

NPort 5100 Series

1-port RS-232/422/485 serial device servers



Features and Benefits

- Small size for easy installation
- Real COM/TTY drivers for Windows and Linux
- Standard TCP/IP interface and versatile operation modes
- Easy-to-use Windows utility for configuring multiple device servers
- SNMP MIB-II for network management
- Configure by Telnet, web browser, or Windows utility
- Adjustable pull high/low resistor for RS-485 ports

Certifications



Introduction

NPort 5100® device servers are designed to make serial devices network-ready in an instant. The small size of the servers makes them ideal for connecting devices such as card readers and payment terminals to an IP-based Ethernet LAN. Use the NPort 5100 device servers to give your PC software direct access to serial devices from anywhere on the network.

Most Cost-effective Serial-to-Ethernet Solution

Using serial device servers to connect legacy serial devices to Ethernet is now commonplace, and users expect device servers to be cost-effective and to provide a broad selection of useful functions. With its full support of Microsoft and Linux operating systems and solid 5-year warranty, the NPort® 5100 Series provides the best choice for serial-to-Ethernet converters.

Adjustable Termination and Pull High/Low Resistors

In some critical environments, termination resistors may be needed to prevent the reflection of serial signals. When using termination resistors, it is also important to set the pull high/low resistors correctly so that the electrical signal is not corrupted. Since no set of resistor values is universally compatible with all environments, the NPort® 5100 device servers come with jumpers for adjusting termination and pull high/low resistor values for each serial port.

Standard TCP/IP Interface and Broad Choice of Operation Modes

The NPort® 5100 device servers can be configured for TCP Server, TCP Client, UDP Server/Client, Pair Connection, or Ethernet Modem mode, ensuring compatibility with software based on a standard network API (e.g., Winsock or BSD Sockets).

Real COM/TTY Drivers for Existing Software

The Real COM/TTY drivers provided with the NPort® 5100 device servers allow you to continue using software designed for communicating through COM/TTY ports. Installation and configuration are painless, and allows your serial devices and PC to communicate seamlessly over a TCP/IP network. Using Moxa's Real COM/TTY drivers is an excellent way to preserve your software investment while still allowing you to enjoy the benefits of networking your serial devices.

Easy to Troubleshoot

NPort® 5100 device servers support SNMP, which can be used to monitor all units over Ethernet. Each unit can be configured to send trap messages automatically to the SNMP manager when user-defined errors are encountered. For users who do not use SNMP manager, an email alert can be sent instead. Users can define the trigger for the alerts using Moxa's Windows utility, or the web console. For example, alerts can be triggered by a warm start, a cold start, or a change in password.

Specifications

Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	1
Magnetic Isolation Protection	1.5 kV (built-in)

Ethernet Software Features

Configuration Options	Web Console (HTTP), Serial Console (NPort 5110/5110-T/5150 only), Telnet Console, Windows Utility
Management	DHCP Client, IPv4, SNMP, SMTP, SNMPv1, Telnet, DNS, HTTP, ARP, BOOTP, UDP, TCP/IP, ICMP
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1/10 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded
Linux Real TTY Drivers	Kernel versions: 2.4.x, 2.6.x, 3.x, 4.x, and 5.x
Fixed TTY Drivers	SCO UNIX, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X
Android API	Android 3.1.x and later
MIB	RFC1213, RFC1317

Serial Interface

Connector	DB9 male
No. of Ports	1
Serial Standards	NPort 5110/5110-T: RS-232 NPort 5130: RS-422, RS-485 NPort 5150: RS-232, RS-422, RS-485
Operation Modes	Disabled, Ethernet Modem, Pair Connection, Real COM, Reverse Telnet, TCP Client, TCP Server, UDP
Baudrate	NPort 5110/5110-T: 110 bps to 230.4 kbps NPort 5130/5150: 50 bps to 921.6 kbps
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Parity	None, Even, Odd, Space, Mark
Flow Control	RTS/CTS (RS-232 only), DTR/DSR (RS-232 only), XON/XOFF
Pull High/Low Resistor for RS-485	NPort 5130/5150: 1 kilo-ohm, 150 kilo-ohms
RS-485 Data Direction Control	NPort 5130/5150: ADDC® (automatic data direction control)

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 5110/5110-T: 128 mA @ 12 VDC NPort 5130/5150: 200 mA @ 12 VDC
Input Voltage	12 to 48 VDC
No. of Power Inputs	1
Source of Input Power	Power input jack

Physical Characteristics

Housing	Metal
Dimensions (with ears)	75.2 x 80 x 22 mm (2.96 x 3.15 x 0.87 in)
Dimensions (without ears)	52 x 80 x 22 mm (2.05 x 3.15 x 0.87 in)
Weight	340 g (0.75 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 55032/24
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: 1 kV IEC 61000-4-5 Surge: Power: 1 kV IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m; Signal: 3 V/m IEC 61000-4-8 PFMF IEC 61000-4-11 DIPs
Safety	UL 60950-1

MTBF

Time	NPort 5110/5110-T: 3,126,448 hrs NPort 5130: 2,836,863 hrs NPort 5150: 2,736,202 hrs
Standards	Telcordia (Bellcore) Standard TR/SR

Warranty

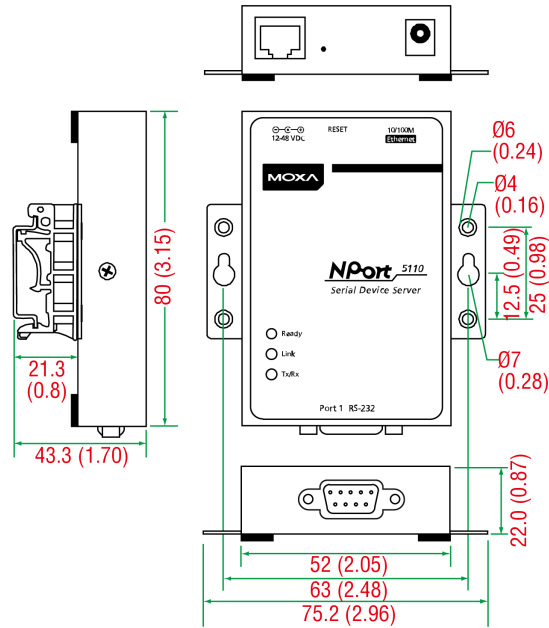
Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x NPort 5100 Series device server
Power Supply	1 x power adapter, suitable for your region (all models except NPort 5110-T)
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	Operating Temp.	Baudrate	Serial Standards	Input Current	Input Voltage
NPort 5110	0 to 55°C	110 bps to 230.4 kbps	RS-232	128.7 mA @ 12 VDC	12-48 VDC
NPort 5110-T	-40 to 75°C	110 bps to 230.4 kbps	RS-232	128.7 mA @ 12 VDC	12-48 VDC
NPort 5130	0 to 55°C	50 bps to 921.6 kbps	RS-422/485	200 mA @ 12 VDC	12-48 VDC
NPort 5150	0 to 55°C	50 bps to 921.6 kbps	RS-232/422/485	200 mA @ 12 VDC	12-48 VDC

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
CBL-RJ458P-100	8-pin RJ45 CAT5 Ethernet cable, 1 m
CBL-RJ45SF9-150	8-pin RJ45 to DB25 male serial cable with shielding, 1.5m

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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Power Adapters

PWR-12150-AU-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100-240 VAC, Australia (AU) plug, -40 to 75°C operating temperature Applicable Models: NPort 5110-T
PWR-12150-CN-SA-T	Wide-temperature (-40 to 75°C) locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, China (CN) plug Applicable Models:

	NPort 5110-T
PWR-12150-EU-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100-240 VAC, Continental Europe (EU) plug, -40 to 75°C operating temperature Applicable Models: NPort 5110-T
PWR-12150-UK-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100-240 VAC, United Kingdom (UK) plug, -40 to 75°C operating temperature Applicable Models: NPort 5110-T
PWR-12150-USJP-SA-T	Locking barrel plug, 12 VDC 1.5 A, 100-240 VAC, United States/Japan (US/JP) plug, -40 to 75°C operating temperature Applicable Models: NPort 5110-T
PWR-12050-WPUK-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, United Kingdom (UK) plug, 0 to 40°C operating temperature
PWR-12050-WPAU-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, Australia (AU) plug, 0 to 40°C operating temperature
PWR-12050-WPCN-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, China (CN) plug, 0 to 40°C operating temperature
PWR-12050-WPUSJP-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, United States/Japan (US/JP) plug, 0 to 40°C operating temperature
PWR-12050-WPEU-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, Continental Europe (EU) plug, 0 to 40°C operating temperature

Power Cords

CBL-PJ21NOOPEN-BK-30	Locking barrel plug to bare-wire cable
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NPort 5100A Series

1-port RS-232/422/485 serial device servers



Features and Benefits

- Power consumption of only 1 W
- Fast 3-step web-based configuration
- Surge protection for serial, Ethernet, and power
- COM port grouping and UDP multicast applications
- Screw-type power connectors for secure installation
- Real COM/TTY drivers for Windows and Linux
- Standard TCP/IP interface and versatile TCP and UDP operation modes
- Connects up to 8 TCP hosts

Certifications



Introduction

The NPort® 5100A device servers are designed to make serial devices network-ready in an instant and give your PC software direct access to serial devices from anywhere on the network. The NPort® 5100A device servers are ultra-lean, ruggedized, and user-friendly, making simple and reliable serial-to-Ethernet solutions possible.

A Greener Serial-to-Ethernet Solution

The MiiNe is a small but powerful Arm-based serial-to-Ethernet SoC with RAM and Flash embedded. With the MiiNe inside, the NPort® 5110A Series' power consumption is less than 1 W. The NPort® 5100A Series saves at least 50% on power consumption compared to existing solutions on the market, helping engineers meet the tough environmental compliance challenges found in today's industrial environments.

Surge Protection for Serial, Ethernet, and Power

Surge, which is typically caused by high voltages that result from switching and lightning transients, is a common threat to all electrical devices. Moxa's leading-edge surge immunity solution, which is applied to the NPort® 5100A's serial, power, and Ethernet lines, is tested and proven compliant with IEC 61000-4-5. This state-of-the-art surge protection provides a robust serial-to-Ethernet solution that can protect electrical devices from voltage spikes and withstand electrically noisy environmental conditions.

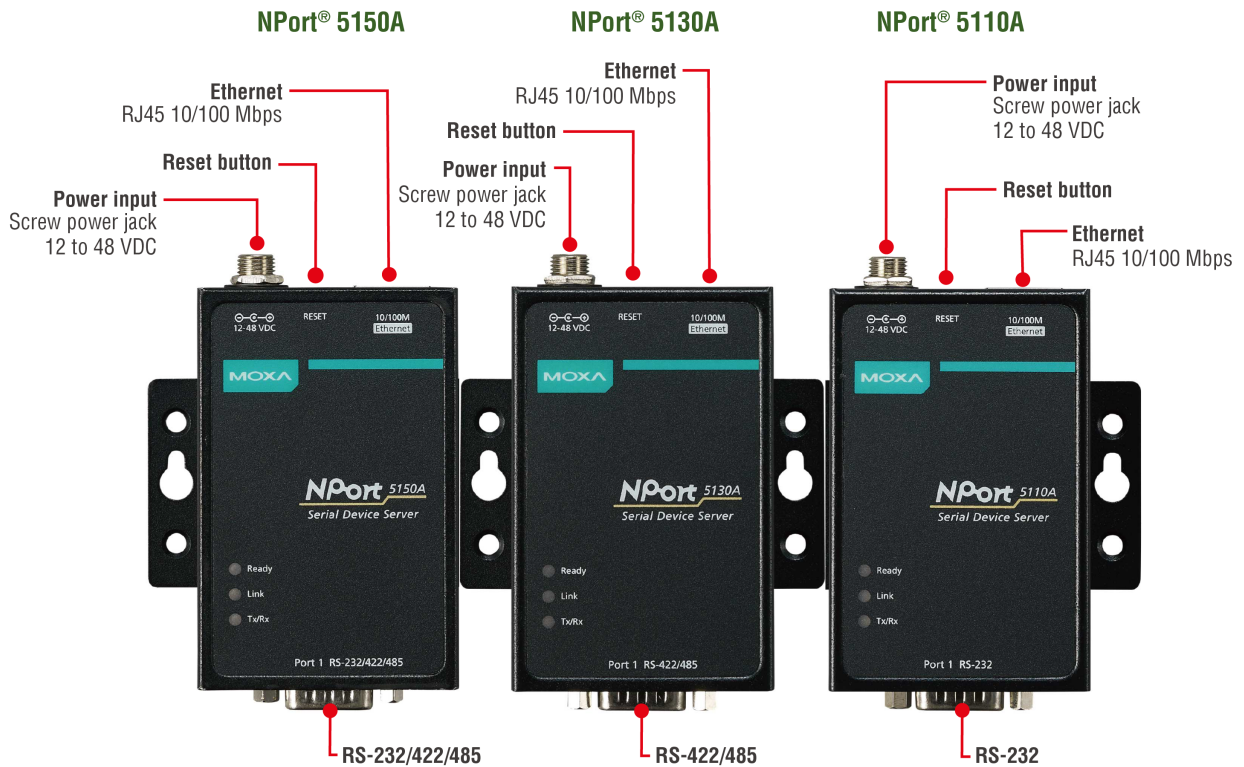
3-Step Web-based Configuration

The NPort® 5100A's 3-step web-based configuration tool is straightforward and user-friendly. The NPort® 5100A's web console guides users through three simple configuration steps that are necessary to activate the serial-to-Ethernet application. With this fast 3-step web-based configuration, a user only needs to spend an average of 30 seconds to complete the NPort® settings and enable the application, saving a great amount of time and effort.

Easy to Troubleshoot

NPort® 5100A device servers support SNMP, which can be used to monitor all units over Ethernet. Each unit can be configured to send trap messages automatically to the SNMP manager when user-defined errors are encountered. For users who do not use SNMP manager, an email alert can be sent instead. Users can define the trigger for the alerts using Moxa's Windows utility, or the web console. For example, alerts can be triggered by a warm start, a cold start, or a password change.

Appearance



Specifications

Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	1
Magnetic Isolation Protection	1.5 kV (built-in)

Ethernet Software Features

Configuration Options	Windows Utility, Serial Console, Telnet Console, Web Console (HTTP/HTTPS)
Management	DHCP Client, ARP, BOOTP, DNS, HTTP, HTTPS, ICMP, IPv4, LLDP, SMTP, SNMPv1/v2c, TCP/IP, Telnet, UDP
Filter	IGMP v1/v2
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1/10 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded
Linux Real TTY Drivers	Kernel versions: 2.4.x, 2.6.x, 3.x, 4.x, and 5.x
Fixed TTY Drivers	SCO UNIX, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X
Android API	Android 3.1.x and later
MIB	RFC1213, RFC1317

Serial Interface

Connector	DB9 male
No. of Ports	1
Serial Standards	NPort 5110A: RS-232 NPort 5130A: RS-422, RS-485 NPort 5150A: RS-232, RS-422, RS-485

Operation Modes	Disabled, Ethernet Modem, Pair Connection, Real COM, Reverse Telnet, RFC2217, TCP Client, TCP Server, UDP
Baudrate	Supports standard baudrates (unit=bps): 50, 75, 110, 134, 150, 300, 600, 1200, 1800, 2400, 4800, 7200, 9600, 19200, 38400, 57600, 115200, 230.4k, 460.8k, 921.6k
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Parity	None, Even, Odd, Space, Mark
Flow Control	RTS/CTS (RS-232 only), DTR/DSR (RS-232 only), XON/XOFF
Pull High/Low Resistor for RS-485	1 kilo-ohm, 150 kilo-ohms
RS-485 Data Direction Control	ADDC® (automatic data direction control)
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	
No. of Power Inputs	1
Input Current	NPort 5110A: 82.5 mA @ 12 VDC NPort 5130A: 89.1 mA @ 12 VDC NPort 5150A: 92.4 mA @ 12 VDC
Input Voltage	12 to 48 VDC
Source of Input Power	Power input jack
Reliability	
Automatic Reboot Trigger	Built-in WDT
Physical Characteristics	
Housing	Metal
Dimensions (with ears)	75.2 x 80 x 22 mm (2.96 x 3.15 x 0.87 in)
Dimensions (without ears)	52 x 80 x 22 mm (2.05 x 3.15 x 0.87 in)
Weight	340 g (0.75 lb)
Installation	Desktop, DIN-rail mounting (with optional kit), Wall mounting
Environmental Limits	
Operating Temperature	Standard Models: 0 to 60°C (32 to 140°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 55032/24
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 0.5 kV IEC 61000-4-6 CS: 150 kHz to 80 MHz: 10 V/m; Signal: 10 V/m IEC 61000-4-8 PFMF IEC 61000-4-11 DIPs
Safety	UL 60950-1

Declaration

Green Product	RoHS, CRoHS, WEEE
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MTBF

Time	2,231,530 hrs
Standards	Telcordia (Bellcore) Standard TR/SR

Warranty

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

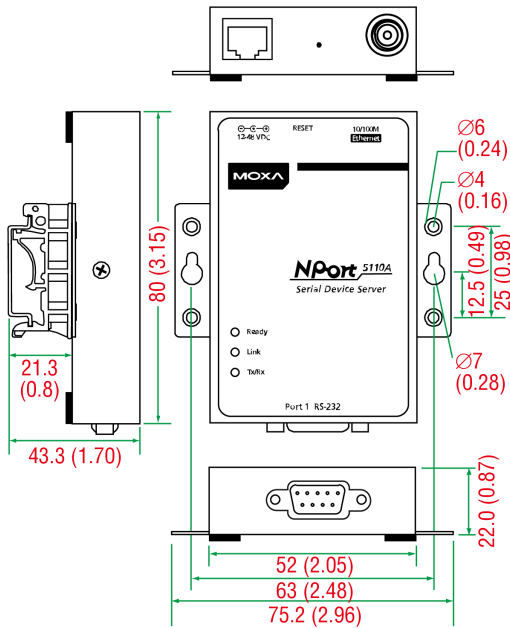
Package Contents

Device	1 x NPort 5100A Series device server
Power Supply	1 x power adapter, suitable for your region (standard temp. models only)
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

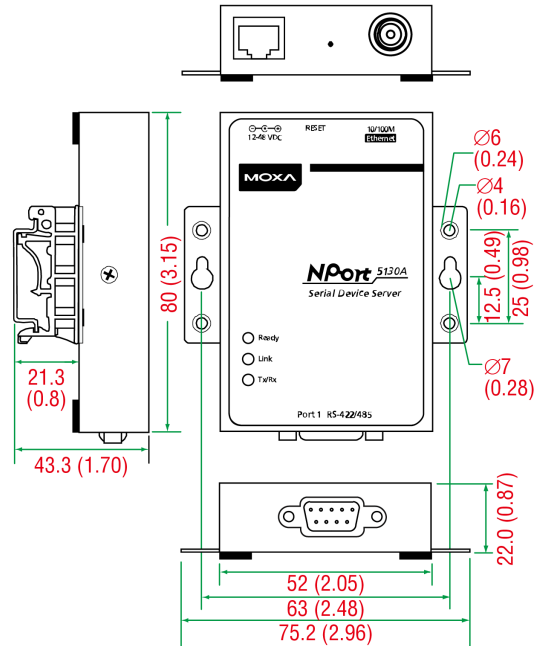
NPort 5110A

Unit: mm (inch)



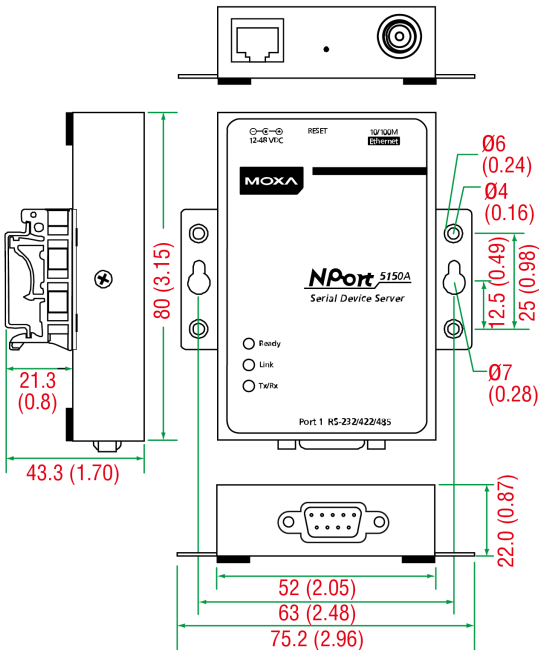
NPort 5130A

Unit: mm (inch)



NPort 5150A

Unit: mm (inch)



Ordering Information

Model Name	Operating Temp.	Baudrate	Serial Standards	No. of Serial Ports	Input Current	Input Voltage
NPort 5110A	0 to 60°C	50 bps to 921.6 kbps	RS-232	1	82.5 mA @ 12 VDC	12-48 VDC
NPort 5110A-T	-40 to 75°C	50 bps to 921.6 kbps	RS-232	1	82.5 mA @ 12 VDC	12-48 VDC
NPort 5130A	0 to 60°C	50 bps to 921.6 kbps	RS-422/485	1	89.1 mA @ 12 VDC	12-48 VDC

Model Name	Operating Temp.	Baudrate	Serial Standards	No. of Serial Ports	Input Current	Input Voltage
NPort 5130A-T	-40 to 75°C	50 bps to 921.6 kbps	RS-422/485	1	89.1 mA @ 12 VDC	12-48 VDC
NPort 5150A	0 to 60°C	50 bps to 921.6 kbps	RS-232/422/485	1	92.4 mA @ 12 VDC	12-48 VDC
NPort 5150A-T	-40 to 75°C	50 bps to 921.6 kbps	RS-232/422/485	1	92.4 mA @ 12 VDC	12-48 VDC

Accessories (sold separately)

Cables

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

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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Power Adapters

PWR-12050-WPCN-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, China (CN) plug, 0 to 40°C operating temperature
PWR-12050-WPUK-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, United Kingdom (UK) plug, 0 to 40°C operating temperature
PWR-12050-WPAU-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, Australia (AU) plug, 0 to 40°C operating temperature
PWR-12050-WPEU-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, Continental Europe (EU) plug, 0 to 40°C operating temperature
PWR-12050-WPUSJP-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, United States/Japan (US/JP) plug, 0 to 40°C operating temperature
PWR-12150-AU-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100-240 VAC, Australia (AU) plug, -40 to 75°C operating temperature Applicable Models: NPort 5110A-T NPort 5130A-T NPort 5150A-T
PWR-12150-CN-SA-T	Wide-temperature (-40 to 75°C) locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, China (CN) plug Applicable Models: NPort 5110A-T NPort 5130A-T NPort 5150A-T
PWR-12150-EU-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100-240 VAC, Continental Europe (EU) plug, -40 to 75°C operating temperature Applicable Models: NPort 5110A-T NPort 5130A-T NPort 5150A-T
PWR-12150-UK-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100-240 VAC, United Kingdom (UK) plug, -40 to 75°C operating temperature Applicable Models: NPort 5110A-T NPort 5130A-T NPort 5150A-T

PWR-12150-USJP-SA-T	Locking barrel plug, 12 VDC 1.5 A, 100-240 VAC, United States/Japan (US/JP) plug, -40 to 75°C operating temperature Applicable Models: NPort 5110A-T NPort 5130A-T NPort 5150A-T
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Power Cords

CBL-PJ21NOPEN-BK-30	Locking barrel plug to bare-wire cable
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NPort 5200 Series

2-port RS-232/422/485 serial device servers



Features and Benefits

- Compact design for easy installation
- Socket modes: TCP server, TCP client, UDP
- Easy-to-use Windows utility for configuring multiple device servers
- Patented ADDC® (Automatic Data Direction Control) for 2-wire and 4-wire RS-485
- SNMP MIB-II for network management

Certifications



Introduction

The NPort 5200 serial device servers are designed to make your industrial serial devices Internet-ready in no time. The compact size of NPort 5200 serial device servers makes them the ideal choice for connecting your RS-232 (NPort 5210/5230/5210-T/5230-T) or RS-422/485 (NPort 5230/5232/5232I/5230-T/5232-T/5232I-T) serial devices—such as PLCs, meters, and sensors—to an IP-based Ethernet LAN, making it possible for your software to access serial devices from anywhere over a local LAN or the Internet. The NPort 5200 Series has a number of useful features, including standard TCP/IP protocols and choice of operation modes, Real COM/TTY drivers for existing software, and remote control of serial devices with TCP/IP or traditional COM/TTY Port.

Standard TCP/IP Protocols and Choice of Operation Modes

NPort 5200 device servers can operate in TCP Server, TCP Client, or UDP operation mode, ensuring compatibility with software based on a standard network API (Winsock, BSD Sockets).

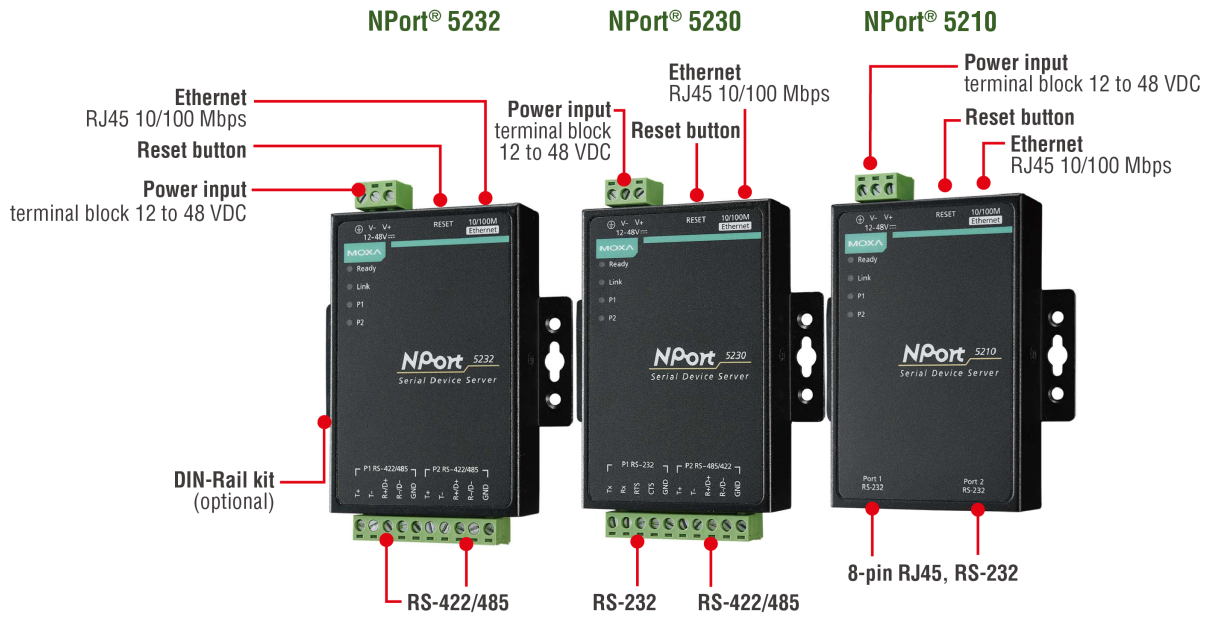
Real COM/TTY Drivers for Existing Software

With the Real COM/TTY drivers that are provided with each NPort, software designed for communication with COM/TTY ports can be instantly and seamlessly integrated into a TCP/IP network. This is an excellent no fuss way to preserve your software investment and enjoy the benefits of networking your serial devices.

Control Remote Serial Devices with TCP/IP or Traditional COM/TTY Port

By specifying the NPort 5200's IP address and port number, a network sockets API can obtain access to the attached serial device over the network, from any host computer that supports TCP/IP. For legacy Windows or Linux software that is COM or TTY-based, Moxa's COM/TTY drivers provide a seamless way of operating over the network.

Appearance



Specifications

Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	1
Magnetic Isolation Protection	1.5 kV (built-in)

Ethernet Software Features

Configuration Options	Windows Utility, Telnet Console, Web Console (HTTP), Serial Console
Management	DHCP Client, IPv4, SNMP, SMTP, SNMPv1, DNS, HTTP, ARP, BOOTP, UDP, TCP/IP, Telnet, ICMP
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1/10 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded
Fixed TTY Drivers	SCO UNIX, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X
Linux Real TTY Drivers	Kernel version: 2.4.x, 2.6.x, 3.x, 4.x
Android API	Android 3.1.x and later
MIB	RFC1213, RFC1317

Serial Interface

Connector	NPort 5210 Series: 8-pin RJ45 NPort 5230/5232 Series: Terminal block
No. of Ports	2
Serial Standards	NPort 5210 Series: RS-232 NPort 5230 Series: RS-232/422/485 ¹ NPort 5232 Series: RS-422/485
Operation Modes	Disabled, Ethernet Modem, Pair Connection, Real COM, Reverse Telnet, TCP Client, TCP Server, UDP
Baudrate	Supports standard baudrates (unit=bps): 110, 134, 150, 300, 600, 1200, 1800, 2400, 4800, 7200, 9600, 19200, 38400, 57600, 115200, 230400

1. The NPort 5230 Series supports RS-232 on one port, and RS-422/485 on the other.

Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Parity	None, Even, Odd, Space, Mark
Flow Control	RTS/CTS (RS-232 only), DTR/DSR (RS-232 only), XON/XOFF
Pull High/Low Resistor for RS-485	NPort 5210 Series: None NPort 5230 Series: 150 kilo-ohms NPort 5232 Series: 1 kilo-ohms
RS-485 Data Direction Control	ADDC® (automatic data direction control)
Terminator for RS-485	120 ohms
Isolation	NPort 5232I Series: 2 kV

Serial Signals

RS-232	NPort 5210 Series: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND NPort 5230 Series: TxD, RxD, RTS, CTS, 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 5210/5230 Series: 325 mA @ 12 VDC NPort 5232/5232I Series: 280 mA @ 12 VDC, 365 mA @ 12 VDC
Input Voltage	12 to 48 VDC
No. of Power Inputs	1
Power Connector	1 removable 3-contact terminal block(s)

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 5210/5230 Series, NPort 5232/5232-T: 90 x 100.4 x 22 mm (3.54 x 3.95 x 0.87 in) NPort 5232I/5232I-T: 90 x 100.4 x 35 mm (3.54 x 3.95 x 1.37 in)
Dimensions (without ears)	NPort 5210/5230 Series, NPort 5232/5232-T: 67 x 100.4 x 22 mm (2.64 x 3.95 x 0.87 in) NPort 5232I/5232I-T: 67 x 100.4 x 35 mm (2.64 x 3.95 x 1.37 in)
Weight	NPort 5210 Series: 340 g (0.75 lb) NPort 5230 Series, NPort 5232/5232-T: 360 g (0.79 lb) NPort 5232I/5232I-T: 380 g (0.84 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 55032/24
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: 150 kHz to 80 MHz: 3 V/m; Signal: 3 V/m IEC 61000-4-8 PFMF IEC 61000-4-11 DIPs
Safety	UL 60950-1
Medical	NPort 5210 Series: EN 60601-1-2 Class B, EN 55011
Maritime	NPort 5230/5232 Series: DNV

Declaration

Green Product	RoHS, CRoHS, WEEE
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MTBF

Time	NPort 5210 Series: 381,342 hrs NPort 5230 Series: 377,937 hrs NPort 5232 Series: 309,383 hrs
Standards	Telcordia (Bellcore) Standard TR/SR

Warranty

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

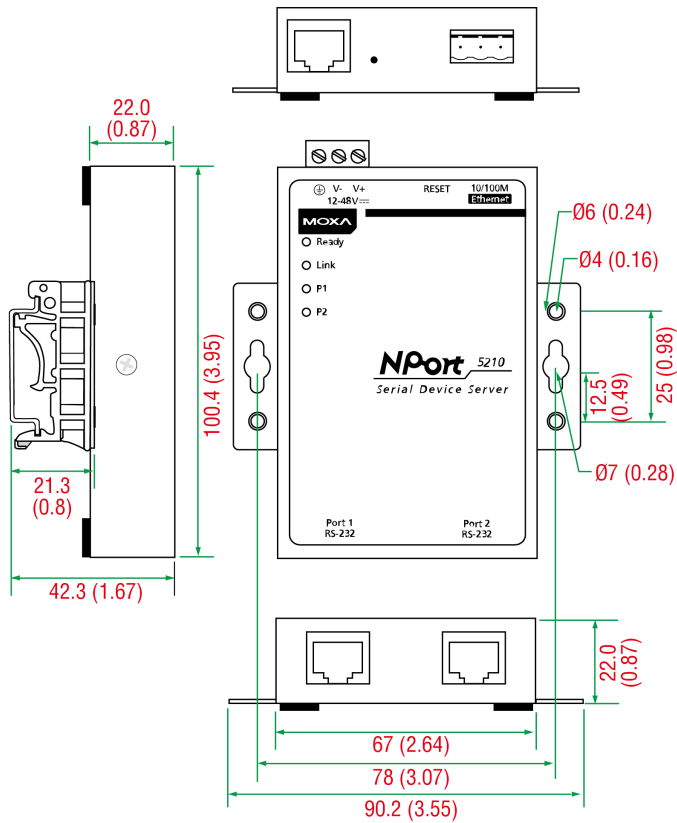
Package Contents

Device	1 x NPort 5200 Series device server
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

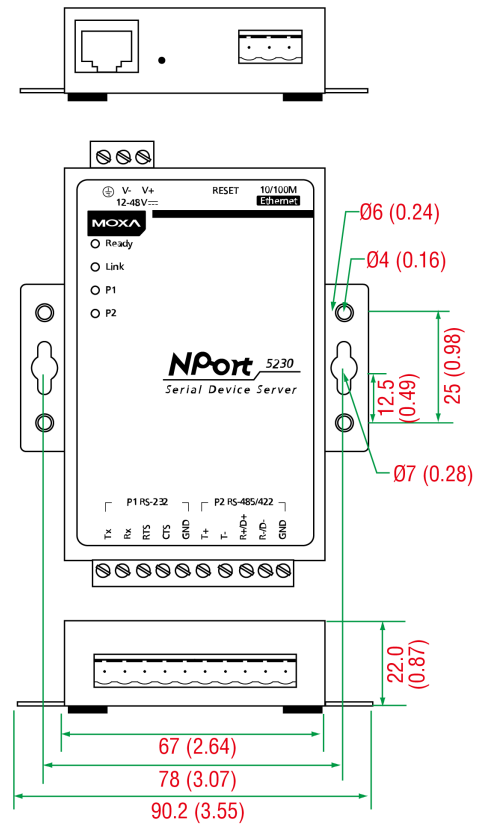
NPort 5210

Unit: mm (inch)



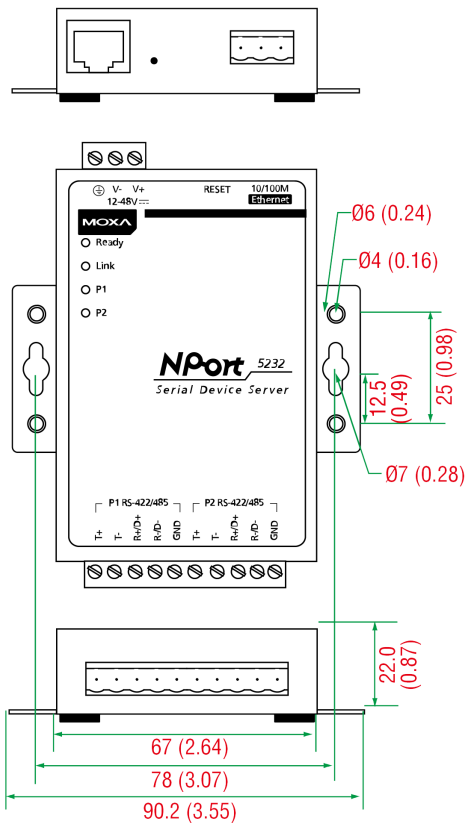
NPort 5230

Unit: mm (inch)



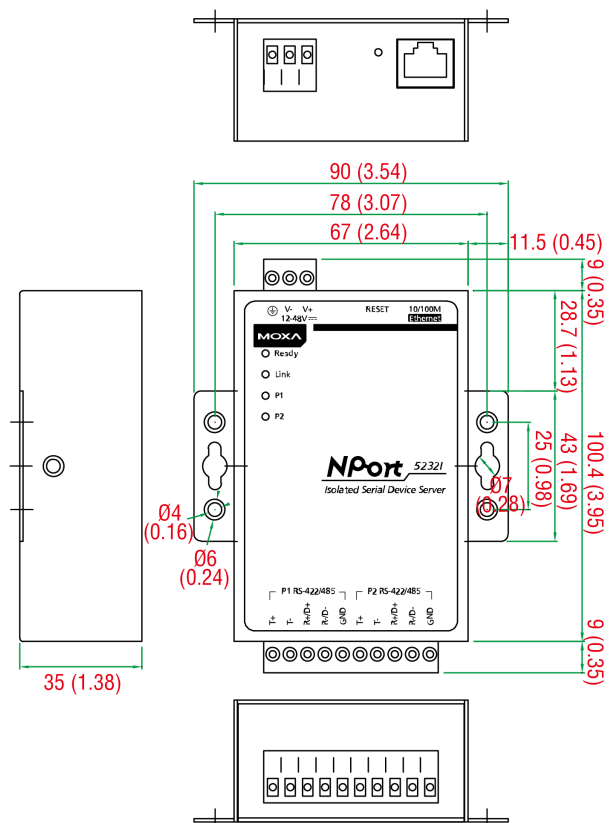
NPort 5232

Unit: mm (inch)



NPort 5232I

Unit: mm (inch)



Ordering Information

Model Name	Operating Temp.	Baudrate	Serial Standards	Serial Isolation	No. of Serial Ports	Input Voltage
NPort 5210	0 to 55°C	110 bps to 230.4 kbps	RS-232	-	2	12-48 VDC
NPort 5210-T	-40 to 75°C	110 bps to 230.4 kbps	RS-232	-	2	12-48 VDC
NPort 5230	0 to 55°C	110 bps to 230.4 kbps	RS-232/422/485	-	2	12-48 VDC
NPort 5230-T	-40 to 75°C	110 bps to 230.4 kbps	RS-232/422/485	-	2	12-48 VDC
NPort 5232	0 to 55°C	110 bps to 230.4 kbps	RS-422/485	-	2	12-48 VDC
NPort 5232-T	-40 to 75°C	110 bps to 230.4 kbps	RS-422/485	-	2	12-48 VDC
NPort 5232I	0 to 55°C	110 bps to 230.4 kbps	RS-422/485	2 kV	2	12-48 VDC
NPort 5232I-T	-40 to 75°C	110 bps to 230.4 kbps	RS-422/485	2 kV	2	12-48 VDC

Accessories (sold separately)

Cables

CBL-RJ45F25-150	8-pin RJ45 to DB25 female serial cable, 1.5 m Applicable Models: NPort 5210 NPort 5210-T
CBL-RJ45F9-150	8-pin RJ45 to DB9 female serial cable, 1.5m Applicable Models: NPort 5210 NPort 5210-T
CBL-RJ45M9-150	8-pin RJ45 to DB9 male serial cable, 1.5m Applicable Models: NPort 5210 NPort 5210-T
CBL-RJ45M25-150	8-pin RJ45 to DB25 male serial cable, 1.5m Applicable Models: NPort 5210 NPort 5210-T
CBL-RJ45SF25-150	8-pin RJ45 to DB25 female serial cable with shielding, 1.5m Applicable Models: NPort 5210 NPort 5210-T
CBL-RJ45SF9-150	8-pin RJ45 to DB25 male serial cable with shielding, 1.5m Applicable Models: NPort 5210 NPort 5210-T
CBL-RJ45SM25-150	8-pin RJ45 to DB9 female serial cable with shielding, 1.5m Applicable Models: NPort 5210 NPort 5210-T
CBL-RJ45SM9-150	8-pin RJ45 to DB9 male serial cable with shielding, 1.5m Applicable Models: NPort 5210 NPort 5210-T

Connectors

ADP-RJ458P-DB9F	DB9 female to RJ45 connector Applicable Models: NPort 5210 NPort 5210-T
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DIN-Rail Mounting Kits

DK35A	DIN-rail mounting kit, 35 mm
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Power Adapters

PWR-12150-AU-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100-240 VAC, Australia (AU) plug, -40 to 75°C operating temperature Applicable Models: NPort 5210-T NPort 5230-T NPort 5232-T NPort 5232-T (CV-CT) NPort 5232I-T
PWR-12150-CN-SA-T	Wide-temperature (-40 to 75°C) locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, China (CN) plug Applicable Models: NPort 5210-T NPort 5230-T NPort 5232-T NPort 5232-T (CV-CT) NPort 5232I-T
PWR-12150-EU-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100-240 VAC, Continental Europe (EU) plug, -40 to 75°C operating temperature Applicable Models: NPort 5210-T NPort 5230-T NPort 5232-T NPort 5232-T (CV-CT) NPort 5232I-T
PWR-12150-UK-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100-240 VAC, United Kingdom (UK) plug, -40 to 75°C operating temperature Applicable Models: NPort 5210-T NPort 5230-T NPort 5232-T NPort 5232-T (CV-CT) NPort 5232I-T
PWR-12150-USJP-SA-T	Locking barrel plug, 12 VDC 1.5 A, 100-240 VAC, United States/Japan (US/JP) plug, -40 to 75°C operating temperature Applicable Models: NPort 5210-T NPort 5230-T NPort 5232-T NPort 5232-T (CV-CT) NPort 5232I-T
PWR-12050-WPUSJP-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, United States/Japan (US/JP) plug, 0 to 40°C operating temperature Applicable Models: NPort 5210-T NPort 5230-T NPort 5232-T NPort 5232-T (CV-CT) NPort 5232I-T
PWR-12050-WPEU-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, Continental Europe (EU) plug, 0 to 40°C operating temperature
PWR-12050-WPUK-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, United Kingdom (UK) plug, 0 to 40°C operating temperature
PWR-12050-WPAU-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, Australia (AU) plug, 0 to 40°C operating temperature
PWR-12050-WPCN-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, China (CN) plug, 0 to 40°C operating temperature

Power Cords

CBL-PJ21NOPEB-BK-30

Locking barrel plug to bare-wire cable

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NPort 5200A Series

2-port RS-232/422/485 serial device servers



Features and Benefits

- Fast 3-step web-based configuration
- Surge protection for serial, Ethernet, and power
- COM port grouping and UDP multicast applications
- Screw-type power connectors for secure installation
- Dual DC power inputs with power jack and terminal block
- Versatile TCP and UDP operation modes

Certifications



Introduction

The NPort® 5200A device servers are designed to make serial devices network-ready in an instant and give your PC software direct access to serial devices from anywhere on the network. The NPort® 5200A device servers are ultra-lean, ruggedized, and user-friendly, making simple and reliable serial-to-Ethernet solutions possible.

A Greener Serial-to-Ethernet Solution

The MiiNe is a small but powerful Arm-based serial-to-Ethernet SoC with RAM and Flash embedded. With the MiiNe inside, the NPort® 5200A Series saves at least 50% on power consumption compared to existing solutions on the market, helping engineers meet the tough environmental compliance challenges found in today's industrial environments.

Surge Protection for Serial, Ethernet, and Power

Surge, which is typically caused by high voltages that result from switching and lightning transients, is a common threat to all electrical devices. Moxa's leading-edge surge immunity solution, which is applied to the NPort® 5200A's serial, power, and Ethernet lines, is tested and proven compliant with IEC 61000-4-5. This state-of-the-art surge protection provides a robust serial-to-Ethernet solution that can protect electrical devices from voltage spikes and withstand electrically noisy environmental conditions.

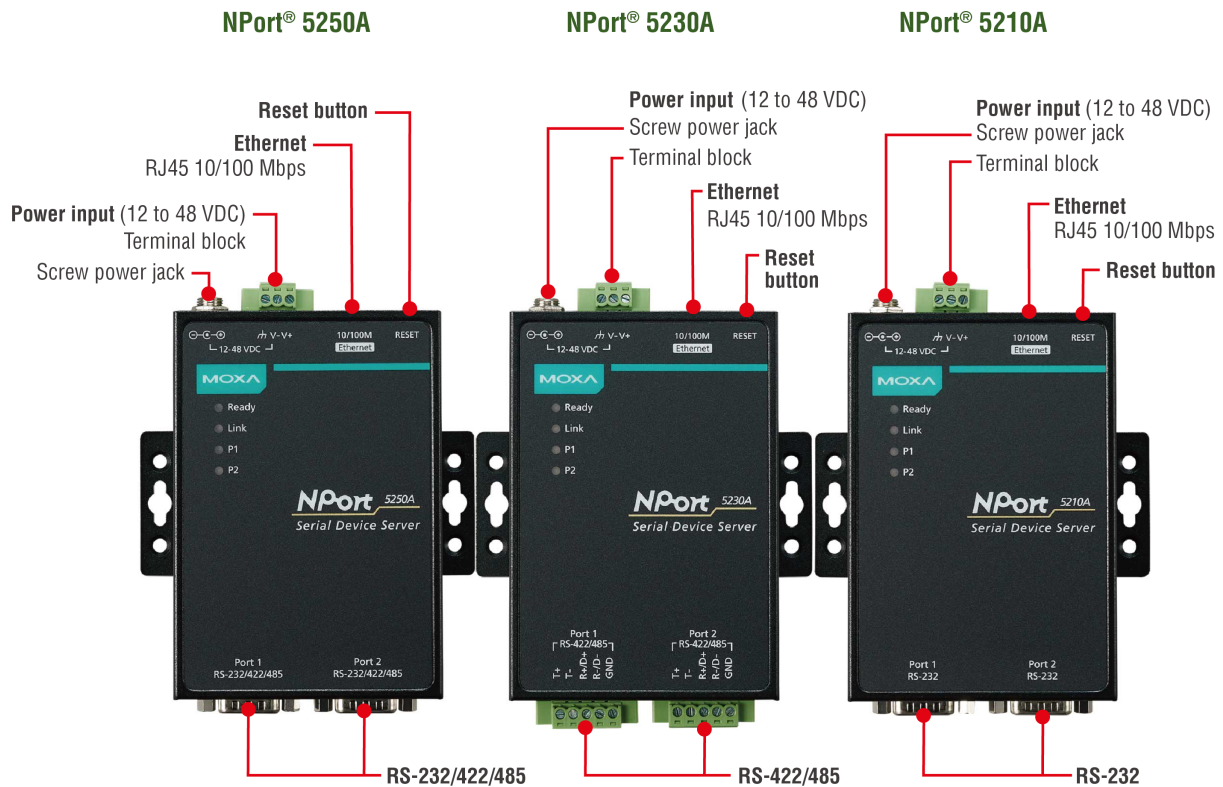
3-Step Web-based Configuration

The NPort® 5200A's 3-step web-based configuration tool is straightforward and user-friendly. The NPort® 5200A's web console guides users through three simple configuration steps that are necessary to activate the serial-to-Ethernet application. With this fast 3-step web-based configuration, a user only needs to spend an average of 30 seconds to complete the NPort® settings and enable the application, saving a great amount of time and effort.

COM Port Grouping

The NPort® 5200A's COM Grouping function allows you to create a COM Group and redirect data from it to several physical COM ports on NPort device servers. With COM Grouping, you will be able to control multiple physical serial ports simultaneously by operating only one COM port.

Appearance



Specifications

Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	1
Magnetic Isolation Protection	1.5 kV (built-in)

Ethernet Software Features

Configuration Options	Windows Utility, Serial Console, Telnet Console, Web Console (HTTP/HTTPS)
Management	ARP, BOOTP, DHCP Client, DNS, HTTP, HTTPS, ICMP, IPv4, LLDP, SMTP, SNMPv1/v2c, Telnet, TCP/IP, UDP
Filter	IGMP v1/v2
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1/10 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded
Linux Real TTY Drivers	Kernel versions: 2.4.x, 2.6.x, 3.x, 4.x, and 5.x
Fixed TTY Drivers	SCO UNIX, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X
Android API	Android 3.1.x and later
MIB	RFC1213, RFC1317

Serial Interface

Connector	NPort 5210A/5250A Series: DB9 male NPort 5230A Series: 5-pin terminal block
No. of Ports	2
Serial Standards	NPort 5210A Series: RS-232 NPort 5230A Series: RS-422, RS-485 NPort 5250A Series: RS-232, RS-422, RS-485

Operation Modes	Disabled, Ethernet Modem, Pair Connection, Real COM, Reverse Telnet, RFC2217, TCP Client, TCP Server, UDP
Baudrate	Supports standard baudrates (unit=bps): 50, 75, 110, 134, 150, 300, 600, 1200, 1800, 2400, 4800, 7200, 9600, 19200, 38400, 57600, 115200, 230.4k, 460.8k, 921.6k
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Parity	None, Even, Odd, Space, Mark
Flow Control	RTS/CTS (RS-232 only), DTR/DSR (RS-232 only), XON/XOFF
Pull High/Low Resistor for RS-485	1 kilo-ohm, 150 kilo-ohms
RS-485 Data Direction Control	ADDC® (automatic data direction control)
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	119 mA @ 12 VDC
Input Voltage	12 to 48 VDC
No. of Power Inputs	2
Power Connector	1 removable 3-contact terminal block(s) Power input jack

Reliability

Automatic Reboot Trigger	Built-in WDT
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Physical Characteristics

Housing	Metal
Dimensions (with ears)	100 x 111 x 26 mm (3.94 x 4.37 x 1.02 in)
Dimensions (without ears)	77 x 111 x 26 mm (3.03 x 4.37 x 1.02 in)
Weight	340 g (0.75 lb)
Installation	Desktop, DIN-rail mounting (with optional kit), Wall mounting

Environmental Limits

Operating Temperature	Standard Models: 0 to 60°C (32 to 140°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 55032/24
EMS	IEC 61000-4-2 ESD: Contact: 8 kV; Air: 15 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 150 kHz to 80 MHz: 10 V/m; Signal: 10 V/m IEC 61000-4-8 PFMF IEC 61000-4-11 DIPs
EMI	CISPR 32, FCC Part 15B Class A
Safety	UL 60950-1

Declaration

Green Product	RoHS, CRoHS, WEEE
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MTBF

Time	847,750 hrs
Standards	Telcordia (Bellcore) Standard TR/SR

Warranty

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

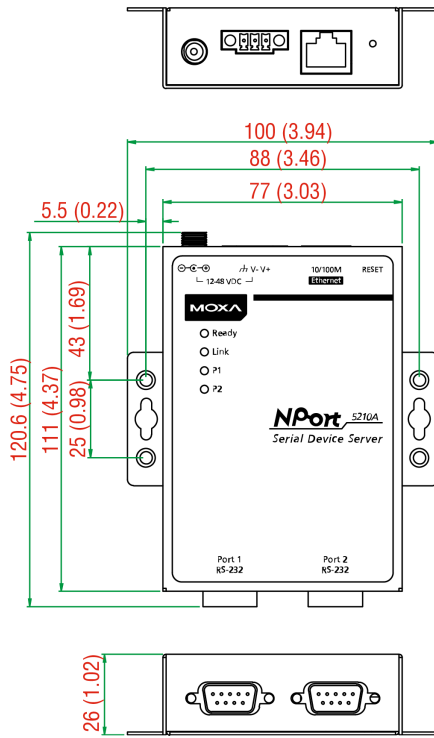
Package Contents

Device	1 x NPort 5200A Series device server
Power Supply	1 x power adapter, suitable for your region (standard temp. models only)
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

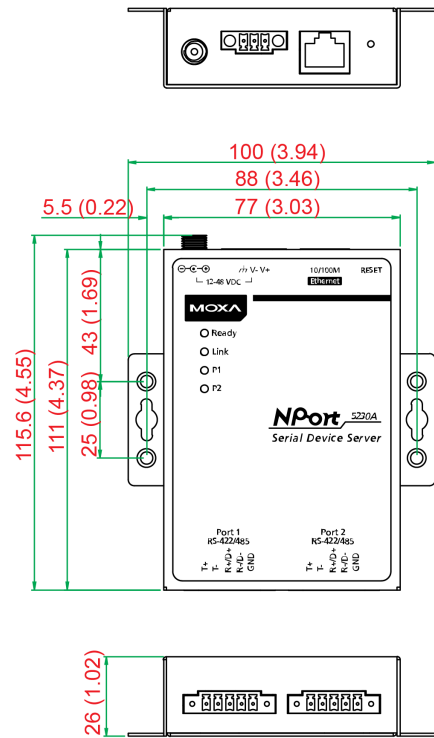
NPort 5210A

Unit: mm (inch)



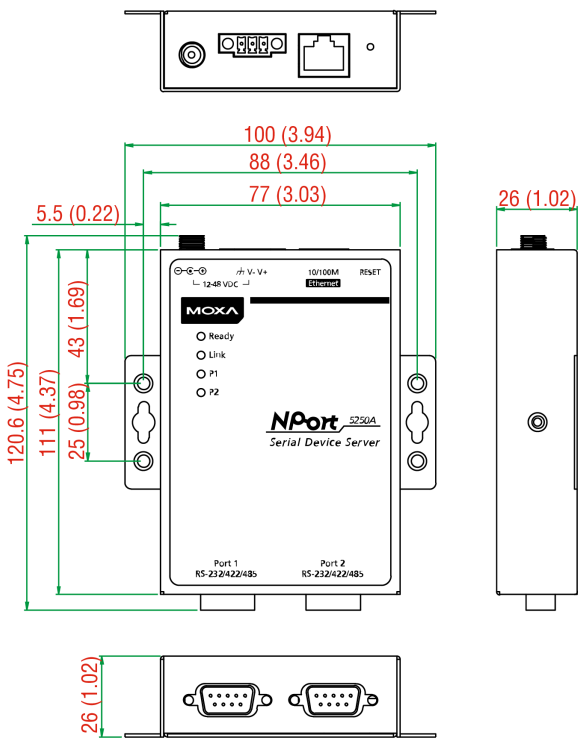
NPort 5230A

Unit: mm (inch)



NPort 5250A

Unit: mm (inch)



Ordering Information

Model Name	Operating Temp.	Baudrate	Serial Standards	No. of Serial Ports	Input Current	Input Voltage
NPort 5210A	0 to 55°C	50 bps to 921.6 kbps	RS-232	2	119 mA @ 12 VDC	12-48 VDC
NPort 5210A-T	-40 to 75°C	50 bps to 921.6 kbps	RS-232	2	119 mA @ 12 VDC	12-48 VDC
NPort 5230A	0 to 55°C	50 bps to 921.6 kbps	RS-422/485	2	119 mA @ 12 VDC	12-48 VDC
NPort 5230A-T	-40 to 75°C	50 bps to 921.6 kbps	RS-422/485	2	119 mA @ 12 VDC	12-48 VDC
NPort 5250A	0 to 55°C	50 bps to 921.6 kbps	RS-232/422/485	2	119 mA @ 12 VDC	12-48 VDC
NPort 5250A-T	-40 to 75°C	50 bps to 921.6 kbps	RS-232/422/485	2	119 mA @ 12 VDC	12-48 VDC

Accessories (sold separately)

Cables

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

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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Power Adapters

PWR-12050-WPAU-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, Australia (AU) plug, 0 to 40°C operating temperature
PWR-12050-WPCN-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, China (CN) plug, 0 to 40°C operating temperature
PWR-12050-WPEU-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, Continental Europe (EU) plug, 0 to 40°C operating temperature
PWR-12050-WPUK-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, United Kingdom (UK) plug, 0 to 40°C operating temperature
PWR-12050-WPUSJP-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, United States/Japan (US/JP) plug, 0 to 40°C operating temperature
PWR-12150-AU-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100-240 VAC, Australia (AU) plug, -40 to 75°C operating temperature Applicable Models: NPort 5210A-T NPort 5230A-T NPort 5250A-T
PWR-12150-CN-SA-T	Wide-temperature (-40 to 75°C) locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, China (CN) plug Applicable Models: NPort 5210A-T NPort 5230A-T NPort 5250A-T
PWR-12150-EU-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100-240 VAC, Continental Europe (EU) plug, -40 to 75°C operating temperature Applicable Models: NPort 5210A-T NPort 5230A-T NPort 5250A-T
PWR-12150-UK-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100-240 VAC, United Kingdom (UK) plug, -40 to 75°C operating temperature

	Applicable Models: NPort 5210A-T NPort 5230A-T NPort 5250A-T
PWR-12150-USJP-SA-T	Locking barrel plug, 12 VDC 1.5 A, 100-240 VAC, United States/Japan (US/JP) plug, -40 to 75°C operating temperature Applicable Models: NPort 5210A-T NPort 5230A-T NPort 5250A-T

Power Cords

CBL-PJ21NOPEN-BK-30	Locking barrel plug to bare-wire cable
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NPort 5400 Series

4-port RS-232/422/485 serial device servers

Features and Benefits

- User-friendly LCD panel for easy installation
- Adjustable termination and pull high/low resistors
- Socket modes: TCP server, TCP client, UDP
- Configure by Telnet, web browser, or Windows utility
- SNMP MIB-II for network management
- 2 kV isolation protection for NPort 5430I/5450I/5450I-T
- -40 to 75°C operating temperature range (-T model)



Certifications



Introduction

NPort® 5400 device servers provide many useful features for serial-to-Ethernet applications, including an independent operation mode for each serial port, user-friendly LCD panel for easy installation, dual DC power inputs, and adjustable termination and pull high/low resistors.

Network Readiness for up to 4 Serial Devices

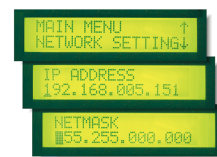
NPort® 5400 device servers can conveniently and transparently connect up to four serial devices to an Ethernet network, allowing you to network your existing serial devices with only basic configuration. Data transmission between the serial and Ethernet interfaces is bidirectional. By using NPort® device servers, you not only protect your current hardware investment, but also allow for future network expansion. You can both centralize the management of your serial devices and distribute management hosts over the network.

Independent Operation Mode for Each Serial Port

NPort® 5400 device servers can be used to connect different devices for remote data polling or event handling over a TCP/IP network. Each serial port on the NPort® 5400 operates independently to provide maximum versatility. For example, port 1 can operate in Driver mode, port 2 in TCP Server mode, and ports 3 and 4 in TCP Client mode.

User-friendly LCD Panel for Easy Installation

An LCD panel is built into the NPort® 5400's top panel, with four buttons for data input, configuration, and operation mode selection. The LCD panel displays the server name, serial number, and IP address, and it can be used to enter or modify parameters such as IP address, netmask, and gateway. (The LCD panel is not available on wide-temperature models.)



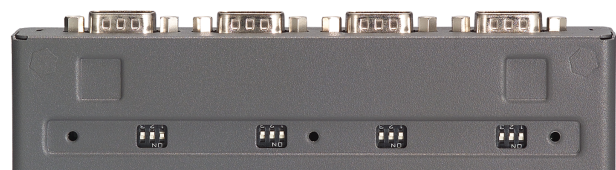
Dual DC Power Inputs

NPort® 5400 device servers support dual power sources by providing both a DC terminal block input and a DC power jack input. Providing two types of power inputs gives users greater flexibility for use with different applications.



Adjustable Termination and Pull High/Low Resistors

The NPort 5400 Series provides adjustable termination and pull high/low resistors for RS-485 applications. In some critical environments, termination resistors may be needed to prevent the reflection of serial signals, and the pull high/low resistors may need adjusting to maintain the integrity of the electrical signal. Since no set of resistor values is universally compatible with all environments, the NPort® 5400 has four sets of DIP switches on the bottom panel to set the termination and pull high/low resistor values.



Specifications

Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	1
Magnetic Isolation Protection	1.5 kV (built-in)

Ethernet Software Features

Configuration Options	Telnet Console, Windows Utility, Web Console (HTTP/HTTPS)
Management	ARP, BOOTP, DHCP Client, DNS, HTTP, HTTPS, ICMP, IPv4, LLDP, Rtelnet, SMTP, SNMPv1/v2c, TCP/IP, Telnet, UDP
Filter	IGMP v1/v2
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1/10 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded
Linux Real TTY Drivers	Kernel versions: 2.4.x, 2.6.x, 3.x, 4.x, and 5.x
Fixed TTY Drivers	SCO UNIX, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X
Android API	Android 3.1.x and later
Time Management	SNTP

Serial Interface

Connector	NPort 5410/5450/5450-T/5450I/5450I-T: DB9 male NPort 5430/5430I: Terminal block
No. of Ports	4
Serial Standards	NPort 5410: RS-232 NPort 5430 Series: RS-422, RS-485 NPort 5450 Series: RS-232, RS-422, RS-485
Operation Modes	Disabled, Ethernet Modem, Pair Connection, Real COM, Reverse Telnet, TCP Client, TCP Server, UDP
Baudrate	Supports standard baudrates (unit=bps): 50, 75, 110, 134, 150, 300, 600, 1200, 1800, 2400, 4800, 7200, 9600, 19200, 38400, 57600, 115200, 230.4k, 460.8k, 921.6k
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Parity	None, Even, Odd, Space, Mark
Flow Control	RTS/CTS (RS-232 only), DTR/DSR (RS-232 only), XON/XOFF
Isolation	2 kV isolation for NPort 5430I/5450I/5450I-T
Pull High/Low Resistor for RS-485	1 kilo-ohm, 150 kilo-ohms
RS-485 Data Direction Control	ADDC® (automatic data direction control)
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 5410/5450/5450-T: 350 mA @ 12 VDC NPort 5430: 320 mA @ 12 VDC NPort 5430I: 530 mA @ 12 VDC NPort 5450I/5450I-T: 554 mA @ 12 VDC
Input Voltage	12 to 48 VDC
No. of Power Inputs	2
Power Connector	1 removable 3-contact terminal block(s) Power input jack
Reliability	
Automatic Reboot Trigger	Built-in WDT
Alert Tools	Built-in buzzer and RTC (real-time clock)
Physical Characteristics	
Housing	Metal
Dimensions (with ears)	181 x 103 x 33 mm (7.14 x 4.06 x 1.30 in)
Dimensions (without ears)	158 x 103 x 33 mm (6.22 x 4.06 x 1.30 in)
Weight	740 g (1.63 lb)
Interactive Interface	LCD panel display (standard temp. models only) Push buttons for configuration (standard temp. models only)
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 55032/24
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: 1 kV IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m; Signal: 3 V/m IEC 61000-4-8 PFMF IEC 61000-4-11 DIPs
Maritime	DNV-GL (standard temp. models only)
Medical	EN 60601-1-2 Class B, EN 55011 (NPort 5410/5450/5450I only)
Safety	UL 60950-1

MTBF

Time	NPort 5410: 310,331 hrs NPort 5430/5430I: 265,650 hrs NPort 5450/5450I: 206,903 hrs
Standards	Telcordia (Bellcore) Standard TR/SR

Warranty

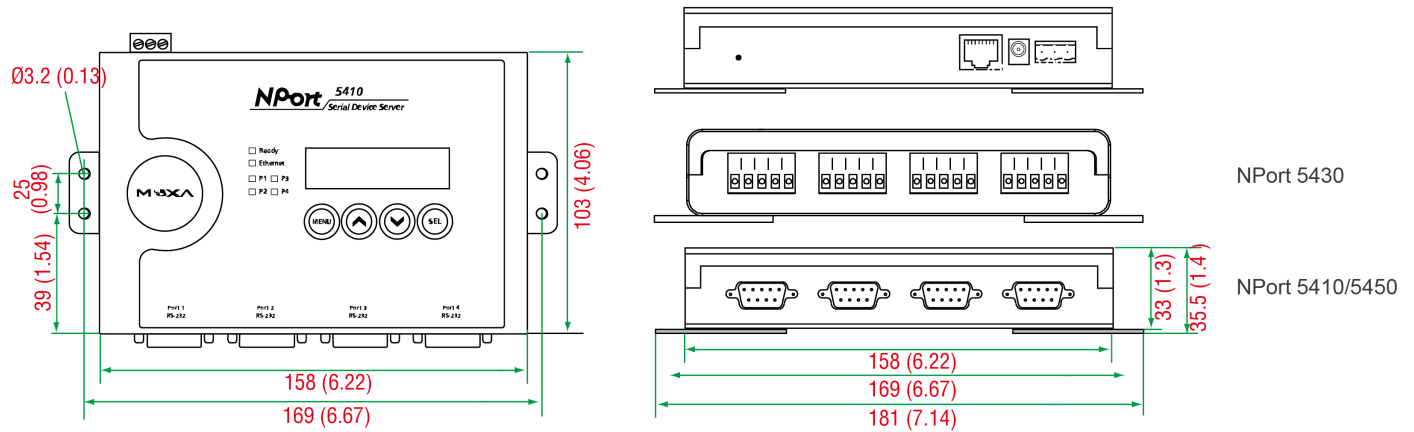
Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x NPort 5400 Series device server
Power Supply	1 x power wiring adapters: CBL-PJTB-10
Installation Kit	1 x wall-mounting kit
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	Serial Interface	Serial Interface Connector	Serial Interface Isolation	Operating Temp.	Input Voltage
NPort 5410	RS-232	DB9 male	–	0 to 55°C	12 to 48 VDC
NPort 5430	RS-422/485	Terminal block	–	0 to 55°C	12 to 48 VDC
NPort 5430I	RS-422/485	Terminal block	2 kV	0 to 55°C	12 to 48 VDC
NPort 5450	RS-232/422/485	DB9 male	–	0 to 55°C	12 to 48 VDC
NPort 5450-T	RS-232/422/485	DB9 male	–	-40 to 75°C	12 to 48 VDC
NPort 5450I	RS-232/422/485	DB9 male	2 kV	0 to 55°C	12 to 48 VDC
NPort 5450I-T	RS-232/422/485	DB9 male	2 kV	-40 to 75°C	12 to 48 VDC

Accessories (sold separately)

Cables

CBL-F9M9-150	DB9 female to DB9 male serial cable, 1.5 m
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CBL-F9M9-20	DB9 female to DB9 male serial cable, 20 cm
CBL-RJ458P-100	8-pin RJ45 CAT5 Ethernet cable, 1 m
CBL-RJ45SF9-150	8-pin RJ45 to DB25 male serial cable with shielding, 1.5m

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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Power Adapters

PWR-12125-WPAU-S1	Non-locking barrel plug, 12 VDC, 1.25 A, 100 to 240 VAC, Australia (AU) plug, 0 to 40°C operating temperature
PWR-12125-WPCN-S1	Non-locking barrel plug, 12 VDC, 1.25 A, 100 to 240 VAC, China (CN) plug, 0 to 40°C operating temperature
PWR-12125-WPEU-S1	Non-locking barrel plug, 12 VDC, 1.25 A, 100-240 VAC, Continental Europe (EU) plug, 0 to 40°C operating temperature
PWR-12125-WPUK-S1	Non-locking barrel plug, 12 VDC, 1.25 A, 100-240 VAC, United Kingdom (UK) plug, 0 to 40°C operating temperature
PWR-12125-USJP-S1	Non-locking barrel plug, 12 VDC, 1.25 A, 100-240 VAC, United States/Japan (US/JP) plug, 0 to 40°C operating temperature
PWR-12150-AU-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100-240 VAC, Australia (AU) plug, -40 to 75°C operating temperature Applicable Models: NPort 5450-T NPort 5450I-T
PWR-12150-CN-SA-T	Wide-temperature (-40 to 75°C) locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, China (CN) plug Applicable Models: NPort 5450-T NPort 5450I-T
PWR-12150-EU-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100-240 VAC, Continental Europe (EU) plug, -40 to 75°C operating temperature Applicable Models: NPort 5450-T NPort 5450I-T
PWR-12150-UK-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100-240 VAC, United Kingdom (UK) plug, -40 to 75°C operating temperature Applicable Models: NPort 5450-T NPort 5450I-T
PWR-12150-USJP-SA-T	Locking barrel plug, 12 VDC 1.5 A, 100-240 VAC, United States/Japan (US/JP) plug, -40 to 75°C operating temperature Applicable Models: NPort 5450-T NPort 5450I-T

Power Wiring

CBL-PJTB-10	Non-locking barrel plug to bare-wire cable
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NPort 5600-DT Series

8-port RS-232/422/485 serial device servers



Features and Benefits

- 8 serial ports supporting RS-232/422/485
- Compact desktop design
- 10/100M auto-sensing Ethernet
- Easy IP address configuration with LCD panel
- Configure by Telnet, web browser, or Windows utility
- Socket modes: TCP server, TCP client, UDP, Real COM
- SNMP MIB-II for network management

Certifications



Introduction

NPort 5600-8-DT device servers can conveniently and transparently connect 8 serial devices to an Ethernet network, allowing you to network your existing serial devices with only basic configuration. You can both centralize management of your serial devices and distribute management hosts over the network. Since the NPort 5600-8-DT device servers have a smaller form factor compared to our 19-inch models, they are a great choice for applications that need additional serial ports, but for which mounting rails are not available.

Convenient Design for RS-485 Applications

The NPort 5650-8-DT device servers support selectable 1 kilo-ohm and 150 kilo-ohms pull high/low resistors and a 120-ohm terminator. In some critical environments, termination resistors may be needed to prevent the reflection of serial signals. When using termination resistors, it is also important to set the pull high/low resistors correctly so that the electrical signal is not corrupted. Since no set of resistor values is universally compatible with all environments, NPort 5600-8-DT device servers use DIP switches to allow users to adjust termination and pull high/low resistor values manually for each serial port.

Convenient Power Inputs

The NPort 5650-8-DT device servers support both power terminal blocks and power jacks for ease of use and greater flexibility. Users can connect the terminal block directly to a DC power source, or use the power jack to connect to an AC circuit through an adapter.

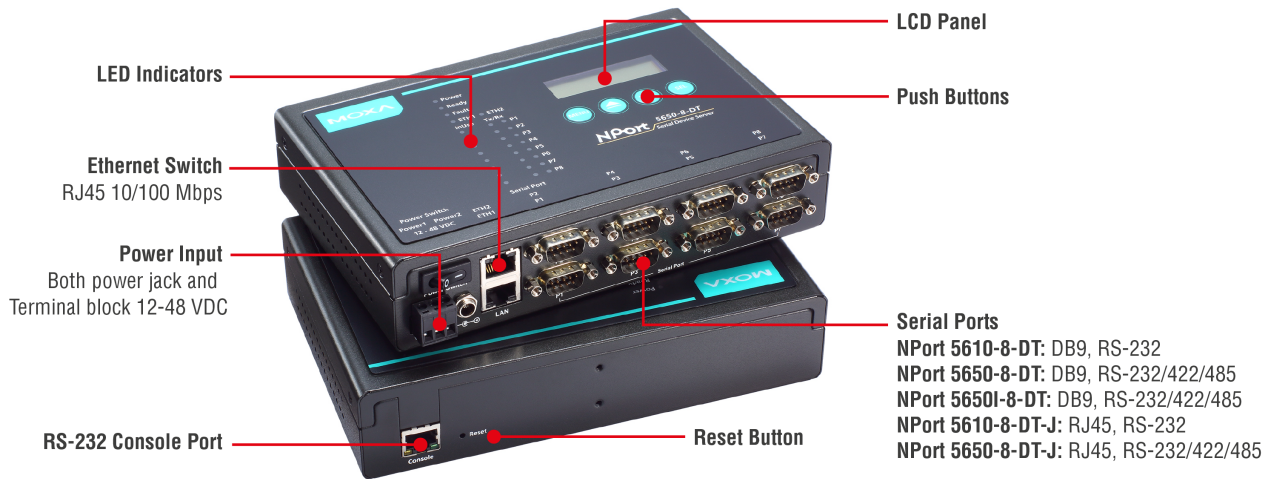
LED Indicators to Ease Your Maintenance Tasks

The System LED, Serial Tx/Rx LEDs, and Ethernet LEDs (located on the RJ45 connector) provide a great tool for basic maintenance tasks and help engineers analyze problems in the field. The NPort 5600's LEDs not only indicate current system and network status, but also help field engineers monitor the status of attached serial devices.

Two Ethernet Ports for Convenient Cascade Wiring

The NPort 5600-8-DT device servers come with two Ethernet ports that can be used as Ethernet switch ports. Connect one port to the network or server, and the other port to another Ethernet device. The dual Ethernet ports eliminate the need to connect each device to a separate Ethernet switch, reducing wiring costs.

Appearance



Specifications

Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	2
Magnetic Isolation Protection	1.5 kV (built-in)

Ethernet Software Features

Configuration Options	Serial Console, Telnet Console, Web Console (HTTP/HTTPS), Windows Utility
Management	ARP, BOOTP, DHCP Client, DNS, HTTP, HTTPS, ICMP, IPv4, LLDP, Rtelnet, SMTP, SNMPv1/v2c, TCP/IP, Telnet, UDP
Filter	IGMP v1/v2
MIB	RFC1213, RFC1317
Time Management	SNTP
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1/10 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded
Linux Real TTY Drivers	Kernel versions: 2.4.x, 2.6.x, 3.x, 4.x, and 5.x
Fixed TTY Drivers	SCO UNIX, SCO OpenServer, SCO UnixWare 7, Sun Solaris 10, QNX 4.25, QNX 6.x, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X
Android API	Android 3.1.x and later

Serial Interface

Connector	8-pin RJ45: NPort 5610-8-DT-J/5650-8-DT-J DB9 male: NPort 5610-8-DT models/NPort 5650-8-DT models/NPort 5650I-8-DT models
No. of Ports	8
Serial Standards	NPort 5610-8-DT Series: RS-232 NPort 5650-8-DT Series: RS-232/422/485
Baudrate	Supports standard baudrates (unit=bps): 50, 75, 110, 134, 150, 300, 600, 1200, 1800, 2400, 4800, 7200, 9600, 19200, 38400, 57600, 115200, 230.4k, 460.8k, 921.6k
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2

Parity	None, Even, Odd, Space, Mark
Flow Control	RTS/CTS, DTR/DSR, XON/XOFF
Pull High/Low Resistor for RS-485	1 kilo-ohm, 150 kilo-ohms
Terminator for RS-485	120 ohms
RS-485 Data Direction Control	ADDC® (automatic data direction control)
Isolation	-I models: 2 kV
Surge	0.5 kV
Console Port	RS-232 (TxD, RxD, GND), 3-pin (19200, n, 8, 1)

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 5610-8-DT/NPort 5610-8-DT-J/NPort 5610-8-DT-T: 611 mA @ 12 VDC NPort 5650-8-DT/NPort 5650-8-DT-J/NPort 5650-8-DT-T: 615 mA @ 12 VDC NPort 5650I-8-DT/NPort 5650I-8-DT-T: 1066 mA @ 12 VDC
No. of Power Inputs	2
Input Voltage	12 to 48 VDC
Power Connector	1 removable 3-contact terminal block(s) 1 power input jack
Reverse Polarity Protection	Supported

Reliability

Automatic Reboot Trigger	Built-in WDT
Alert Tools	Built-in buzzer and RTC (real-time clock)

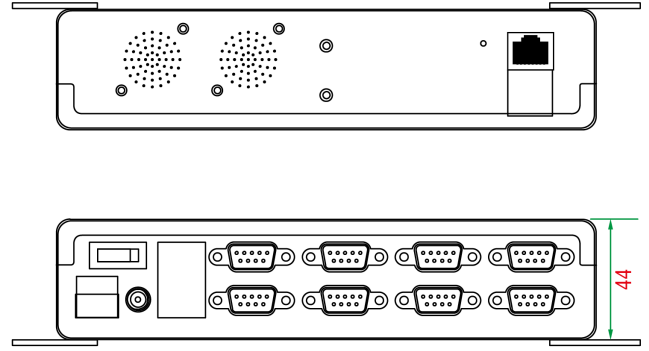
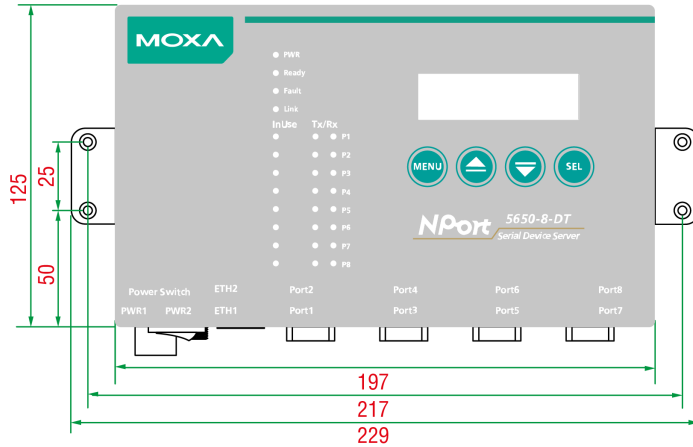
Physical Characteristics

Housing	Metal
Dimensions (with ears)	229 x 46 x 125 mm (9.01 x 1.81 x 4.92 in)
Dimensions (without ears)	197 x 44 x 125 mm (7.76 x 1.73 x 4.92 in)
Dimensions (with DIN-rail kit on bottom panel)	197 x 53 x 125 mm (7.76 x 2.09 x 4.92 in)
Weight	NPort 5610-8-DT: 1,570 g (3.46 lb) NPort 5610-8-DT-J: 1,520 g (3.35 lb) NPort 5610-8-DT-T: 1,320 g (2.91 lb) NPort 5650-8-DT: 1,590 g (3.51 lb) NPort 5650-8-DT-J: 1,540 g (3.40 lb) NPort 5650-8-DT-T: 1,340 g (2.95 lb) NPort 5650I-8-DT: 1,660 g (3.66 lb) NPort 5650I-8-DT-T: 1,410 g (3.11 lb)

Installation	Desktop, DIN-rail mounting (with optional kit), Wall mounting (with optional kit)
Interactive Interface	LCD panel display Push buttons for configuration
Environmental Limits	
Operating Temperature	Standard models: 0 to 55°C (32 to 131°F) Wide T 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: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 0.5 kV IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m; Signal: 3 V/m IEC 61000-4-8 PFMF IEC 61000-4-11 DIPs
Safety	UL 60950-1, IEC 62368-1
Declaration	
Green Product	RoHS, CRoHS, WEEE
MTBF	
Time	836,374 hrs
Standards	Telcordia (Bellcore) Standard
Warranty	
Warranty Period	5 years
Details	See www.moxa.com/warranty
Package Contents	
Device	1 x NPort 5600-DT Series device server
Installation Kit	1 x wall-mounting kit
Cable	1 x Ethernet, RJ45
Power Supply	1 x power adapter, suitable for your region
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm



Ordering Information

Model Name	Serial Interface	Serial Interface Connector	Serial Interface Isolation	Operating Temp.	Input Voltage
NPort 5610-8-DT	RS-232	DB9	–	0 to 55°C	12 to 48 VDC
NPort 5610-8-DT-T	RS-232	DB9	–	-40 to 75°C	12 to 48 VDC
NPort 5610-8-DT-J	RS-232	8-pin RJ45	–	0 to 55°C	12 to 48 VDC
NPort 5650-8-DT	RS-232/422/485	DB9	–	0 to 55°C	12 to 48 VDC
NPort 5650-8-DT-T	RS-232/422/485	DB9	–	-40 to 75°C	12 to 48 VDC
NPort 5650-8-DT-J	RS-232/422/485	8-pin RJ45	–	0 to 55°C	12 to 48 VDC
NPort 5650I-8-DT	RS-232/422/485	DB9	2 kV	0 to 55°C	12 to 48 VDC
NPort 5650I-8-DT-T	RS-232/422/485	DB9	2 kV	-40 to 75°C	12 to 48 VDC

Accessories (sold separately)

DIN-Rail Mounting Kits

DK35A	DIN-rail mounting kit, 35 mm
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Power Adapters

PWR-12200-DT-S1	Desktop power supply (requires power cord), 12 VDC, 2 A, 100-240 VAC, 0 to 40°C operating temperature
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Power Cords

PWC-C13AU-3B-183	Power cord with Australian (AU) plug, 1.83 m
PWC-C13CN-3B-183	Power cord with three-prong China (CN) plug, 1.83 m
PWC-C13EU-3B-183	Power cord with Continental Europe (EU) plug, 1.83 m
PWC-C13JP-3B-183	Power cord with Japan (JP) plug, 7A/125V, 1.83 m
PWC-C13UK-3B-183	Power cord with United Kingdom (UK) plug, 1.83 m
PWC-C13US-3B-183	Power cord with United States (US) plug, 1.83 m

Wall-Mounting Kits

WK-35-04	2 plates (35 x 44 x 2.5mm) with 6 screws (FTSx6 M3x4mm)
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NPort 5600-DTL Series

8-port RS-232/422/485 serial device servers



Features and Benefits

- 8 serial ports supporting RS-232/422/485
- Compact desktop design
- 10/100M auto-sensing Ethernet
- Configure by Telnet, web browser, or Windows utility
- Supports Real COM and TCP server, TCP client, UDP socket modes
- SNMP MIB-II for network management

Certifications



Introduction

NPort® 5600-8-DTL device servers can conveniently and transparently connect 8 serial devices to an Ethernet network, allowing you to network your existing serial devices with basic configurations. You can both centralize management of your serial devices and distribute management hosts over the network. The NPort® 5600-8-DTL device servers have a smaller form factor than our 19-inch models, making them a great choice for applications that need additional serial ports when mounting rails are not available.

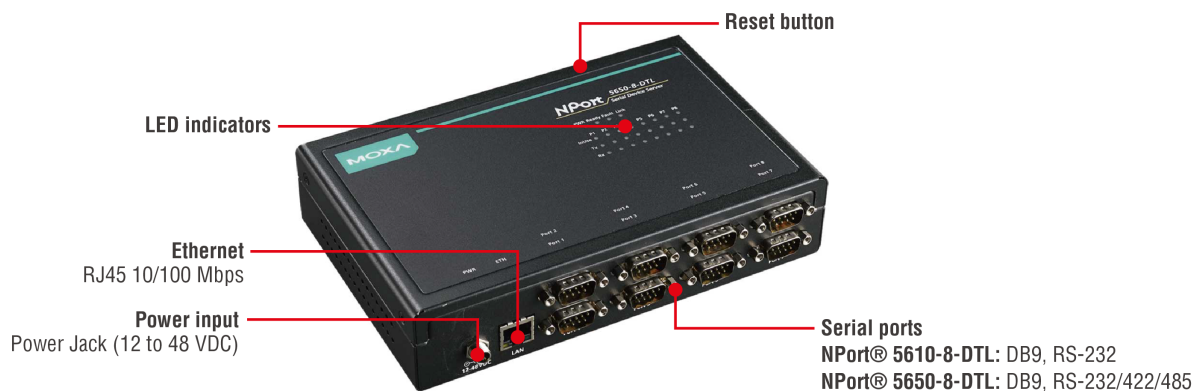
Convenient Design for RS-485 Applications

The NPort® 5650-8-DTL device servers support selectable 1 kilo-ohm and 150 kilo-ohms pull high/low resistors and a 120-ohm terminator. In some critical environments, termination resistors may be needed to prevent the reflection of serial signals. When using termination resistors, it is also important to set the pull high/low resistors correctly so that the electrical signal is not corrupted. Since no set of resistor values is universally compatible with all environments, NPort® 5600-8-DTL device servers use DIP switches to allow users to adjust termination and pull high/low resistor values manually for each serial port.

LED Indicators to Ease Your Maintenance Tasks

The System LED, Serial Tx/Rx LEDs, and Ethernet LEDs (located on the RJ45 connector) provide a great tool for basic maintenance tasks and help engineers analyze problems in the field. The NPort® 5600's LEDs not only indicate current system and network status, but they also help field engineers monitor the status of attached serial devices.

Appearance



Specifications

Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	1
Magnetic Isolation Protection	1.5 kV (built-in)

Ethernet Software Features

Configuration Options	Serial Console, Telnet Console, Web Console (HTTP/HTTPS), Windows Utility
Management	ARP, BOOTP, DHCP Client, DNS, HTTP, HTTPS, ICMP, IPv4, LLDP, Rtelnet, SMTP, SNMPv1/v2c, Telnet, TCP/IP, UDP
Filter	IGMP v1/v2
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1/10 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded
Linux Real TTY Drivers	Kernel versions: 2.4.x, 2.6.x, 3.x, 4.x, and 5.x
Fixed TTY Drivers	SCO UNIX, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6.x, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X
Android API	Android 3.1.x and later
MIB	RFC1213, RFC1317
Time Management	SNTP

Serial Interface

Connector	DB9 male
No. of Ports	8
Serial Standards	NPort 5610-8-DTL Series: RS-232 NPort 5650-8-DTL Series: RS-232, RS-422, RS-485
Baudrate	Supports standard baudrates (unit=bps): 50, 75, 110, 134, 150, 300, 600, 1200, 1800, 2400, 4800, 7200, 9600, 19200, 38400, 57600, 115200, 230.4k, 460.8k, 921.6k
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Parity	None, Even, Odd, Space, Mark
Flow Control	RTS/CTS, DTR/DSR, XON/XOFF
Isolation	NPort 5650I-8-DTL Series: 2 kV
Pull High/Low Resistor for RS-485	1 kilo-ohm, 150 kilo-ohms
RS-485 Data Direction Control	ADDC® (automatic data direction control)
Terminator for RS-485	NPort 5650 Series: 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 5610-8-DTL Series: 340 mA @ 12 VDC NPort 5650-8-DTL Series: 470 mA @ 12 VDC NPort 5650I-8-DTL Series: 740 mA @ 12 VDC
No. of Power Inputs	1
Input Voltage	12 to 48 VDC
Reverse Polarity Protection	Supported
Source of Input Power	Power input jack

Physical Characteristics

Housing	Metal
Dimensions (with ears)	229 x 135.43 x 46 mm (9.02 x 5.33 x 1.81 in)
Dimensions (without ears)	197 x 135.43 x 44 mm (7.76 x 5.33 x 1.73 in)
Weight	NPort 5610-8-DTL Series: 1760 g (3.88 lb) NPort 5650-8-DTL Series: 1770 g (3.90 lb) NPort 5650I-8-DTL Series: 1850 g (4.08 lb)
Installation	Desktop, DIN-rail mounting (with optional kit), Wall mounting (with optional kit)

Environmental Limits

Operating Temperature	Standard Models: 0 to 60°C (-32 to 140°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 55032/24
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: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m; Signal: 3 V/m IEC 61000-4-8 PFMF IEC 61000-4-11 DIPs
Safety	UL 60950-1

Declaration

Green Product	RoHS, CRoHS, WEEE
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MTBF

Time	NPort 5610-8-DTL Series: 953,388 hrs NPort 5650-8-DTL Series: 740,457 hrs NPort 5650I-8-DTL Series: 258,150 hrs
Standards	Telcordia (Bellcore) Standard TR/SR

Warranty

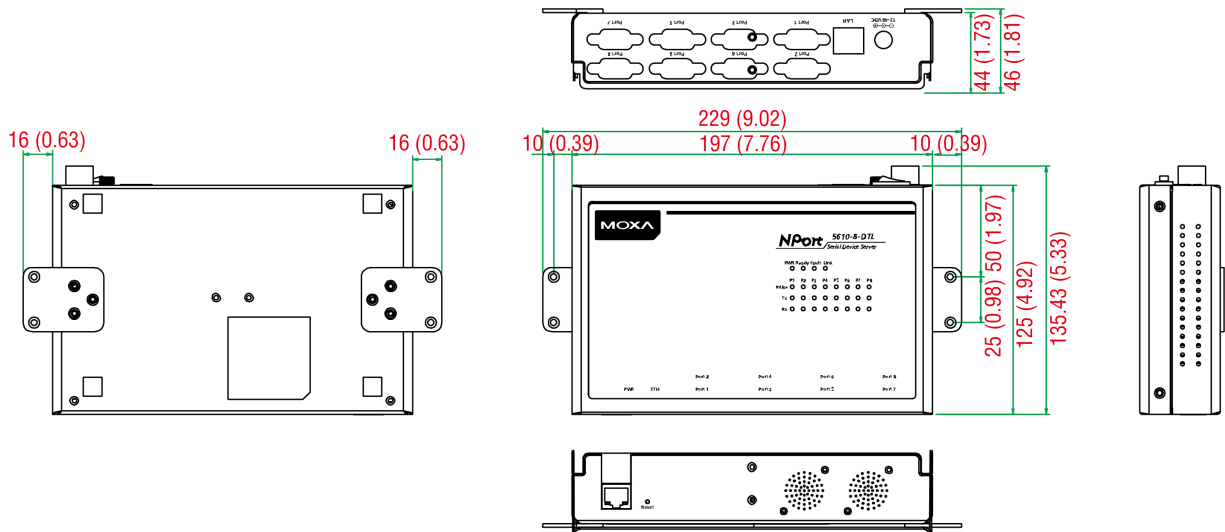
Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x NPort 5600-DTL Series device server
Installation Kit	1 x wall-mounting kit
Cable	1 x Ethernet, RJ45
Power Supply	1 x power adapter, suitable for your region (except -T models)
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	Serial Interface	Serial Interface Connector	Serial Interface Isolation	Operating Temp.	Input Voltage
NPort 5610-8-DTL	RS-232	DB9	–	0 to 60°C	12-48 VDC
NPort 5610-8-DTL-T	RS-232	DB9	–	-40 to 75°C	12-48 VDC
NPort 5650-8-DTL	RS-232/422/485	DB9	–	0 to 60°C	12-48 VDC
NPort 5650-8-DTL-T	RS-232/422/485	DB9	–	-40 to 75°C	12-48 VDC
NPort 5650I-8-DTL	RS-232/422/485	DB9	2 kV	0 to 60°C	12-48 VDC
NPort 5650I-8-DTL-T	RS-232/422/485	DB9	2 kV	-40 to 75°C	12-48 VDC

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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Power Adapters

PWR-12200-DT-S1	Desktop power supply (requires power cord), 12 VDC, 2 A, 100-240 VAC, 0 to 40°C operating temperature
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Power Cords

PWC-C13AU-3B-183	Power cord with Australian (AU) plug, 1.83 m
PWC-C13CN-3B-183	Power cord with three-prong China (CN) plug, 1.83 m
PWC-C13EU-3B-183	Power cord with Continental Europe (EU) plug, 1.83 m
PWC-C13JP-3B-183	Power cord with Japan (JP) plug, 7A/125V, 1.83 m
PWC-C13UK-3B-183	Power cord with United Kingdom (UK) plug, 1.83 m
PWC-C13US-3B-183	Power cord with United States (US) plug, 1.83 m

Wall-Mounting Kits

WK-35-04	2 plates (35 x 44 x 2.5mm) with 6 screws (FTSx6 M3x4mm)
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NPort Express Series

1-port RS-232/422/485 serial device servers



Features and Benefits

- 3-in-1 serial port: RS-232, RS-422, or RS-485
- Variety of operation modes, including TCP Server, TCP Client, UDP, Ethernet Modem, and Pair Connection
- Real COM/TTY drivers for Windows and Linux
- 2-wire RS-485 with patented Automatic Data Direction Control (ADDC®)

Certifications



Introduction

The NPort® DE-211 and DE-311 are 1-port serial device servers that support RS-232, RS-422, 4-wire RS-485, and 2-wire RS-485. The DE-211 supports 10 Mbps Ethernet connections and has a DB25 female connector for the serial port. The DE-311 supports 10/100 Mbps Ethernet connections and has a DB9 female connector for the serial port. Both device servers are ideal for applications that involve information display boards, PLCs, flow meters, gas meters, CNC machines, and biometric identification card readers.

Specifications

Ethernet Interface

No. of Ports	1
Magnetic Isolation Protection	1.5 kV (built-in)
10/100BaseT(X) Ports (RJ45 connector)	DE-311: Auto MDI/MDI-X connection
10BaseT(X) Ports, RJ45 Connector	DE-211: Auto MDI/MDI-X connection

Ethernet Software Features

Configuration Options	Windows Utility, Telnet Console, Serial Console
Management	ARP, BOOTP, DHCP Client, IPv4, TCP/IP, Telnet, UDP, ICMP
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1/10 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded
Linux Real TTY Drivers	Kernel versions: 2.4.x, 2.6.x, 3.x, 4.x, and 5.x
Fixed TTY Drivers	SCO UNIX, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X
Android API	Android 3.1.x and later

Serial Interface

Connector	DE-211: DB25 female DE-311: DB9 female
Serial Standards	RS-232, RS-422, RS-485

No. of Ports	1
Baudrate	Supports standard baudrates (unit=bps): 50, 75, 110, 134, 150, 300, 600, 1200, 1800, 2400, 4800, 7200, 9600, 19200, 38400, 57600, 115200, 230.4k
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Parity	None, Even, Odd, Space, Mark
Flow Control	None, RTS/CTS, XON/XOFF
RS-485 Data Direction Control	ADDC® (automatic data direction control)

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	DE-211: 180 mA @ 12 VDC, 100 mA @ 24 VDC DE-311: 300 mA @ 9 VDC, 150 mA @ 24 VDC
Input Voltage	DE-211: 12 to 30 VDC DE-311: 9 to 30 VDC

Reliability

Alert Tools	Built-in buzzer and RTC (real-time clock)
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Physical Characteristics

Housing	Metal
Dimensions (with ears)	90.2 x 100.4 x 22 mm (3.55 x 3.95 x 0.87 in)
Dimensions (without ears)	67 x 100.4 x 22 mm (2.64 x 3.95 x 0.87 in)
Weight	480 g (1.06 lb)

Environmental Limits

Operating Temperature	0 to 55°C (32 to 131°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 55032/24
EMI	CISPR 32, FCC Part 15B Class B
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 61000-4-5 Surge: Power: 1 kV; Signal: 1 kV IEC 61000-4-6 CS: 150 kHz to 80 MHz: 10 V/m; Signal: 10 V/m IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m; Signal: 3 V/m IEC 61000-4-11 DIPs

Medical	DE-311: EN 60601-1-2 Class B, EN 55011
Safety	UL 60950-1
Declaration	
Green Product	RoHS, CRoHS, WEEE
MTBF	
Time	DE-211: 347,822 hrs DE-311: 225,529 hrs
Standards	MIL-HDBK-217F
Warranty	
Warranty Period	5 years
Details	See www.moxa.com/warranty
Package Contents	
Device	1 x NPort Express Series device server
Power Supply	1 x power adapter, universal
Documentation	1 x document and software CD 1 x quick installation guide 1 x warranty card

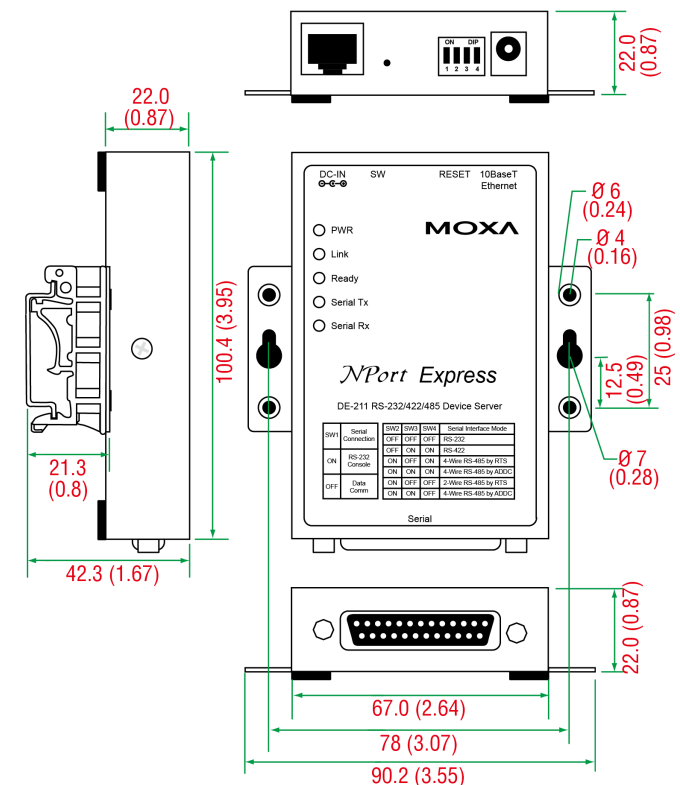
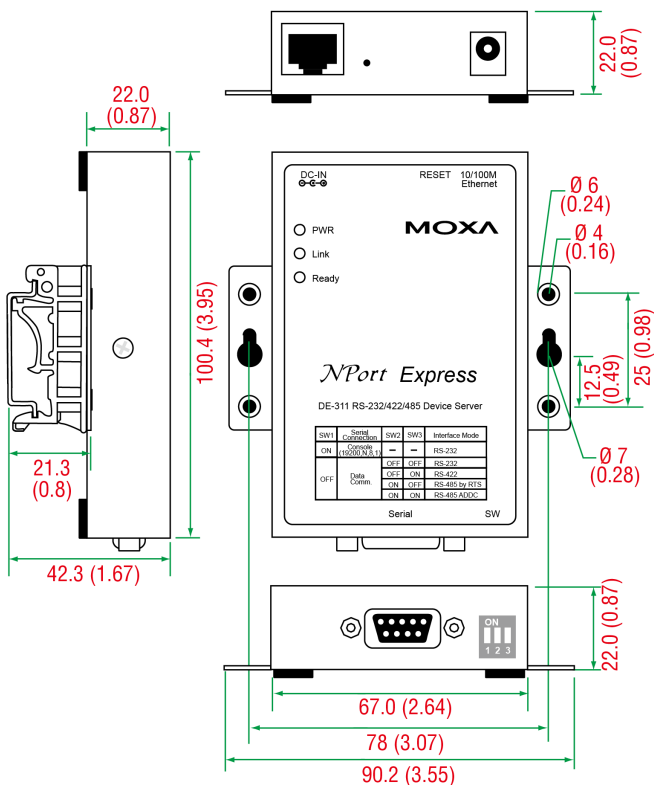
Dimensions

NPort DE-311

NPort DE-211

Unit: mm (inch)

Unit: mm (inch)



Ordering Information

Model Name	Ethernet Port Speed	Serial Connector	Power Input	Medical Certifications
DE-211	10 Mbps	DB25 female	12 to 30 VDC	–
DE-311	10/100 Mbps	DB9 female	9 to 30 VDC	EN 60601-1-2 Class B, EN 55011

Accessories (sold separately)

Cables

CBL-F9M9-150	DB9 female to DB9 male serial cable, 1.5 m Applicable Models: DE-311
CBL-F9M9-20	DB9 female to DB9 male serial cable, 20 cm Applicable Models: DE-311
NP21101	DB25 male to DB9 female cable for RS-232 transmission, 30 cm Applicable Models: DE-211
NP21102	DB25 male to DB9 male cable for RS-232 transmission, 30 cm Applicable Models: DE-211
NP21103	DB25 male to terminal block for RS-422/485 transmission Applicable Models: DE-211

DIN-Rail Mounting Kits

DK35A	DIN-rail mounting kit, 35 mm
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Power Adapters

PWR-12050-WPAU-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, Australia (AU) plug, 0 to 40°C operating temperature
PWR-12050-WPCN-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, China (CN) plug, 0 to 40°C operating temperature
PWR-12050-WPEU-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, Continental Europe (EU) plug, 0 to 40°C operating temperature
PWR-12050-WPUK-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, United Kingdom (UK) plug, 0 to 40°C operating temperature
PWR-12050-WPUSJP-S2	Non-locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, United States/Japan (US/JP) plug, 0 to 40°C operating temperature

Terminal Blocks

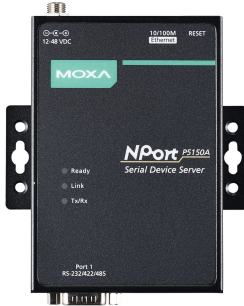
TB-M25	DB25 male DIN-rail wiring terminal Applicable Models: DE-211
TB-M9	DB9 male DIN-rail wiring terminal Applicable Models: DE-311

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NPort P5150A Series

1-port RS-232/422/485 PoE serial device servers



Features and Benefits

- IEEE 802.3af-compliant PoE power device equipment
- Speedy 3-step web-based configuration
- Surge protection for serial, Ethernet, and power
- COM port grouping and UDP multicast applications
- Screw-type power connectors for secure installation
- Real COM/TTY drivers for Windows and Linux
- Standard TCP/IP interface and versatile TCP and UDP operation modes

Certifications



Introduction

NPort® P5150A device servers are designed to make serial devices network-ready in an instant. It is a power device and is IEEE 802.3af compliant, so it can be powered by a PoE PSE device without an additional power supply. Use the NPort® P5150A device servers to give your PC software direct access to serial devices from anywhere on the network. The NPort® P5150A device servers are ultra-lean, ruggedized, and user-friendly, making simple and reliable serial-to-Ethernet solutions possible.

Surge Protection for Serial, Ethernet, and Power

Surge, which is typically caused by high voltages that result from switching and lightning transients, is a common threat to all electrical devices. Moxa's leading-edge surge immunity solution, which is applied to the NPort® P5150A's serial, power, and Ethernet lines, is tested and proven compliant with IEC 61000-4-5. This state-of-the-art surge protection provides a robust serial-to-Ethernet solution that can protect electrical devices from voltage spikes and withstand electrically noisy environmental conditions.

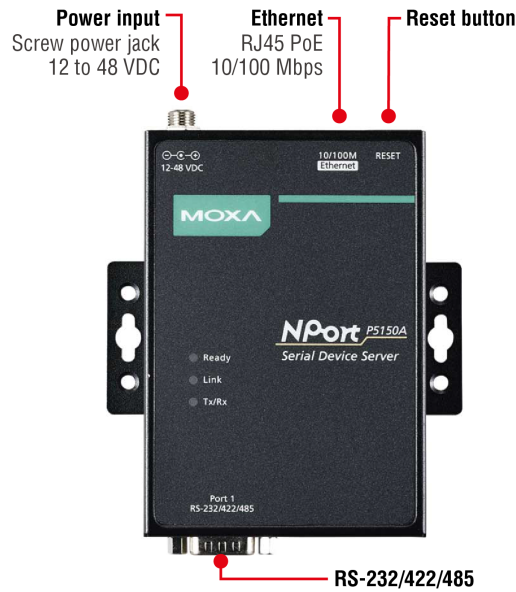
3-Step Web-based Configuration

The NPort® P5150A's 3-step web-based configuration tool is straightforward and user-friendly. The NPort® P5150A's web console guides users through 3 simple configuration steps that are necessary to activate the serial-to-Ethernet application. With this speedy 3-step web-based configuration, a user only needs to spend an average of 30 seconds to complete the NPort® settings and enable the application, saving a great amount of time and effort.

Easy to Troubleshoot

NPort® P5150A device servers support SNMP, which can be used to monitor all units over Ethernet. Each unit can be configured to send trap messages automatically to the SNMP manager when user-defined errors are encountered. For users who do not use SNMP manager, an email alert can be sent instead. Users can define the trigger for the alerts using Moxa's Windows utility, or the web console. For example, alerts can be triggered by a warm start, a cold start, or a password change.

Appearance



Specifications

Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	1
Magnetic Isolation Protection	1.5 kV (built-in)
Standards	PoE (IEEE 802.3af)

Ethernet Software Features

Configuration Options	Windows Utility, Serial Console, Telnet Console, Web Console (HTTP/HTTPS)
Management	ARP, BOOTP, DHCP Client, DNS, HTTP, HTTPS, ICMP, IPv4, LLDP, SMTP, SNMPv1/v2c, TCP/IP, Telnet, UDP
Filter	IGMP v1/v2
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1/10 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded
Linux Real TTY Drivers	Kernel versions: 2.4.x, 2.6.x, 3.x, 4.x, and 5.x
Fixed TTY Drivers	SCO UNIX, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X
Android API	Android 3.1.x and later
MIB	RFC1213, RFC1317

Serial Interface

Connector	DB9 male
No. of Ports	1
Serial Standards	RS-232, RS-422, RS-485
Operation Modes	Disabled, Ethernet Modem, Pair Connection, Real COM, Reverse Telnet, RFC2217, TCP Client, TCP Server, UDP
Baudrate	Supports standard baudrates (unit=bps): 50, 75, 110, 134, 150, 300, 600, 1200, 1800, 2400, 4800, 7200, 9600, 19200, 38400, 57600, 115200, 230.4k, 460.8k, 921.6k

Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Parity	None, Even, Odd, Space, Mark
Flow Control	RTS/CTS, DTR/DSR, XON/XOFF
Pull High/Low Resistor for RS-485	1 kilo-ohm, 150 kilo-ohms
RS-485 Data Direction Control	ADDC® (automatic data direction control)
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	DC Jack I/P: 125 mA @ 12 VDC PoE I/P: 180 mA @ 48 VDC
Input Voltage	12 to 48 VDC (supplied by power adapter), 48 VDC (supplied by PoE)
No. of Power Inputs	1
Source of Input Power	Power input jack PoE
Physical Characteristics	
Housing	Metal
Dimensions (with ears)	100 x 111 x 26 mm (3.94 x 4.37 x 1.02 in)
Dimensions (without ears)	77 x 111 x 26 mm (3.03 x 4.37 x 1.02 in)
Weight	300 g (0.66 lb)
Environmental Limits	
Operating Temperature	NPort P5150A: 0 to 60°C (32 to 140°F) NPort P5150A-T: -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 55032/24
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: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m; Signal: 3 V/m IEC 61000-4-8 PFMF IEC 61000-4-11 DIPs
Safety	UL 60950-1

MTBF

Time	2,231,530 hrs
Standards	Telcordia (Bellcore) Standard TR/SR

Warranty

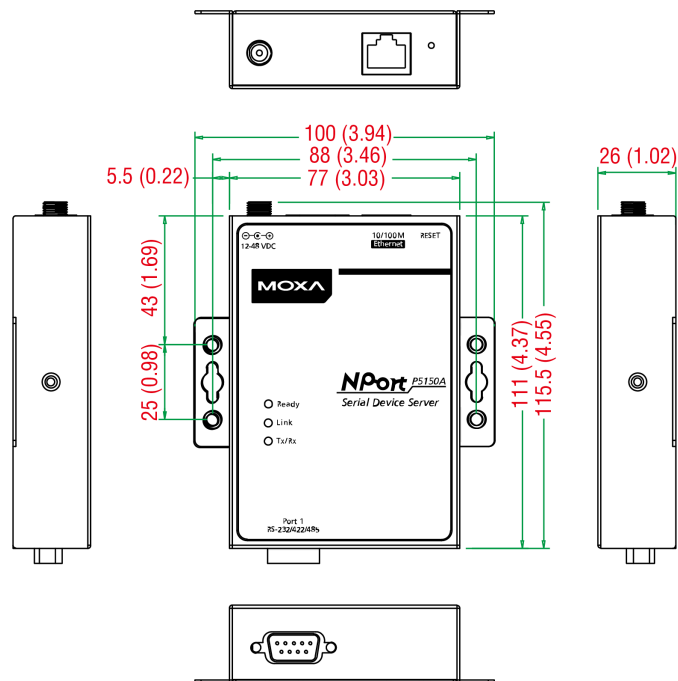
Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x NPort P5150A Series device server
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	Operating Temp.	Baudrate	Serial Standards	No. of Serial Ports	Input Voltage
NPort P5150A	0 to 60°C	50 bps to 921.6 kbps	RS-232/422/485	1	12-48 VDC by power adapter or 48 VDC by PoE
NPort P5150A-T	-40 to 75°C	50 bps to 921.6 kbps	RS-232/422/485	1	12-48 VDC by power adapter or 48 VDC by PoE

Accessories (sold separately)

Cables

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

Connectors

ADP-RJ458P-DB9F	DB9 female to RJ45 connector
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Mini DB9F-to-TB	DB9 female to terminal block connector
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DIN-Rail Mounting Kits

DK35A	DIN-rail mounting kit, 35 mm
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Power Adapters

PWR-12050-WPAU-S1	Locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, Australia (AU) plug, 0 to 40°C operating temperature
PWR-12050-WPCN-S1	Locking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, China (CN) plug, 0 to 40°C operating temperature
PWR-12050-WPEU-S1	Locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, Continental Europe (EU) plug, 0 to 40°C operating temperature
PWR-12050-WPUK-S1	Locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, United Kingdom (UK) plug, 0 to 40°C operating temperature
PWR-12050-WPUSJP-S1	Locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, United States/Japan (US/JP) plug, 0 to 40°C operating temperature
PWR-12150-AU-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100-240 VAC, Australia (AU) plug, -40 to 75°C operating temperature
PWR-12150-CN-SA-T	Wide-temperature (-40 to 75°C) locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, China (CN) plug
PWR-12150-EU-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100-240 VAC, Continental Europe (EU) plug, -40 to 75°C operating temperature
PWR-12150-UK-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100-240 VAC, United Kingdom (UK) plug, -40 to 75°C operating temperature
PWR-12150-USJP-SA-T	Locking barrel plug, 12 VDC 1.5 A, 100-240 VAC, United States/Japan (US/JP) plug, -40 to 75°C operating temperature

Power Cords

CBL-PJ21NOPEN-BK-30	Locking barrel plug to bare-wire cable
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