

NPort 6100/6200 Series

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 TLS 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 TLS 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)
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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	G.652
			800 MHz x km	
	Typical Distance		4 km	5 km
	Wavelength	Typical (nm)	1300	
		TX Range (nm)	1260 to 1360	
		RX Range (nm)	1100 to 1600	
	Optical Power	TX Range (dBm)	-10 to -20	
		RX Range (dBm)	-3 to -32	
		Link Budget (dB)	12	
		Dispersion Penalty (dB)	3	
<p>Note: When connecting a single-mode fiber transceiver, we recommend using an attenuator to prevent damage caused by excessive optical power.</p> <p>Note: Compute the “typical distance” of a specific fiber transceiver as follows: Link budget (dB) > dispersion penalty (dB) + total link loss (dB).</p>				

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 LLDP PPPOE SMTP SNMPv1/v2c/v3 SNTP TCP/IP Telnet UDP
Windows Real COM Drivers	Windows 11/10/8.1/8/7/Vista/XP/ME/98/95 Windows Server 2022/2019/2016/2012 R2/2012/2008 R2/2008/2003 Windows Embedded CE 6.0/5.0, Windows XP Embedded
Linux Real TTY Drivers	Kernel versions 6.x, 5.x, 4.x, 3.x, 2.6.x, and 2.4.x
Fixed TTY Drivers	macOS Versions: 11.x, 10.12 to 10.15 SCO UNIX, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6.x, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X
Arm®-based Platform Support	Linux Kernel 5.x/4.x
Virtual Machine	VMWare ESXi (Windows 11/10) VMware Fusion (Windows on macOS 10.12 to 11.x) Parallels Desktop (Windows on macOS 10.12 to 11.x)

Android API	Android 3.1.x and later
Time Management	SNTP Client
MIB	MIB-II
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	Automatic Data Direction Control (ADDC)
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: 101 x 111 x 29 mm (3.98 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 (3.30 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

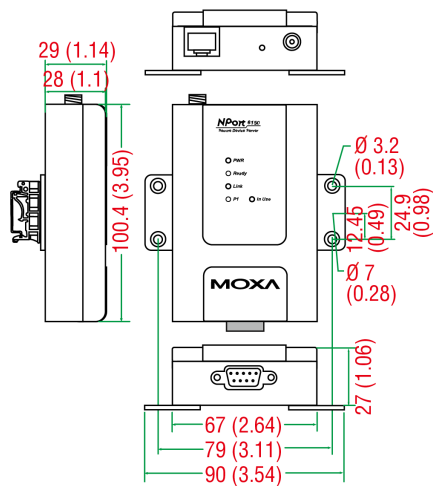
Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

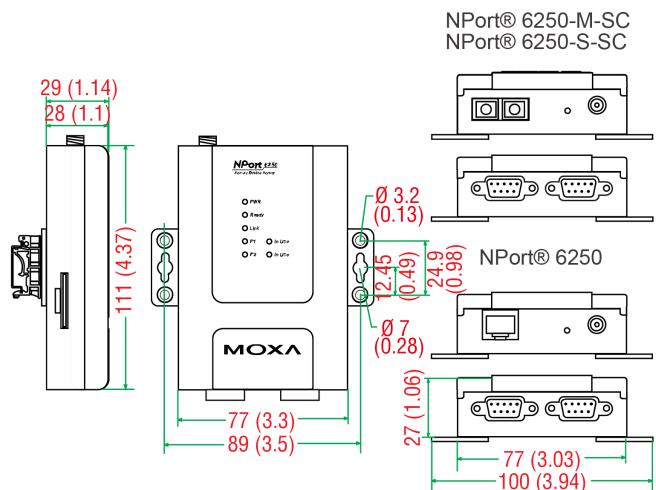
Device	1 x NPort 6100/6200 Series terminal server
Power Supply	1 x power adapter, suitable for your region (except for -T models)
Documentation	1 x quick installation guide 1 x warranty card

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	-

Model Name	Ethernet Interface	No. of Serial Ports	SD Card Support	Operating Temp.	Traffic Control Certificates	Power Supply Included
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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Wall-Mounting Kits

WK-35-02	Wall-mounting kit with 2 plates (35 x 24 x 1.2 mm) and 6 screws
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Power Cords

CBL-PJ21NOPE-BK-30	Locking barrel plug to bare-wire cable
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Power Adapters

PWR-12150-WPAU-S4	Locking barrel plug with 12 VDC, 1.5 A, 100 to 240 VAC, AU plug, 0 to 40°C operating temperature
PWR-12150-WPCN-S4	Locking barrel plug with 12 VDC, 1.5 A, 100 to 240 VAC, CN plug, 0 to 40°C operating temperature
PWR-12150-WPEU-S4	Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, EU plug, 0 to 40°C operating temperature
PWR-12150-WPKR-S4	Locking barrel plug with 12 VDC, 1.5 A, 100 to 240 VAC, KR plug, 0 to 40°C operating temperature
PWR-12150-WPUK-S4	Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, UK plug, 0 to 40°C operating temperature
PWR-12150-WPUSJP-S4	Locking barrel plug with 12 VDC, 1.5 A, 100 to 240 VAC, US/JP plug, 0 to 40°C operating temperature
PWR-12150-AU-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, 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	Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, CN 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-EU-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, 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	<p>Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, UK plug, -40 to 75°C operating temperature</p> <p>Applicable Models: NPort 6150-T NPort 6250-T NPort 6250-M-SC-T NPort 6250-S-SC-T</p>
PWR-12150-USJP-SA-T	<p>Locking barrel plug, 12 VDC 1.5 A, 100 to 240 VAC, US/JP plug, -40 to 75°C operating temperature</p> <p>Applicable Models: NPort 6150-T NPort 6250-T NPort 6250-M-SC-T NPort 6250-S-SC-T</p>

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