

1/2-port RS-232/422/485 secure terminal servers



Features and Benefits

- Secure operation modes for Real COM, TCP Server, TCP Client, Pair Connection, Terminal, and Reverse Terminal
- Supports nonstandard baudrates with high precision
- NPort 6250: 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
- Security features based on IEC 62443

Certifications



Introduction

The NPort® 6000 device servers use the SSL and SSH protocols to transmit encrypted serial data over Ethernet. The NPort® 6000's 3-in-1 serial port supports RS-232, RS-422, and RS-485, with the interface selected from an easy-to-access configuration menu. The NPort® 6000 2-port device servers 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.

Secure Data Transmission

For many applications, guaranteeing secure data transmission is an important concern when connecting serial devices to a network. To answer this concern, the NPort® 6000 supports the SSL and SSH protocols, which work by encrypting data before sending it over the network. With the NPort® 6000, users can rest assured that serial data is transmitted securely over both private and public networks.

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

Memory	
SD Slot	NPort 6200 Models: Up to 32 GB (SD 2.0 compatible)
Ethernet Interface	
10/100BaseT(X) Ports (RJ45 connector)	NPort 6150/6150-T: 1 NPort 6250/6250-T: 1 Auto MDI/MDI-X connection
100BaseFX Ports (multi-mode SC connector)	NPort 6250-M-SC Models: 1
100BaseFX Ports (single-mode SC connector)	NPort 6250-S-SC Models: 1

Magnetic Isolation Protection	1.5 kV (built-in)			
Optical Fiber			100BaseFX	
			Multi-Mode	Single-Mode
	Fiber Cable Type		OM1	50/125 μm
				800 MHz x km
	Typical Distance		4 km	5 km
	Wavelength	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).			

Ethernet Software Features

Configuration Options	Web Console (HTTP/HTTPS), Windows Utility, Device Search Utility (DSU), MCC Tool, Serial Console, Telnet/SSH Console
Management	ARP, BOOTP, DHCP Client, DNS, HTTP, ICMP, IPv4/IPv6, PPPOE, SMTP, SNMPv1/v2c/v3, SNTP, TCP/IP, Telnet, UDP
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 R2/2016/2019 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded
Linux Real TTY Drivers	Kernel versions: 2.4.x, 2.6.x, 3.x, 4.x, and 5.x
Fixed TTY Drivers	SCO UNIX, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6.x, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X, macOS 10.12, macOS 10.13, macOS 10.14, macOS 10.15
Android API	Android 3.1.x and later
MIB	MIB-II
Time Management	SNTP Client
Unicast Routing	RIPV1/V2, Static Route

Security Functions

Authentication	Local database, RADIUS, TACACS+
Encryption	HTTPS, AES-128, AES-256, HMAC, RSA-1024, SHA-1, SHA-256, SHA-384
Security Protocols	HTTPS (TLS 1.2), SNMPv3, SSHv2

Serial Interface

Connector	DB9 male
No. of Ports	NPort 6150 Models: 1 NPort 6250 Models: 2

Serial Standards	RS-232, RS-422, RS-485
Secure Operation Modes	Reverse SSH, Secure Pair Connection, Secure Real COM, Secure TCP Client, Secure TCP Server, SSH
Standard Operation Modes	Disabled, Ethernet Modem, Pair Connection, PPP, Printer, Real COM, Reverse Telnet, RFC2217, TCP Client, TCP Server, Terminal, UDP
Baudrate	50 bps to 921.6 kbps (supports non-standard baudrates)
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Flow Control	RTS/CTS, DTR/DSR, XON/XOFF
Parity	None, Even, Odd, Space, Mark
Pull High/Low Resistor for RS-485	1 kilo-ohm, 150 kilo-ohms
RS-485 Data Direction Control	ADDC® (automatic data direction control)
Terminator for RS-485	120 ohms

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

Power Parameters

Input Current	NPort 6150/6150-T : 12-48 Vdc, 285 mA NPort 6250/6250-T: 12-48 Vdc, 430 mA NPort 6250-M-SC/6250-M-SC-T: 12-48 Vdc, 430 mA NPort 6250-S-SC/6250-S-SC-T: 12-48 Vdc, 430 mA
Input Voltage	12 to 48 VDC

Reliability

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

Physical Characteristics

Housing	Metal
Dimensions (with ears)	NPort 6150 Models: 90 x 100.4 x 29 mm (3.54 x 3.95 x 1.1 in) NPort 6250 Models: 89 x 111 x 29 mm (3.50 x 4.37 x 1.1 in)
Dimensions (without ears)	NPort 6150 Models: 67 x 100.4 x 29 mm (2.64 x 3.95 x 1.1 in) NPort 6250 Models: 77 x 111 x 29 mm (3.03 x 4.37 x 1.1 in)
Weight	NPort 6150 Models: 190 g (0.42 lb) NPort 6250 Models: 240 g (0.53 lb)
Installation	Desktop, DIN-rail mounting (with optional kit), Wall mounting

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 (package included)	-40 to 75°C (-40 to 167°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

Standards and Certifications

EMC	EN 55032/35
EMI	CISPR 32, 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(AC), 0.5 kV(DC); Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 1 kV(AC), 0.5 kV(DC); Signal: 1 kV IEC 61000-4-6 CS: 3 V IEC 61000-4-8 PFMF IEC 61000-4-11
Traffic Control	NEMA TS2
Vibration	IEC 60068-2-6
Freefall	IEC 60068-2-34
Safety	UL 60950-1, UL 62368-1

Declaration

Green Product	RoHS, CRoHS, WEEE
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MTBF

Time	NPort 6150/6150-T: 1,934,102 hrs NPort 6250/6250-T: 1,606,182 hrs NPort 6250-M-SC/6250-M-SC-T: 1,526,091 hrs NPort 6250-S-SC/6250-S-SC-T: 1,526,091 hrs
Standards	Telcordia (Bellcore) Standard TR/SR

Warranty

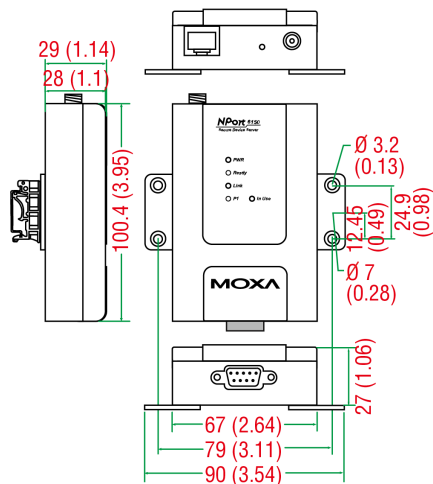
Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

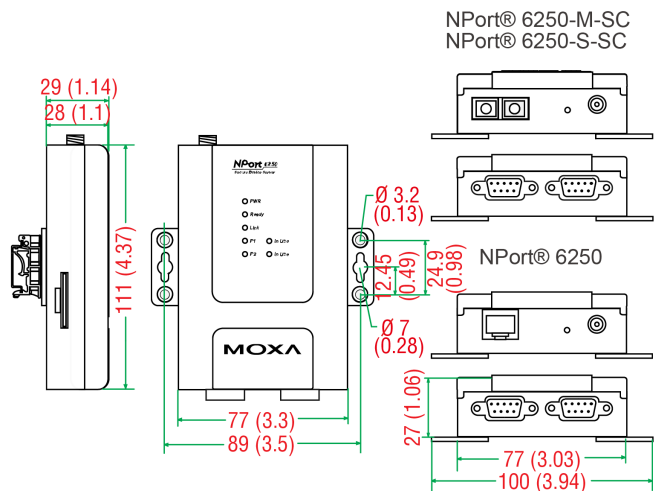
Device	1 x NPort 6100/6200 Series terminal server
Power Supply	1 x power adapter, suitable for your region (except for -T models)
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm (inch)



Unit: mm (inch)



Ordering Information

Model Name	Ethernet Interface	No. of Serial Ports	SD Card Support	Operating Temp.	Traffic Control Certificates	Power Supply Included
NPort 6150	RJ45	1	–	0 to 55°C	NEMA TS2	✓
NPort 6150-T	RJ45	1	–	-40 to 75°C	NEMA TS2	–
NPort 6250	RJ45	2	Up to 32 GB (SD 2.0 compatible)	0 to 55°C	NEMA TS2	✓
NPort 6250-M-SC	Multi-mode SC fiber connector	2	Up to 32 GB (SD 2.0 compatible)	0 to 55°C	NEMA TS2	✓
NPort 6250-S-SC	Single-mode SC fiber connector	2	Up to 32 GB (SD 2.0 compatible)	0 to 55°C	NEMA TS2	✓
NPort 6250-T	RJ45	2	Up to 32 GB (SD 2.0 compatible)	-40 to 75°C	NEMA TS2	–
NPort 6250-M-SC-T	Multi-mode SC fiber connector	2	Up to 32 GB (SD 2.0 compatible)	-40 to 75°C	NEMA TS2	–
NPort 6250-S-SC-T	Single-mode SC fiber connector	2	Up to 32 GB (SD 2.0 compatible)	-40 to 75°C	NEMA TS2	–

Accessories (sold separately)

Connectors

ADP-RJ458P-DB9F	DB9 female to RJ45 connector
Mini DB9F-to-TB	DB9 female to terminal block connector

DIN-Rail Mounting Kits

DK35A	DIN-rail mounting kit, 35 mm
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Power Adapters

PWR-12125-DT-S2	Desktop power supply (requires power cord), 12 VDC, 1.25 A, 100-240 VAC, 0 to 40°C operating temperature
PWR-12150-AU-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100-240 VAC, Australia (AU) plug, -40 to 75°C operating temperature Applicable Models: NPort 6150-T NPort 6250-T NPort 6250-M-SC-T

	NPort 6250-S-SC-T
PWR-12150-CN-SA-T	Wide-temperature (-40 to 75°C) locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, China (CN) plug Applicable Models: NPort 6150-T NPort 6250-T NPort 6250-M-SC-T NPort 6250-S-SC-T
PWR-12150-EU-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100-240 VAC, Continental Europe (EU) plug, -40 to 75°C operating temperature Applicable Models: NPort 6150-T NPort 6250-T NPort 6250-M-SC-T NPort 6250-S-SC-T
PWR-12150-UK-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100-240 VAC, United Kingdom (UK) plug, -40 to 75°C operating temperature Applicable Models: NPort 6150-T NPort 6250-T NPort 6250-M-SC-T NPort 6250-S-SC-T
PWR-12150-USJP-SA-T	Locking barrel plug, 12 VDC 1.5 A, 100-240 VAC, United States/Japan (US/JP) plug, -40 to 75°C operating temperature Applicable Models: NPort 6150-T NPort 6250-T NPort 6250-M-SC-T NPort 6250-S-SC-T

Power Cords

CBL-PJ21NOPEN-BK-30	Locking barrel plug to bare-wire cable
PWC-C7AU-2B-183	Power cord with Australian (AU) plug, 2.5A/250V, 1.83 m
PWC-C7EU-2B-183	Power cord with Continental Europe (EU) plug, 2.5A/250V, 1.83 m
PWC-C7UK-2B-183	Power cord with United Kingdom (UK) plug, 2.5A/250V, 1.83 m
PWC-C7US-2B-183	Power cord with United States (US) plug, 10A/125V, 1.83 m
PWC-C7JP-2B-183	Power cord with Japan (JP) plug, 7A/125V, 1.83 m

Wall-Mounting Kits

WK-35-02	Wall-mounting kit, 2 plates, 6 screws
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