

# 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).

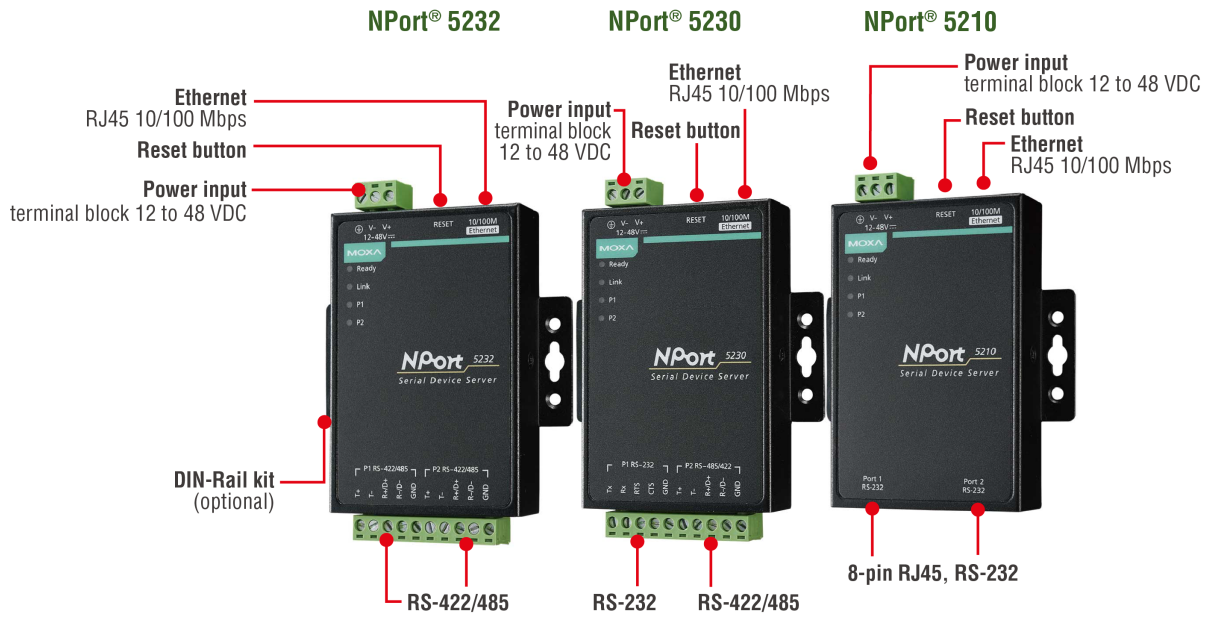
### Real COM/TTY Drivers for Existing Software

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 versions: 2.4.x, 2.6.x, 3.x, 4.x, and 5.x  |
| Android API              | Android 3.1.x and later   |
| MIB                      | RFC1213, RFC1317  |

### Serial Interface

|                  |  |
|------------------|--|
| Connector        | NPort 5210 Series: 8-pin RJ45<br>NPort 5230/5232 Series: Terminal block  |
| No. of Ports     | 2  |
| Serial Standards | NPort 5210 Series: RS-232<br>NPort 5230 Series: RS-232/422/485 <sup>1</sup><br>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 5210/5232I Series: None<br>NPort 5230 Series: 150 kilo-ohms<br>NPort 5232 Series: 1 kilo-ohms |
| RS-485 Data Direction Control     | ADDC® (automatic data direction control)  |
| Isolation                         | NPort 5232I Series: 2 kV  |

#### Serial Signals

|           |   |
|-----------|---|
| RS-232    | NPort 5210 Series: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND<br>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<br>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)<br>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)<br>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)<br>NPort 5230 Series, NPort 5232/5232-T: 360 g (0.79 lb)<br>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)<br>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<br>IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m<br>IEC 61000-4-4 EFT: Power: 1 kV; Signal: 0.5 kV<br>IEC 61000-4-5 Surge: Power: 1 kV<br>IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m; Signal: 3 V/m<br>IEC 61000-4-8 PFMF<br>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 |
|---------------|-------------------|

## MTBF

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

## Warranty

|                 |  |
|-----------------|--|
| Warranty Period | 5 years  |
| Details         | See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> |

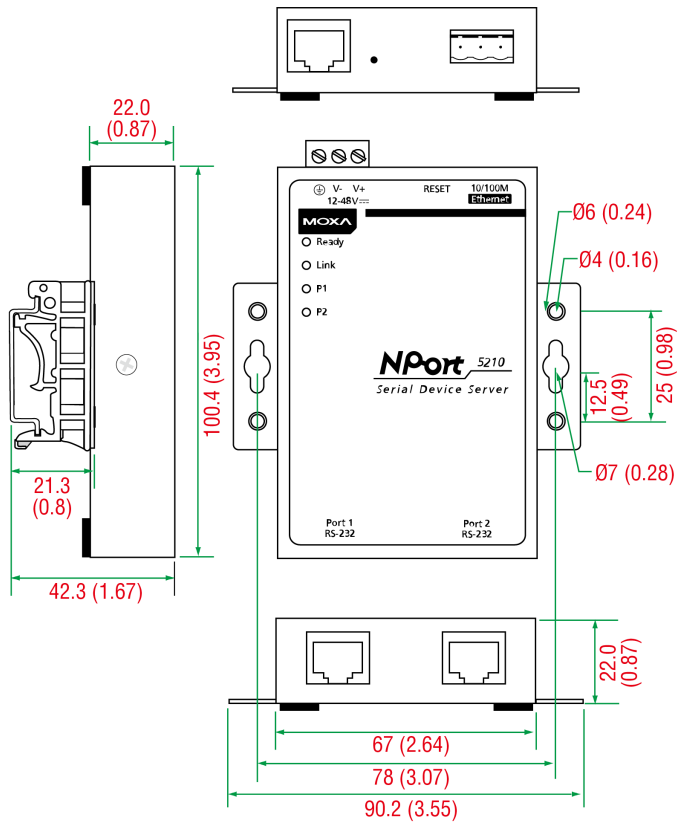
## Package Contents

|               |   |
|---------------|---|
| Device        | 1 x NPort 5200 Series device server               |
| Documentation | 1 x quick installation guide<br>1 x warranty card |

# Dimensions

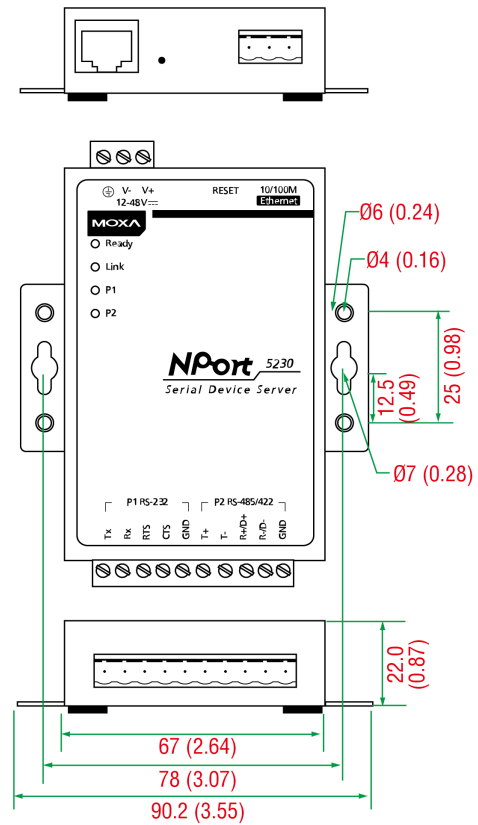
## NPort 5210

Unit: mm (inch)



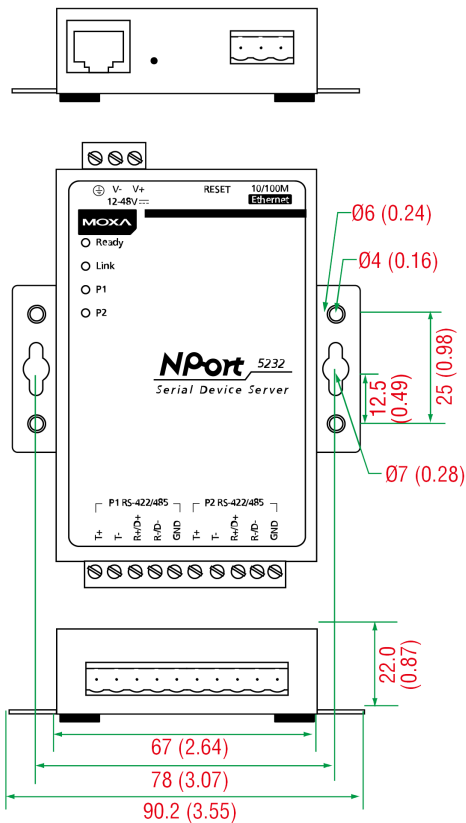
## NPort 5230

Unit: mm (inch)



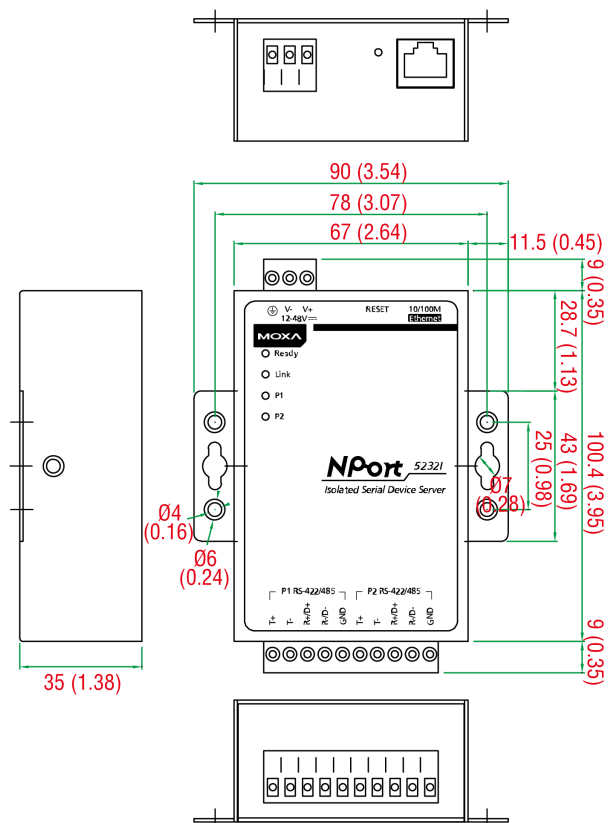
## NPort 5232

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

## Connectors

|                 |  |
|-----------------|--|
| ADP-RJ458P-DB9F | DB9 female to RJ45 connector<br><br>Applicable Models:<br>NPort 5210<br>NPort 5210-T |
|-----------------|--|

## DIN-Rail Mounting Kits

|       |                              |
|-------|------------------------------|
| DK35A | DIN-rail mounting kit, 35 mm |
|-------|------------------------------|

## 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<br><br>Applicable Models:<br>NPort 5210-T<br>NPort 5230-T<br>NPort 5232-T<br>NPort 5232-T (CV-CT)<br>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<br><br>Applicable Models:<br>NPort 5210-T<br>NPort 5230-T<br>NPort 5232-T<br>NPort 5232-T (CV-CT)<br>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<br><br>Applicable Models:<br>NPort 5210-T<br>NPort 5230-T<br>NPort 5232-T<br>NPort 5232-T (CV-CT)<br>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<br><br>Applicable Models:<br>NPort 5210-T<br>NPort 5230-T<br>NPort 5232-T<br>NPort 5232-T (CV-CT)<br>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<br><br>Applicable Models:<br>NPort 5210-T<br>NPort 5230-T<br>NPort 5232-T<br>NPort 5232-T (CV-CT)<br>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<br><br>Applicable Models:<br>NPort 5210-T<br>NPort 5230-T<br>NPort 5232-T<br>NPort 5232-T (CV-CT)<br>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-PJ21NOPEN-BK-30

Locking barrel plug to bare-wire cable

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