NPort® 5100 Series

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

> 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

See also NPort 5100A, p. 8-18

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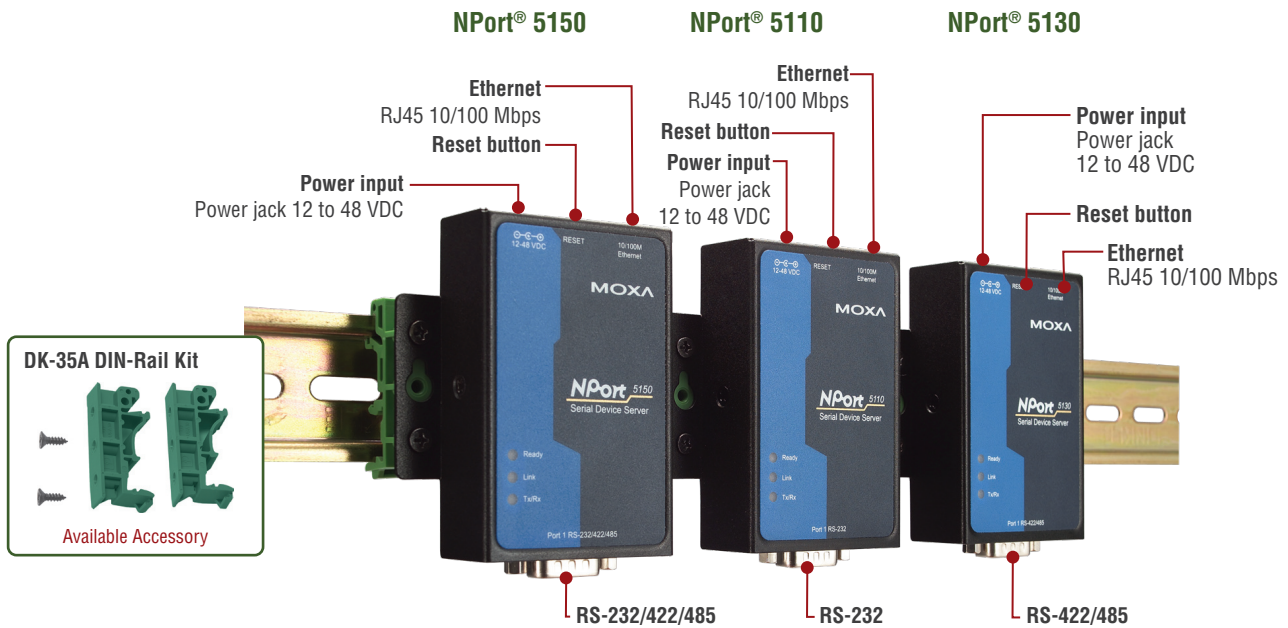llows your serial devices and PC to communicate seamlessly over a TCP/IP network. Using Moxa's Real COM/TTY drivers is an excellent way to preserve your software investment, while still allowing you to enjoy the benefits of networking your serial devices.

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.

MOXA®

:: 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**

:: 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 KΩ, 150 KΩ

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
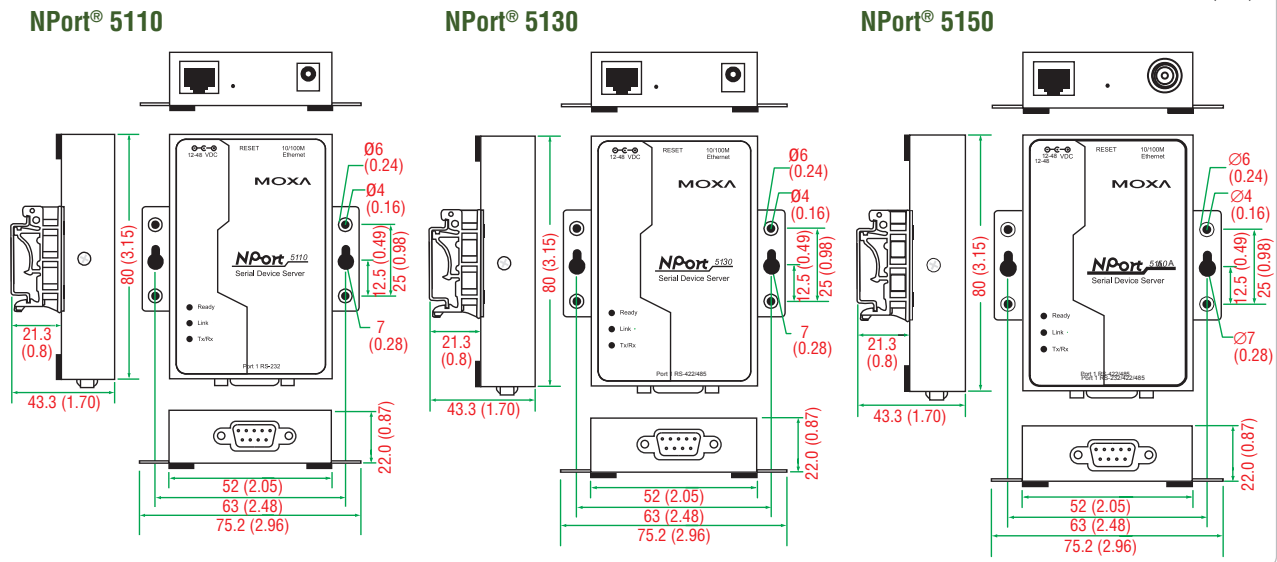**EMS:** EN 55024

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
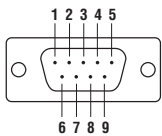**Details:** See www.moxa.com/warranty

Dimensions

Unit: mm (inch)

NPort® 5110

NPort® 5130

NPort® 5150

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

Package Checklist

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