

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



Introduction

The NPort® 6000-G2 Series is a next-generation secure device server designed to provide secure, reliable, and easy-to-manage serial-to-Ethernet connectivity for industrial applications. A management console supports HTTPS with TLS 1.2/1.3, while serial data transmitted over Ethernet can also be protected with TLS encryption to ensure communication security and data integrity. Designed for seamless integration with enterprise IT security infrastructure, the NPort® 6000-G2 supports RADIUS and TACACS+ authentication, SNMP Inform/Trap for centralized event monitoring and alerts, and remote syslog for security auditing. Primary and backup server configurations are supported to enhance service availability and reliability. For easier serial port configuration and troubleshooting, the NPort® 6000-G2 provides software-configurable pull high/low resistors and terminators, along with a one-click application analyzer to help users quickly identify communication issues during on-site maintenance.

IEC 62443-4-2 Security Level 2 Certified

The NPort 6400-G2 Series is IEC 62443-4-2 Security Level 2 certified, making it easier for asset owners and system integrators to integrate IIoT applications by providing a secure platform that has already been tested and validated to protect IIoT data and infrastructure against cyberthreats.

IEC 62443-4-2 Security Level 2 certificate:

<https://certificates.iecee.org/#/deliverables/CERT/2018356/view>

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
100BaseFX Ports (multi-mode SC connector)	NPort 6450-2M-SC-G2-T: 2

100BaseFX Ports (single-mode SC connector)	NPort 6450-2S-SC-G2-T: 2
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)
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	Secure Real COM, Secure TCP Server, Secure TCP Client, Reverse SSH, SSH, Secure Pair Connection, Secure Redundant COM, Secure Reverse Real COM
Standard Operation Modes	Real COM, RFC2217, TCP Server, TCP Client, Reverse Terminal, Terminal, UDP, Pair Connection, PPP, SLIP, Redundant COM, Reverse Real COM, Disable
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 (without ears)	158 x 114.4 x 30 mm (6.22 x 4.50 x 1.18 in)
Dimensions (with ears)	182 x 114.4 x 30 mm (7.17 x 4.50 x 1.18 in)
Weight	NPort 6450-G2: 538 g (1.186 lb) NPort 6450-G2-T: 522 g (1.151 lb) NPort 6450-2TX-G2: 546 g (1.204 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-G2-T: 690 g (1.521 lb) NPort 6450-2TX-G2: 908 g (2.002 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 (included in the package): 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
Cybersecurity	IEC 62443-4-2 Security Level 2
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-G2-T: 3,131,460 hrs NPort 6450-2TX-G2: 29,713 hrs NPort 6450-2TX-G2-T: 3,100,643 hrs NPort 6450-2M/2S-SC-G2-T: 2,664,201 hrs
Standards	Telcordia Standard SR-332 Telcordia SR-332 Standard Issue 4

Warranty

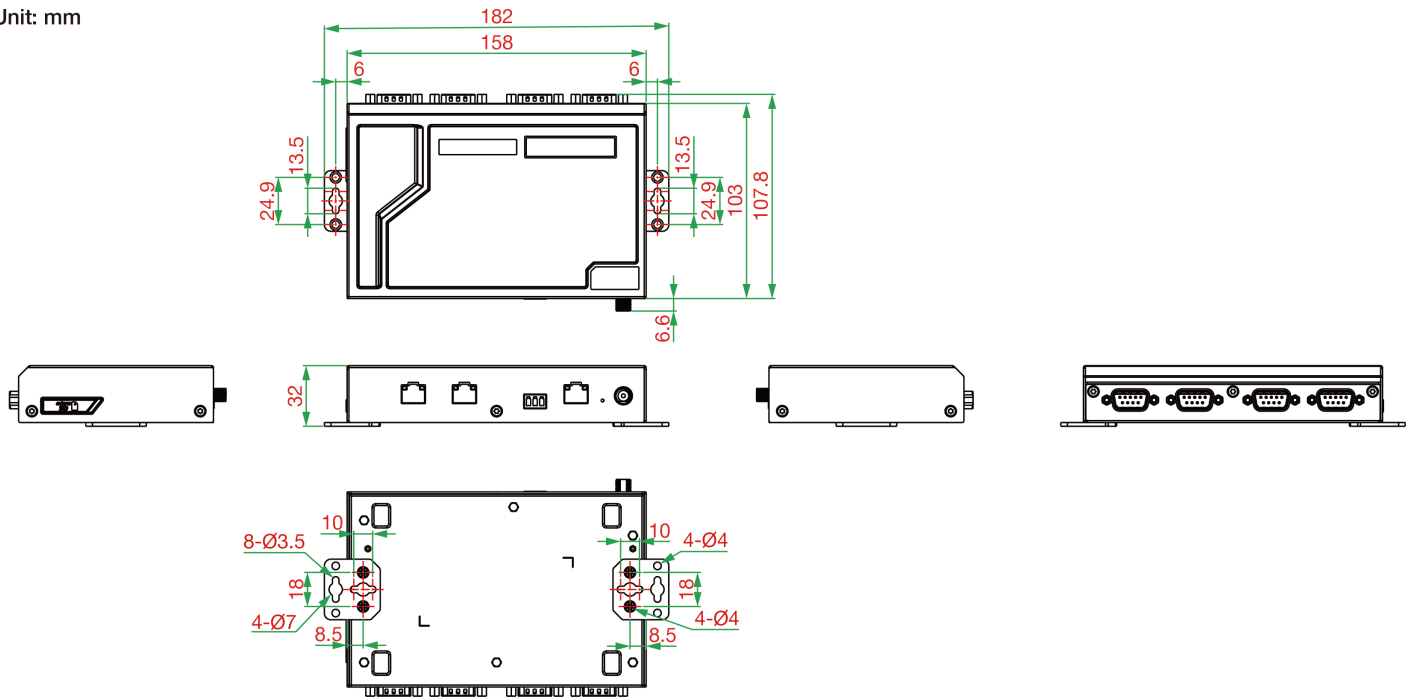
Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x NPort 6400-G2 Series terminal server
Power Supply	NPort 6450-G2 and 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
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

© Moxa Inc. All rights reserved. Updated Sep 16, 2026.

This document and any portion thereof may not be reproduced or used in any manner whatsoever without the express written permission of Moxa Inc. Product specifications subject to change without notice. Visit our website for the most up-to-date product information.