

NPort 6100-G2/6200-G2 Series

2nd Gen 1/2-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
- Supports SSL certificate signing by RSA-4096 / ECC-521
- Secure Boot only allows Moxa-authorized firmware to run on devices
- One-click log collection and application analysis for easy troubleshooting
- Side-mount installation option and two-sided LEDs to meet all installation scenarios and enable system downsizing
- Easy RS-485 configuration of serial interfaces with software-adjustable pull high/low resistor and terminator
- IEC 62443-4-2 Security Level 2 certified

Certifications



Introduction

The NPort 6000-G2 device servers use the TLS v1.2/v1.3 and SSHv2 protocols to transmit encrypted serial data over the Ethernet. The NPort 6000-G2's 3-in-1 serial port supports RS-232, RS-422, and RS-485 with the interface selected via an easy-to-use configuration menu. Furthermore, the pull high/low resistors and terminators are software configurable, eliminating the need to open the product case to adjust them.

IEC 62443-4-2 Security Level 2 Certified

The NPort 6100-G2/6200-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® 6100-G2/6200-G2 secure terminal servers support the TLS and SSH protocols, which work by encrypting data before sending it over the network. With the NPort® 6100-G2/6200-G2, you can be rest assured that serial data is transmitted securely over both private and public networks.

Easy Provisioning With Side-mount and Software-configurable Pull High/low Resistors and Terminator

In line with the trend for smaller systems and easier setup, the NPort® 6100-G2/6200-G2 secure terminal servers support side-mount installation and two-sided LEDs to fit in a variety of installation scenarios with the added benefit of reduction in the system size. The software-configurable pull high/low resistors and terminator function eliminate the requirement to open the chassis to adjust the pull high/low resistors or terminators, making it convenient for operators to install the devices at field sites.

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 an 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 hold discussions with the technical support team. The NPort 6100-G2/6200-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	NPort 6200-G2 models: microSD card Up to 2 TB (high speed, 25 Mbps)
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Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	1 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	
Connector	DB9 male
No. of Ports	NPort 6150-G2 models: 1 NPort 6250-G2 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 Pair Connection SLIP PPP Real COM Reverse Terminal 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	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	12 to 48 VDC, 160 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)	NPort 6150-G2 models: 64 x 111.8 x 25 mm (2.52 x 4.4 x 0.98 in) NPort 6250-G2 models: 76.3 x 122.4 x 25 mm (3 x 4.82 x 0.98 in)
Weight	Product only: NPort 6150-G2 models: 228 g (0.50 lb) NPort 6250-G2 models: 278 g (0.61 lb) Product with package: NPort 6150-G2: 437 g (0.96 lb) NPort 6150-G2-T: 302 g (0.67 lb) NPort 6250-G2: 487 g (1.07 lb) NPort 6250-G2-T: 352 g (0.78 lb)
Installation	Desktop DIN-rail mounting (with optional kit) Wall mounting (with optional kit) Side-panel mounting (with optional kit)
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 (AC), 0.5 kV (DC); Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 1 kV (AC), 0.5 kV (DC); Signal: 0.5 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 JC-STAR Level 1
International Approval	KC
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
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MTBF

Time	NPort 6150-G2/6150-G2-T: 3,843,653 hrs NPort 6250-G2/6250-G2-T: 3,351,651 hrs
Standards	Telcordia Standard SR-332 Telcordia SR-332 Issue 4

Warranty

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

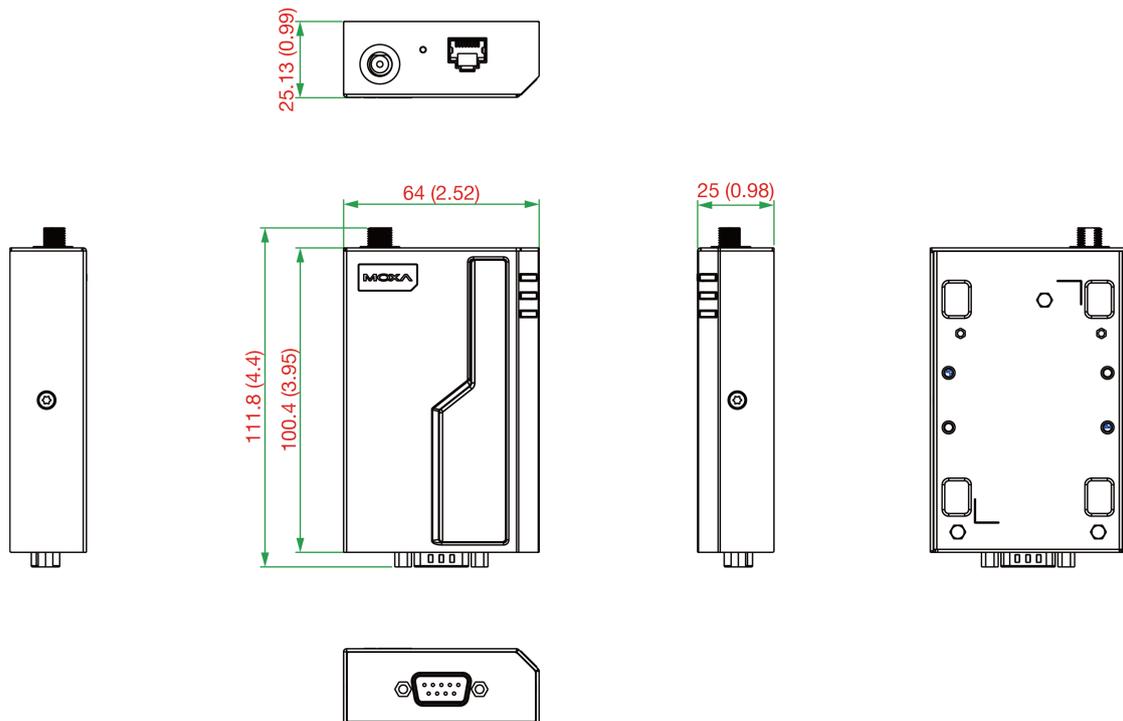
Package Contents

Device	1 x NPort 6100-G2/6200-G2 Series terminal server
Power Supply	1 x power adapter, suitable for your region (except for -T models)
Installation Kit	1 x wall-mounting kit (WK-32-01)
Documentation	1 x quick installation guide

Dimensions

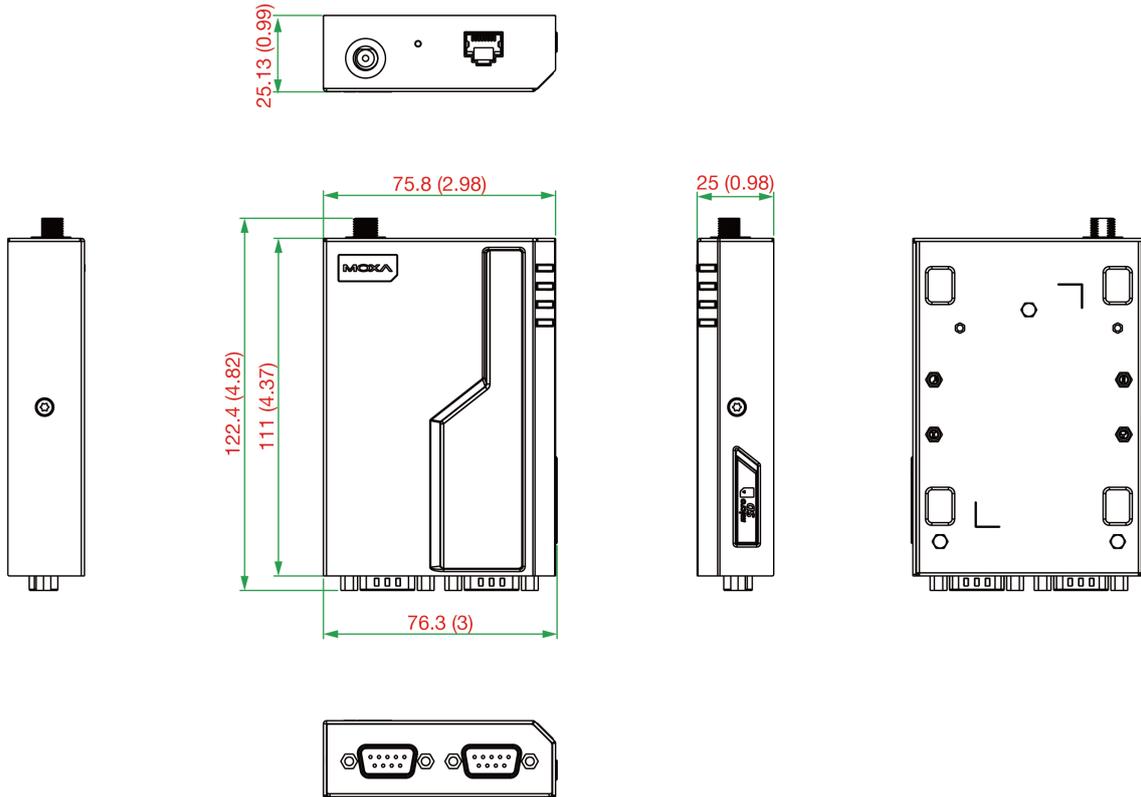
NPort 6150-G2 Models

Unit: mm (inch)



NPort 6250-G2 Models

Unit: mm (inch)



Ordering Information

Model Name	Ethernet Interface	No. of Serial Ports	SD Card Support	Operating Temp.	Power Supply Included
NPort 6150-G2	RJ45	1	-	-10 to 60°C	✓
NPort 6150-G2-T	RJ45	1	-	-40 to 75°C	-
NPort 6250-G2	RJ45	2	Up to 2 TB (high speed, 25 Mbps)	-10 to 60°C	✓
NPort 6250-G2-T	RJ45	2	Up to 2 TB (high speed, 25 Mbps)	-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-115-01	DIN-rail mounting kit with 1 plate (89 x 19 mm), 3 M3 x 5 mm screws and SK-115-01 side-mounting kit
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
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Side-mounting Kits

SK-115-01	Side-mounting kit with T-shaped mounting bracket (81.2 x 115.0 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-12050-AU-S1	Locking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, AU plug, 0 to 40°C operating temperature
PWR-12050-CN-S1	Locking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, CN plug, 0 to 40°C operating temperature
PWR-12050-EU-S1	Locking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, EU plug, 0 to 40°C operating temperature
PWR-12050-KR-S1	Locking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, KR plug, 0 to 40°C operating temperature
PWR-12050-UK-S1	Locking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, UK plug, 0 to 40°C operating temperature
PWR-12050-USJP-S1	Locking barrel plug, 12 VDC, 0.5 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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