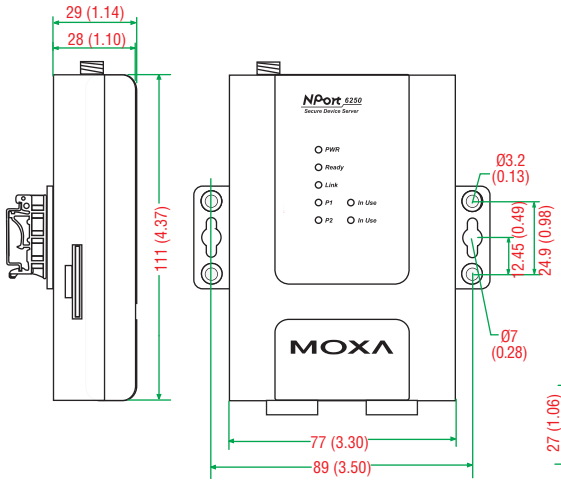
PIN	RS-232	RS-422/485-4w	RS-485-2w
1	DCD	TxD-(A)	–
2	RxD	TxD+(B)	–
3	TxD	RxD+(B)	Data+(B)
4	DTR	RxD-(A)	Data-(A)
5	GND	GND	GND
6	DSR	–	–
7	RTS	–	–
8	CTS	–	–

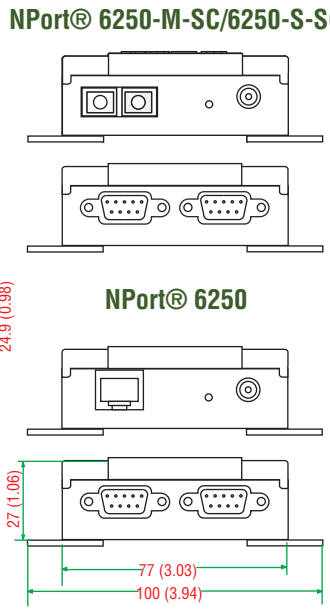
DB9 male connector



Dimensions

Unit: mm (inch)





Ordering Information

Available Models

NPort 6250: 2-port secure device server, RS-232/422/485 to Ethernet
NPort 6250-M-SC: 2-port secure device server, RS-232/422/485 to multi-mode fiber (SC connector)
NPort 6250-S-SC: 2-port secure device server, RS-232/422/485 to single-mode fiber (SC connector)
NPort 6250-T: 2-port secure device server, RS-232/422/485 to Ethernet, -40 to 75°C operating temperature
NPort 6250-M-SC-T: 2-port secure device server, RS-232/422/485 to multi-mode fiber (SC connector), -40 to 75°C operating temperature
NPort 6250-S-SC-T: 2-port secure device server, RS-232/422/485 to single-mode fiber (SC connector), -40 to 75°C operating temperature

Optional Accessories (can be purchased separately)

DK35A: DIN-rail mounting kit, 35 mm, 2 DIN-rail plates with 4 screws
CBL-PJ21NOPEN-BK-30: Locking barrel plug to bare-wires cable
Mini DB9F-to-TB: DB9(F) to terminal block connector
Note: One power adapter suitable for your region is included in the product package. Additional power adapters can be purchased separately. Please refer to the Power Accessory Selection Guide for details.

Package Checklist

- 1 NPort 6250 secure device server
- 100 to 240 VAC power adapter (excluding T models)*
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card

*For non-T models, the package includes one power adapter suitable for your region.

Power Accessory Selection Guide

Barrel Plug Type		Locking Barrel Plug	Power Cord					
O/P		12 VDC, 1.5 A, 100 to 240 VAC	10A/250V Power Cord, 183 cm					
Plug Type		CN	US	JP	EU	AU	UK	CN
Model Name		PWR-12150-CN-S2	PWC-C13US-3B-183	PWC-C13JP-3B-183	PWC-C13EU-3B-183	PWC-C13AU-3B-183	PWC-C13UK-3B-183	PWC-C13CN-3B-183
Appearance								
1 port	NPort 6150	✓	–	–	–	–	–	–
2 ports	NPort 6250	✓	–	–	–	–	–	–
	NPort 6250-M-SC	✓	–	–	–	–	–	–
	NPort 6250-S-SC	✓	–	–	–	–	–	–
4 ports	NPort 6450	✓	–	–	–	–	–	–
8 ports	NPort 6610-8	–	✓	✓	✓	✓	✓	✓
	NPort 6650-8	–	✓	✓	✓	✓	✓	✓
	CN2610-8	–	✓	✓	✓	✓	✓	✓
	CN2610-8-2AC	–	✓	✓	✓	✓	✓	✓
	CN2650-8	–	✓	✓	✓	✓	✓	✓
	CN2650-8-2AC	–	✓	✓	✓	✓	✓	✓
	CN2650I-8	–	✓	✓	✓	✓	✓	✓
	CN2650I-8-2AC	–	✓	✓	✓	✓	✓	✓
16 ports	NPort 6610-16	–	✓	✓	✓	✓	✓	✓
	NPort 6650-16	–	✓	✓	✓	✓	✓	✓
	CN2610-16	–	✓	✓	✓	✓	✓	✓
	CN2610-16-2AC	–	✓	✓	✓	✓	✓	✓
	CN2650-16	–	✓	✓	✓	✓	✓	✓
	CN2650-16-2AC	–	✓	✓	✓	✓	✓	✓
	CN2650I-16	–	✓	✓	✓	✓	✓	✓
	CN2650I-16-2AC	–	✓	✓	✓	✓	✓	✓
32 ports	NPort 6610-32	–	✓	✓	✓	✓	✓	✓

Barrel Plug Type		Locking barrel plug					
O/P		12 VDC, 2 A, 100 to 240 VDC (desktop type)	2.5A/250V Power Cord, 183 cm				
Plug Type		Must be used with one power cord	US	JP	EU	AU	UK
Model Name		PWR-12125-DT-S2	PWC-C7US-2B-183	PWC-C7JP-2B-183	PWC-C7EU-2B-183	PWC-C7AU-2B-183	PWC-C7UK-2B-183
Appearance							
1 port	NPort 6150	✓	✓	✓	✓	✓	✓
2 ports	NPort 6250	✓	✓	✓	✓	✓	✓
	NPort 6250-M-SC	✓	✓	✓	✓	✓	✓
	NPort 6250-S-SC	✓	✓	✓	✓	✓	✓
4 ports	NPort 6450	✓	✓	✓	✓	✓	✓
8 ports	NPort 6610-8	–	–	–	–	–	–
	NPort 6650-8	–	–	–	–	–	–
16 ports	NPort 6610-16	–	–	–	–	–	–
	NPort 6650-16	–	–	–	–	–	–
32 ports	NPort 6610-32	–	–	–	–	–	–