

NPort 6400-G2 Series

2nd Gen 4-port RS-232/422/485 secure terminal servers

Preliminary



Features and Benefits

- Data encryption with secure operation modes for Real COM, TCP Server, TCP Client, Pair Connection, Terminal, and Reverse Terminal
- Secure Boot only allows Moxa-authorized firmware to run on devices
- One-click log collection and application analysis for easy troubleshooting
- Easy RS-485 configuration of serial interfaces with software-adjustable pull high/low resistor and terminator
- Supports SSL certificate signing by RSA-4096 / ECC-521
- IEC 62443-4-2 Security Level 2 certified

Certifications



Introduction

Moxa has leveraged the IEC 62443-4-1 secure development life-cycle process to develop a new generation of secure terminal servers. The NPort 6400-G2 Series secure terminal servers are also IEC 62443-4-2 Security Level 2 certified, enabling secure connections for your legacy serial devices to industrial networks. In addition, user experience is enhanced based on Moxa's 35 years of experience in the serial-connectivity field by providing versatile installation means for different space requirements and an easy-to-use troubleshooting tool for maintenance.

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® 6400-G2 secure terminal servers support the TLS and SSH protocols, which work by encrypting data before sending it over the network. With the NPort® 6400-G2, you can be rest assured that serial data is transmitted securely over both private and public networks.

One-click Logs and Application Analysis for Easy Troubleshooting

During the deployment stage, system integrators must connect devices and ensure the communication is smooth. They may encounter issues and will require tools to troubleshoot issues. Moxa provides a application analyzer that generates a report at the click of a button to help the system integrator easily identify potential issues and understand how to resolve them.

At the maintenance stage, system errors may require you to call for help. Device vendors might take a long time to troubleshoot issues because they need to collect information and then hold discussions with the technical support team. The NPort 6400-G2 comes with a one-click log collection function, which can provide all the data that a technical support team needs to quickly troubleshoot system issues.

Specifications

Memory

SD Slot	microSD card Up to 2 TB (high speed, 25 Mbps)
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Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	1 to 3, Auto MDI/MDI-X connection
Magnetic Isolation Protection	1.5 kV (built-in)

Ethernet Software Features

Configuration Options	Web Console (HTTP/HTTPS), Windows Utility, Device Search Utility (DSU), MCC Tool, Serial Console
Management	ARP, DHCP Client, DNS, HTTPS, ICMP, IPv4/IPv6, SMTP, SMTPS, SNMPv1/v2c/v3, SNTP, TCP/IP, UDP, WINS
Windows Real COM Drivers	Windows 11, 10, 8.1, 8, and 7

	Windows Server 2022, 2019, 2016, 2012 R2, 2012, and 2008 R2
Linux Real TTY Drivers	Kernel versions 6.x, 5.x, and 4.x
Fixed TTY Drivers	macOS versions: 14, 13, 12, and 11
Arm®-based Platform Support	Windows 11 Linux kernel 6.x, 5.x, and 4.x macOS 14, 13, 12, and 11
Virtual Machine	VMWare ESXi (Windows 11/10/8.1/8/7 & Linux 6.x, 5.x, and 4.x) VMware Fusion (Windows on macOS 14, 13, 12, and 11) Parallels Desktop (Windows on macOS 14, 13, 12, and 11)
Time Management	SNTP Client
MIB	MIB-II, RFC1213, RFC1317, Private MIB
Unicast Routing	RIPV1/V2, Static Route

Security Functions

Root of Trust	Secure Boot, True Random Number Generator (TRNG), Security Screws
Authentication	Local database, RADIUS, TACACS+
Encryption	HTTPS: ECC-256, ECC-384, ECC-521, RSA-1024, RSA-2048, RSA-3072, RSA-4096, AES-128, AES-256, CHACHA20, SHA-256, SHA-384, HMAC SSH: ECC-256, ECC-384, ECC-521, RSA-2048, AES-128, AES-256, SHA-256, SHA-384, HMAC SNMPv3: AES-128, SHA-256, SHA-384 Secure OP mode: HTTPS: ECC-256, ECC-384, ECC-521, RSA-1024, RSA-2048, RSA-3072, RSA-4096, AES-128, AES-256, CHACHA20, SHA-256, SHA-384, HMAC Config Import/Export: AES-256, SHA-256, HMAC
Security Protocols	HTTPS (TLS 1.2/1.3), SNMPv3, SSHv2

Serial Interface

No. of Ports	4
Connector	DB9 male
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, Secure Redundant COM, Secure Reverse Real COM
Standard Operation Modes	Disabled, Pair Connection, SLIP, PPP, Real COM, Reverse Terminal, RFC2217, TCP Client, TCP Server, Terminal, UDP, Redundant COM, Reverse Real COM
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	None, RTS/CTS, DTR/DSR, RTS Toggle, XON/XOFF
Parity	None, Even, Odd, Space, Mark
RS-485 Data Direction Control	Automatic Data Direction Control (ADDC)

Terminator for RS-485	120 ohms, (software- configurable)
Pull High/Low Resistor for RS-485	1 kilo-ohm, 150 kilo-ohms, (software- configurable)
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	373 mA (max.)
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)	158 x 114.4 x 30 mm (6.22 x 4.5 x 1.18 in)
Weight	538 g (1.186 lb)
Installation	Desktop, DIN-rail mounting (with optional kit), Wall mounting
Environmental Limits	
Operating Temperature	Standard models: -10 to 60°C (14 to 140°F) Standard models with power adapter (in the box): 0 to 40°C (32 to 104°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; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 1 kV, Signal: 0.5 kV IEC 61000-4-6 CS: 3 V IEC 61000-4-8 PFMF IEC 61000-4-11
Safety	IEC 62368-1, UL 62368-1, EN 62368-1
Traffic Control	NEMA TS2
Vibration	IEC 60068-2-6
Package Drop Test	ISTA 1A

Declaration

Green Product

RoHS, CRoHS, WEEE

MTBF

Time	NPort 6450-G2: 29,716 hrs NPort 6450-2TX-G2: 29,713 hrs NPort 6450-2M-SC-G2-T: 2,664,201 hrs NPort 6450-2S-SC-G2-T: 2,664,201 hrs
Standards	Telcordia Standard SR-332, Telcordia SR-332 Issue 4

Warranty

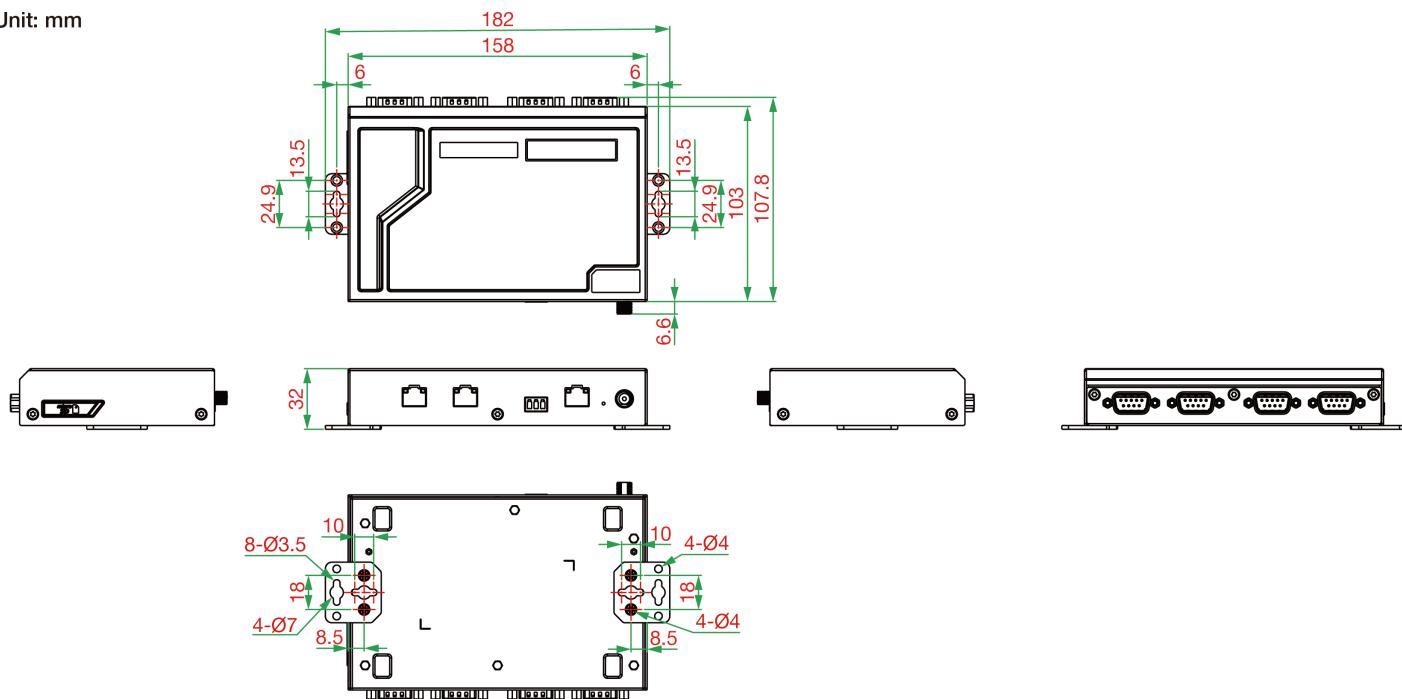
Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x NPort 6400-G2 Series terminal server
Power Supply	NPort 6450-G2/NPort 6450-2TX-G2: 1 x power adapter, suitable for your region
Installation Kit	1 x wall-mounting kit, (WK-32-01)
Documentation	1 x quick installation guide

Dimensions

Unit: mm



Ordering Information

Model Name	Ethernet Ports	No. of Serial Ports	Serial Standards	No. of Power Modules	Power Adapter Included?	Operating Temp.
NPort 6450-G2	1 x 10/100M RJ45	4	RS-232/422/485	1	✓	-10 to 60°C
NPort 6450-G2-T	1 x 10/100M RJ45	4	RS-232/422/485	1	-	-40 to 75°C
NPort 6450-2TX-G2	3 x 10/100M RJ45	4	RS-232/422/485	1	✓	-10 to 60°C
NPort 6450-2TX-G2-T	3 x 10/100M RJ45	4	RS-232/422/485	1	-	-40 to 75°C

Model Name	Ethernet Ports	No. of Serial Ports	Serial Standards	No. of Power Modules	Power Adapter Included?	Operating Temp.
NPort 6450-2M-SC-G2-T	1 x 10/100M RJ45 2 x 100M Multi-mode SC	4	RS-232/422/485	1	–	-40 to 75°C
NPort 6450-2S-SC-G2-T	1 x 10/100M RJ45 2 x 100M Single-mode SC	4	RS-232/422/485	1	–	-40 to 75°C

Accessories (sold separately)

Cables

CBL-F9M9-20	DB9 female to DB9 male serial cable, 20 cm
CBL-F9M9-150	DB9 female to DB9 male serial cable, 1.5 m

Connectors

ADP-RJ458P-DB9F	DB9 female to RJ45 connector
Mini DB9F-to-TB	DB9 female to terminal block connector
LB-DB9F-G-01	Serial loopback DB9 adaptor

DIN-Rail Mounting Kits

DK-43-01	DIN-rail mounting kit with 2 plates (42.5 x 19.3 mm), 4 M3 x 6 mm screws (black)
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Wall-Mounting Kits

WK-32-01	Wall-mounting kit with 2 plates (32 x 29.5 mm), 4 M3 x 6 mm screws
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Power Cords

CBL-PJ21NOPEN-BK-30 w/Nut	CBL-PJ21NOPEN-BK-30 w/Nut
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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-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-WPEU-S4	Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, EU 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
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
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
PWR-12150-UK-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, UK plug, -40 to 75°C operating temperature
PWR-12150-USJP-SA-T	Locking barrel plug, 12 VDC 1.5 A, 100 to 240 VAC, US/JP plug, -40 to 75°C operating temperature

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