NPort 6400-G2 Series

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

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

CE FC c(UL)us LISTED NEMA TS2

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)

Ethernet Interface

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

MOXA
Reliable Networks ▲ Sincere Service

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+
Security Protocols	HTTPS (TLS 1.2/1.3) SNMPv3 SSHv2
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

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	NPort 6450-G2: 538 g (1.186 lb) NPort 6450-2TX-G2: 546 g (1.204 lb) NPort 6450-G2-T: 522 g (1.151 lb) NPort 6450-2TX-G2-T: 530 g (1.168 lb) NPort 6450-2M/-2S-SC-G2-T: 535 g (1.179 lb)
Weight (including package)	NPort 6450-G2: 900 g (1.984 lb) NPort 6450-2TX-G2: 908 g (2.002 lb) NPort 6450-G2-T: 690 g (1.521 lb) NPort 6450-2TX-G2-T: 698 g (1.539 lb) NPort 6450-2M/-2S-SC-G2-T: 705 g (1.554 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 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

MOXA®
Reliable Networks ▲ Sincere Service

MTBF

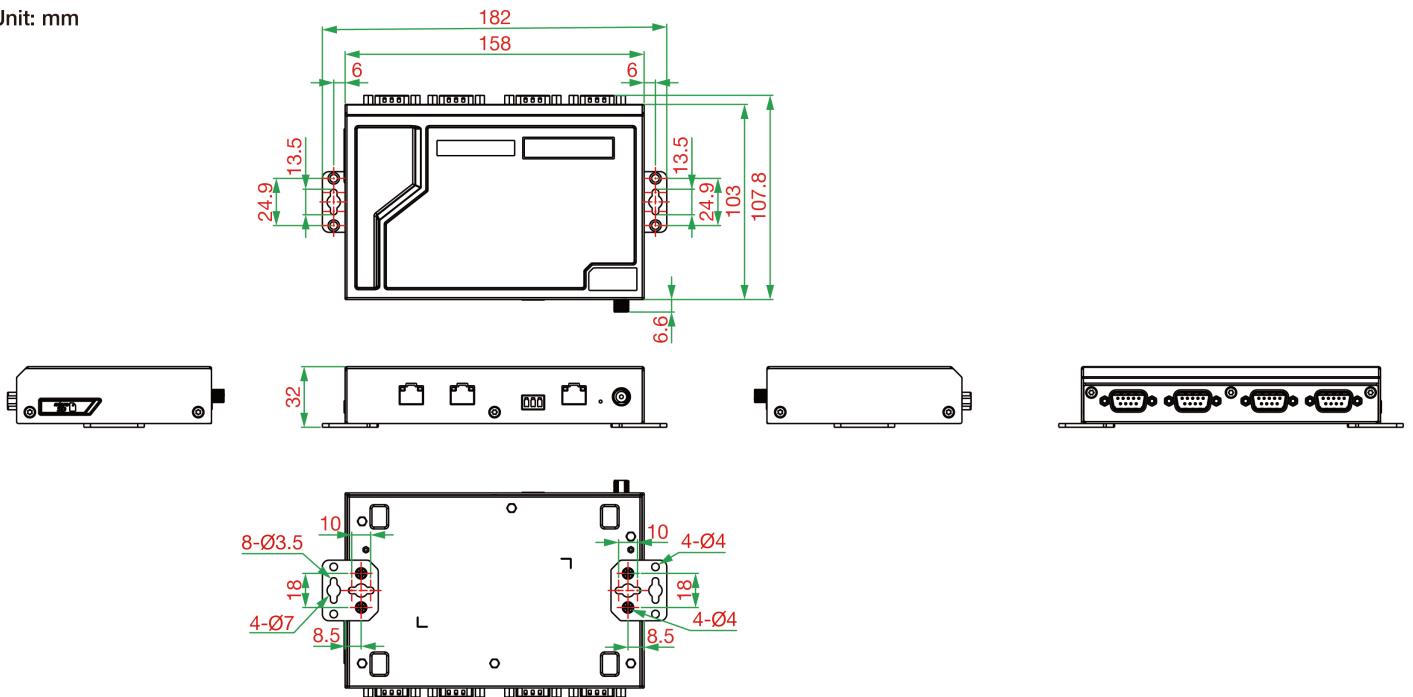| Time	NPort 6450-G2: 29,716 hrs
	NPort 6450-2TX-G2: 29,713 hrs
	NPort 6450-2M-SC-G2-T: 2,664,201 hrs
	NPort 6450-2S-SC-G2-T: 2,664,201 hrs
Standards	Telcordia Standard SR-332
	Telcordia SR-332 Issue 4

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	Power Adapter Included?	Operating Temp.
NPort 6450-G2	1 x 10/100M RJ45	4	RS-232/422/485	✓	-10 to 60°C
NPort 6450-G2-T	1 x 10/100M RJ45	4	RS-232/422/485	–	-40 to 75°C
NPort 6450-2TX-G2	3 x 10/100M RJ45	4	RS-232/422/485	✓	-10 to 60°C
NPort 6450-2TX-G2-T	3 x 10/100M RJ45	4	RS-232/422/485	–	-40 to 75°C

MOXA®
Reliable Networks ▲ Sincere Service

Model Name	Ethernet Ports	No. of Serial Ports	Serial Standards	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	–	-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	–	-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)

Wall-Mounting Kits

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

Power Cords

CBL-PJ21NOPEN-BK-30 w/Nut	CBL-PJ21NOPEN-BK-30 w/Nut

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