

# NPort® 5100 Series

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



See also NPort 5100A, p. 8-18

- > 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
- > 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



### : 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

their full support of Microsoft and Linux operating systems and solid 5-year warranty, the NPort® 5100 series device servers provide the best choice for serial-to-Ethernet converters.

### : 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

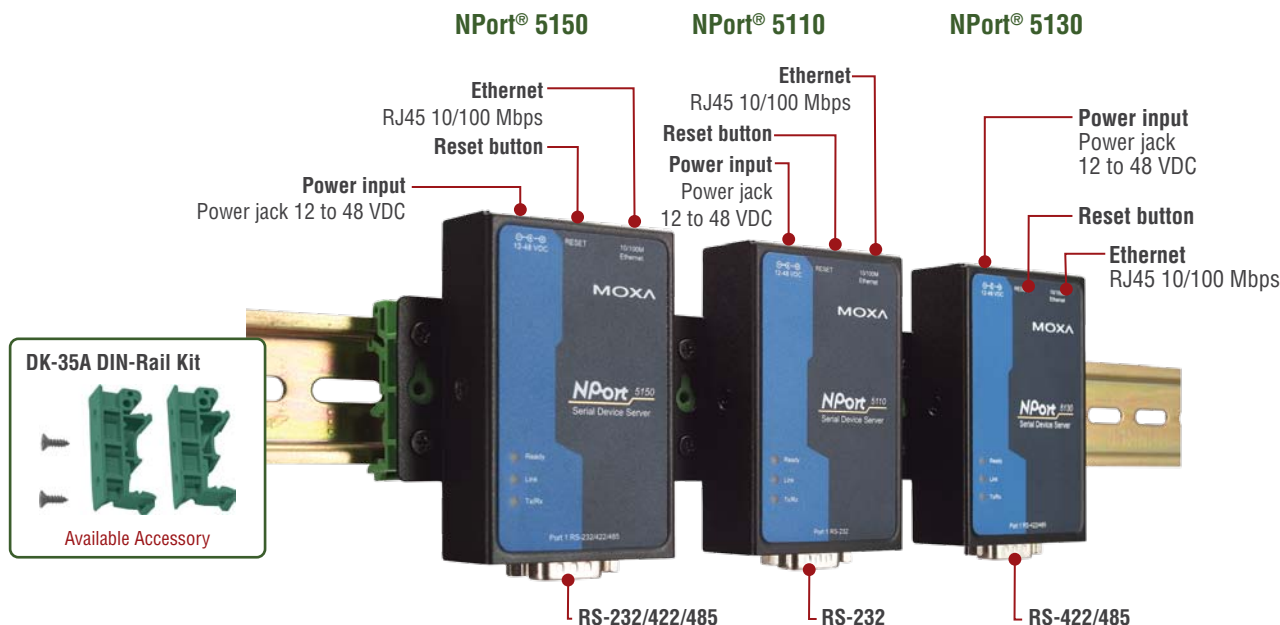
The Real COM/TTY drivers provided with the NPort® 5100 device servers allow you to continue using software designed for communicating through COM/TTY ports. Installation and configuration is painless, and allows your serial devices and PC to communicate

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

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 password change.



## Specifications

### Ethernet Interface

**Number of Ports:** 1  
**Speed:** 10/100 Mbps, auto MDI/MDIX  
**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)  
**Pull High/Low Resistor for RS-485:** 1 K $\Omega$ , 150 K $\Omega$

### 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 V1, HTTP, SMTP  
**Configuration Options:** Web Console, Serial Console (NPort 5110/5150 only), Telnet Console, Windows Utility  
**Windows Real COM Drivers:** Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7 x86/x64, Embedded CE 5.0/6.0, XP Embedded

**Fixed TTY Drivers:** 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

**Linux Real TTY Drivers:** Linux kernel 2.4.x, 2.6.x

### Physical Characteristics

**Housing:** Metal  
**Weight:** 340 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:**  
 Standard Models: 0 to 55°C (32 to 131°F)  
 Wide Temp. Models: -40 to 75°C (-40 to 167°F)  
**Storage Temperature:** -40 to 85°C (-40 to 185°F)  
**Ambient Relative Humidity:** 5 to 95% (non-condensing)

### 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

### Standards and Certifications

**Safety:** UL 60950-1, EN 60950-1  
**EMC:** CE, FCC  
**EMI:** EN 55022 Class A, FCC Part 15 Subpart B Class A  
**EMS:** EN 55024

### Reliability

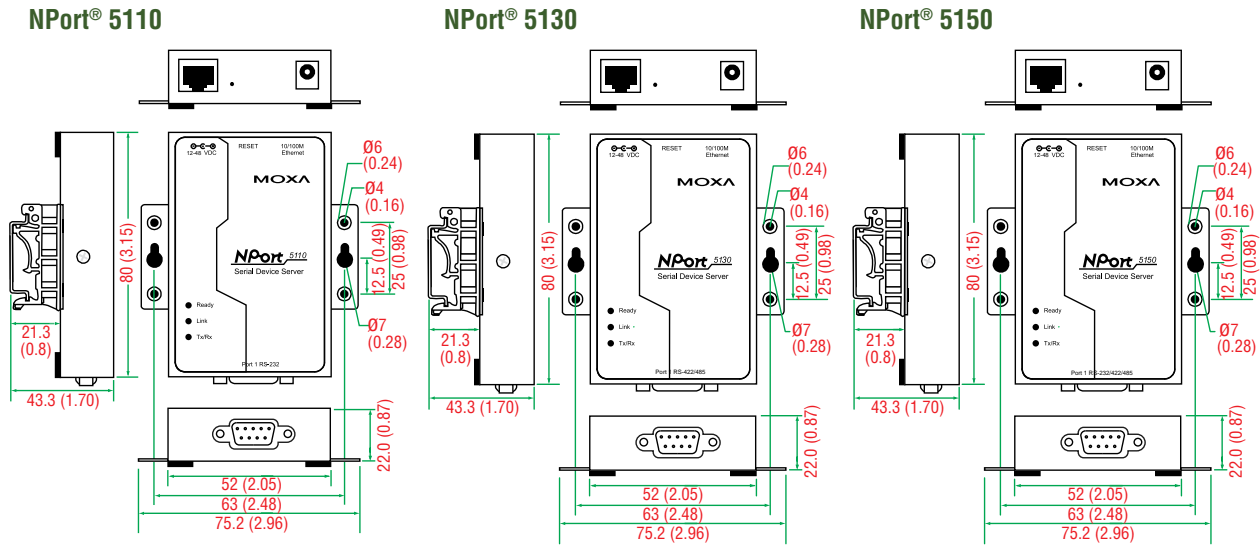
**Automatic Reboot Trigger:** Built-in WDT (watchdog timer)  
**MTBF (mean time between failures):**  
 NPort 5110: 279,122 hrs  
 NPort 5130: 246,505 hrs  
 NPort 5150: 246,034 hrs

### Warranty

**Warranty Period:** 5 years  
**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

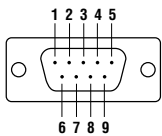
## Dimensions

Unit: mm (inch)



## Pin Assignment

### DB9 male connector



### 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	-	-

### 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	-	-

## Ordering Information

### Available Models

- NPort 5110:** 1-port RS-232 device server, 0 to 55°C operating temperature
- NPort 5130:** 1-port RS-422/485 device server, 0 to 55°C operating temperature
- NPort 5150:** 1-port RS-232/422/485 device server, 0 to 55°C operating temperature
- NPort 5110-T:** 1-port RS-232 device server, -40 to 75°C operating temperature

### Optional Accessories (can be purchased separately)

- DK-35A:** Mounting Kit for 35-mm DIN-Rail
- PWR-12150-USJP-SA-T:** 100 to 240 VAC input, 12 VDC/1.5A output, -40 to 75°C, screw type, US/JP Plug
- PWR-12150-EU-SA-T:** 100 to 240 VAC input, 12 VDC/1.5A output, -40 to 75°C, screw type, EU Plug
- PWR-12150-UK-SA-T:** 100 to 240 VAC input, 12 VDC/1.5A output, -40 to 75°C, screw type, UK Plug
- PWR-12150-CN-SA-T:** 100 to 240 VAC input, 12 VDC/1.5A output, -40 to 75°C, screw type, CN Plug
- PWR-12150-AU-SA-T:** 100 to 240 VAC input, 12 VDC/1.5A output, -40 to 75°C, screw type, AU Plug

### Package Checklist

- NPort 5100 device server
- Power adaptor (only for non-T models)
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card

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