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NPort® 5100 Series

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

> **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**
> **Built-in 15 KV ESD protection for all serial signals**
> **SNMP MIB-II for network management**
> **Configure by Telnet or web browser**
> **Adjustable termination resistor for RS-485 ports**

The certification logos shown here apply to some or all of the products in this section. Please see the **Specifications** section or Moxa's website for details.

⋮ Overview

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 is painless, and allow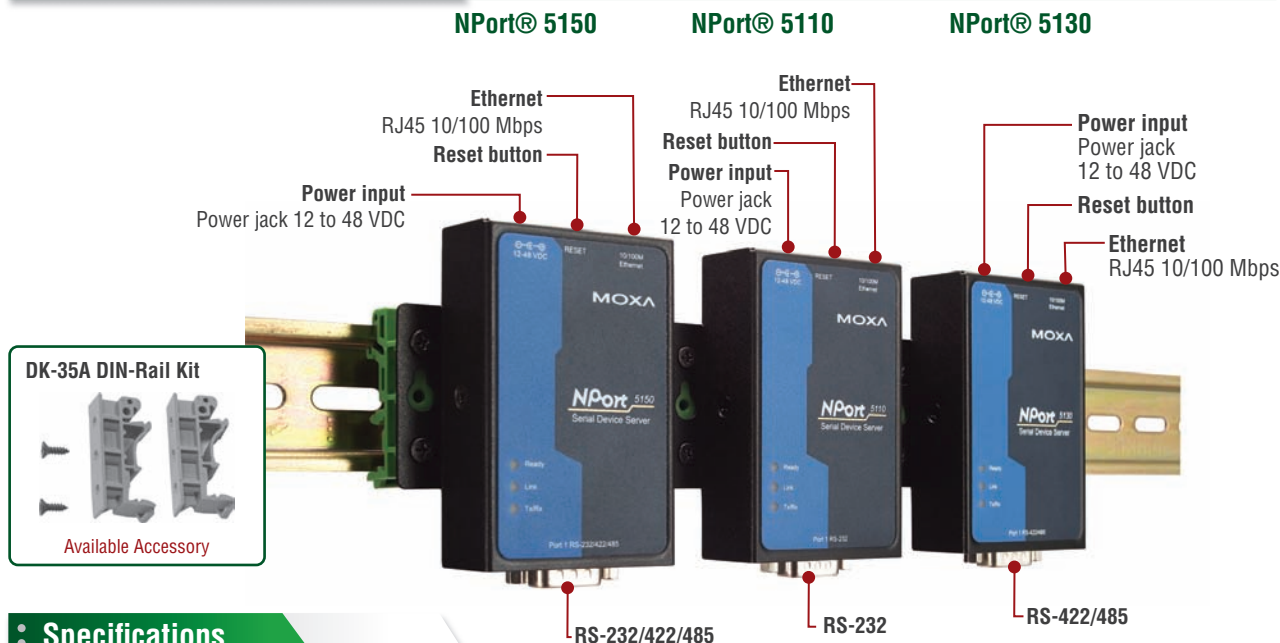s your serial devices and PC to communicate seamlessly over a TCP/IP network. Using Moxa's Real COM/TTY drivers is an excellent way to preserve your software investment, while still allowing you to enjoy the benefits of networking your serial devices.

⋮ Easy to Troubleshoot

NPort® 5100 device servers support SNMP V2, 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 e-mail 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.

: Appearance

NPort® 5150   **NPort® 5110**   **NPort® 5130**

Ethernet
RJ45 10/100 Mbps
Reset button
Power input
Power jack 12 to 48 VDC

Ethernet
RJ45 10/100 Mbps
Reset button
Power input
Power jack
12 to 48 VDC

Power input
Power jack
12 to 48 VDC
Reset button
Ethernet
RJ45 10/100 Mbps

DK-35A DIN-Rail Kit

Available Accessory

RS-232/422/485   **RS-232**   **RS-422/485**

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Serial Device Servers > NPort® 5100 Series

: Specifications

Ethernet Interface
Number of Ports: 1
Speed: 10/100 Mbps
Connector: 8-pin RJ45
Magnetic Isolation Protection: 1.5 KV built-in

Serial Interface
Number of Ports: 1
Serial Standards:
NPort® 5110: RS-232
NPort® 5130: RS-422/485
NPort® 5150: RS-232/422/485
Connector: DB9 male
Serial Line Protection: 15 KV ESD protection for all signals
RS-485 Data Direction Control: ADDC® (automatic data direction control)

Serial Communication Parameters
Data Bits: 5, 6, 7, 8
Stop Bits: 1, 1.5, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: RTS/CTS and DTR/DSR (RS-232 only), XON/XOFF
Baudrate:
NPort® 5110: 110 bps to 230.4 Kbps
NPort® 5130/5150: 50 bps to 921.6 Kbps

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

Software
Network Protocols: ICMP, IP, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP, HTTP, SMTP
Configuration Options: Web Console, Serial Console, Telnet Console, Windows Utility

Driver Support: Windows Real COM driver (for Windows 95, 98, ME, NT, 2000, XP, 2003, Vista, XP x64, 2003 x64, Vista x64), Linux Real TTY driver, Fixed TTY driver (for SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i)

Physical Characteristics
Housing: Aluminum (1 mm)
Weight: 580 g
Dimensions:
Without ears: 52 x 80 x 22 mm (2.05 x 3.15 x 0.87 in)
With ears: 75.2 x 80 x 22 mm (2.96 x 3.15 x 0.87 in)

Environmental Limits
Operating Temperature:
NPort® 5110/5130/5150: 0 to 55°C (32 to 131°F)
NPort® 5110-T: -40 to 75°C (-40 to 167°F)
Operating Humidity: 5 to 95% RH
Storage Temperature: -20 to 85°C (-4 to 185°F)

Power Requirements
Input Voltage: 12 to 48 VDC
Power Consumption:
NPort® 5110: 128.7 mA @ 12 V, 72 mA @ 24 V
NPort® 5130/5150: 200 mA @ 12 V, 106 mA @ 24 V
Power Line Protection: 1 KV burst (EN61000-4-4: EFT/B), 0.5 KV surge (EN61000-4-5)

Regulatory Approvals
EMC: CE (EN55022 Class A, EN55024), FCC Part 15 Subpart B Class A
Safety: UL (UL60950-1), CUL, TÜV (EN60950-1)

Reliability
Automatic Reboot Trigger: Built-in WDT (watchdog timer)
MTBF (meantime between failures):
NPort® 5110: 279122 hrs
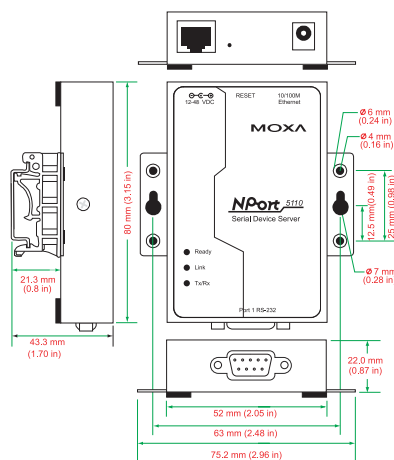NPort® 5130: 246505 hrs
NPort® 5150: 246034 hrs

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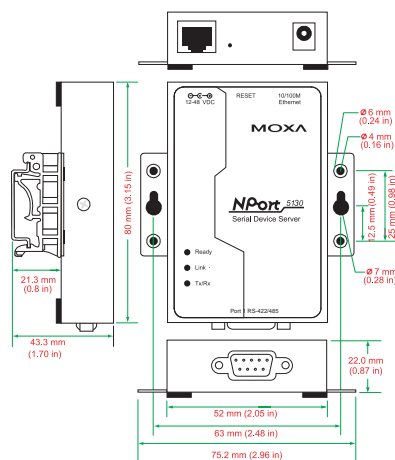**Details:** See www.moxa.com/warranty

Dimensions

NPort® 5110

NPort® 5130

NPort® 5150
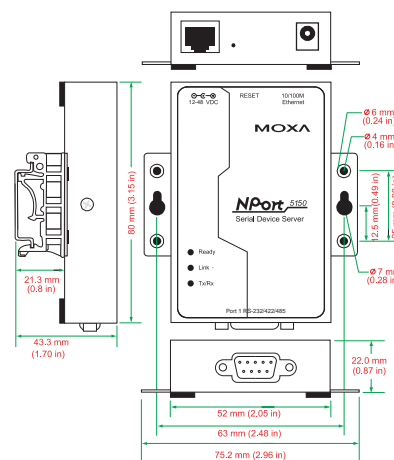
Pin Assignment

DB9 male connector

1 2 3 4 5
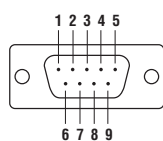
6 7 8 9

NPort® 5110 (RS-232)

PIN	RS-232
1	DCD
2	RxD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS

NPort® 5130 (RS-422/485)

PIN	RS-422/485-4w	RS-485-2w
1	TxD-(A)	–
2	TxD+(B)	–
3	RxD+(B)	Data+(B)
4	RxD-(A)	Data-(A)
5	GND	GND
6	–	–
7	–	–
8	–	–
9	–	–

NPort® 5150 (RS-232/422/485)

PIN	RS-232	RS-422/485-4w	RS-485-2w
1	DCD	TxD-(A)	–
2	RxD	TxD+(B)	–
3	TxD	RxD+(B)	Data+(B)
4	DTR	RxD-(A)	Data-(A)
5	GND	GND	GND
6	DSR	–	–
7	RTS	–	–
8	CTS	–	–
9	–	–	–

∶ Ordering Information

Available Models

NPort® 5110: 1-port RS-232 device server

NPort® 5130: 1-port RS-422/485 device server

NPort® 5150: 1-port RS-232/422/485 device server

NPort® 5110-T: 1-port RS-232 device server, wide temperature (-40 to 75°C)

Optional Accessories (can be purchased separately)

DK-35A: Mounting Kit for 35-mm DIN-Rail

Package Checklist

• NPort® 5100 series device server
• Power Adaptor (see Appendix A)
• Document and Software CD
• Quick Installation Guide (printed)
• Warranty Card