

NPort 5100 Series

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



Features and Benefits

- Small size for easy installation
- Real COM and TTY drivers for Windows, Linux, and macOS
- 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

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|-----------------------------|---|
| Configuration Options | Serial Console (NPort 5110/5110-T/5150 only), Windows Utility, Telnet Console, Web Console (HTTP) |
| Management | DHCP Client IPv4 SMTP SNMPv1 Telnet DNS HTTP ARP BOOTP UDP TCP/IP ICMP |
| Windows Real COM Drivers | Windows 11, 10, 8.1, 8, 7, Vista, XP, ME, 98, and 95 Windows Server 2022, 2019, 2016, 2012 R2, 2012, 2008 R2, 2008, 2003, 2000, and NT Windows Embedded CE 6.0 and 5.0, Windows XP Embedded |
| Linux Real TTY Drivers | Kernel versions: 6.x, 5.x, 4.x, 3.x, 2.6.x, and 2.4.x |
| Fixed TTY Drivers | macOS versions: 14, 13, 12, 11, and 10.1x SCO UNIX, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X |
| Arm®-based Platform Support | Windows 11 Linux kernel 6.x, 5.x, and 4.x macOS 14, 13, 12, and 11 |
| Virtual Machine | VMWare ESXi (Windows 11/10) VMware Fusion (Windows on macOS 14, 13, 12, 11, and 10.1x) Parallels Desktop (Windows on macOS 14, 13, 12, 11, and 10.1x) |
| Android API | Android 3.1.x and later |
| MIB | RFC1213, RFC1317 |
| Security Functions | |
| Authentication | Local database (password only) |
| 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 |

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|-----------------------------------|--|
| 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: Automatic Data Direction Control (ADDC) |

Serial Signals

| | |
|-----------|--|
| RS-232 | NPort 5110: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND NPort 5150: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND |
| RS-422 | NPort 5130: Tx+, Tx-, Rx+, Rx-, GND NPort 5150: Tx+, Tx-, Rx+, Rx-, GND |
| RS-485-4w | NPort 5130: Tx+, Tx-, Rx+, Rx-, GND NPort 5150: Tx+, Tx-, Rx+, Rx-, GND |
| RS-485-2w | NPort 5130: Data+, Data-, GND NPort 5150: Data+, Data-, GND |

Power Parameters

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|-----------------------|--|
| 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

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|---------------------------|---|
| Housing | Metal |
| Installation | Desktop DIN-rail mounting (with optional kit) Wall mounting |
| 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) |

Environmental Limits

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|--|---|
| 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

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|-----|--------------------------------|
| EMC | EN 55032/35 |
| EMI | CISPR 32, FCC Part 15B Class A |

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| 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 |
| Safety | EN 62368-1 IEC 62368-1 UL 60950-1 |

MTBF

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|-----------|--|
| 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

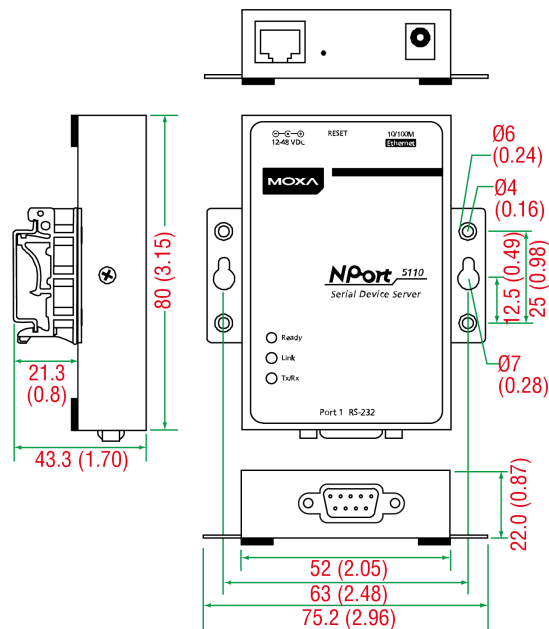
| | |
|-----------------|--|
| Warranty Period | 5 years |
| Details | See www.moxa.com/warranty |

Package Contents

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|---------------|--|
| 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

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|-----------------|--|
| 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 |
| CBL-RJ45SF9-150 | 8-pin RJ45 to DB9 female serial cable with shielding, 1.5m |
| CBL-RJ458P-100 | 8-pin RJ45 CAT5 Ethernet cable, 1 m |

Connectors

| | |
|-----------------|--|
| ADP-RJ458P-DB9F | DB9 female to RJ45 connector |
| Mini DB9F-to-TB | DB9 female to terminal block connector |

DIN-Rail Mounting Kits

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

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| PWR-12050-USJP-S2 | Unlocking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, US/JP plug, 0 to 40°C operating temperature |
| PWR-12050-EU-S2 | Unlocking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, EU plug, 0 to 40°C operating temperature |
| PWR-12050-CN-S2 | Unlocking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, CN plug, 0 to 40°C operating temperature |
| PWR-12050-UK-S2 | Unlocking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, UK plug, 0 to 40°C operating temperature |
| PWR-12050-AU-S2 | Unlocking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, AU plug, 0 to 40°C operating temperature |
| PWR-12050-KR-S2 | Unlocking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, KR plug, 0 to 40°C operating temperature |
| PWR-12050-IN-S2 | PWR-12050-IN-S2 |
| PWR-12150-AU-SA-T | Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, AU plug, -40 to 75°C operating temperature Applicable Models: NPort 5110-T |
| PWR-12150-CN-SA-T | Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, CN plug, -40 to 75°C operating temperature Applicable Models: NPort 5110-T |
| PWR-12150-EU-SA-T | Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, EU plug, -40 to 75°C operating temperature Applicable Models: NPort 5110-T |
| PWR-12150-UK-SA-T | Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, UK plug, -40 to 75°C operating temperature Applicable Models: NPort 5110-T |
| PWR-12150-USJP-SA-T | Locking barrel plug, 12 VDC 1.5 A, 100 to 240 VAC, US/JP plug, -40 to 75°C operating temperature Applicable Models: NPort 5110-T |

Power Cords

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