NPort 5100 Series

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

Features and Benefits

- 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
- 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

Configuration Options	Web Console (HTTP), Serial Console (NPort 5110/5110-T/5150 only), Telnet Console, Windows Utility
Management	DHCP Client, IPv4, SNTP, SMTP, SNMPv1, Telnet, DNS, HTTP, ARP, BOOTP, UDP, TCP/IP, 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 version: 2.4.x, 2.6.x, 3.x, 4.x
Android API	Android 3.1.x and later
MIB	RFC1213, RFC1317

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
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: ADDC® (automatic data direction control)
Terminator for RS-485	NPort 5130: 120 ohms NPort 5150: 120 ohms

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

Power Parameters

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

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

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 (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 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 DIPs
Safety	UL 60950-1

MTBF

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

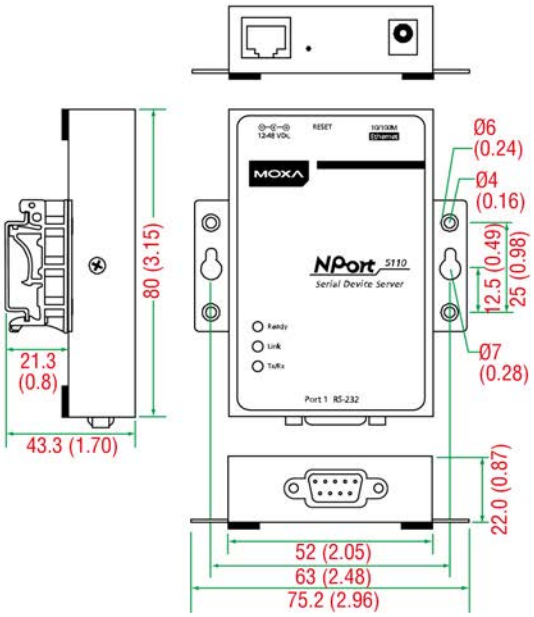
Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

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 document and software CD 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

CBL-F9M9-20	DB9 female to DB9 male serial cable, 20 cm
CBL-F9M9-150	DB9 female to DB9 male serial cable, 1.5 m
CBL-RJ458P-100	8-pin RJ45 CAT5 Ethernet cable, 1 m
CBL-RJ45SF9-150	RJ45 to DB9 female serial shielded cable, 1.5 m

Connectors

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

DIN-Rail Mounting Kits

DK35A	DIN-rail mounting kit, 35 mm

Power Cords

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

Power Adapters

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, 100-240 VAC, China (CN) plug, 0 to 40°C operating temperature
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-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
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 Applicable Models: NPort 5110-T
PWR-12150-CN-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100-240 VAC, China (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, 100-240 VAC, Continental Europe (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, 100-240 VAC, United Kingdom (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, 100-240 VAC, United States/Japan (US/JP) plug, -40 to 75°C operating temperature Applicable Models: NPort 5110-T