NPort® 5100A Series

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



- World's lowest power consumption, only 1 W
- Speedy 3-step web-based configuration
- Surge protection for serial, Ethernet, and power lines
- COM port grouping and UDP multicast applications
- Screw connectors for secure installation
- Real COM/TTY drivers for Windows and Linux
- Standard TCP/IP interface and versatile TCP and UDP operation modes

Overview

The NPort® 5100A device servers are designed to make serial devices network-ready in an instant and give your PC software direct access to serial devices from anywhere on the network. The NPort® 5100A device servers are ultra lean, ruggedized, and user friendly, making simple and reliable serial to Ethernet solutions possible.

A Greener Serial-to-Ethernet Solution

The Moxa MiiNe is a small but powerful ARM-based serial-to-Ethernet SoC with RAM and Flash embedded. With the MiiNe inside, the NPort® 5100A series becomes the world's only device server with power consumption less than 1 W. The NPort® 5100A series saves at least 50% on power consumption compared to existing solutions on the market, helping engineers meet the tough environmental compliance challenges found in today's industrial environments.



Surge-protected Serial, Ethernet, and Power Lines

Surge, which is typically caused by high voltages that result from switching and lightning transients, is a common threat to all electrical devices. Moxa's leading-edge surge immunity solution, which is applied to the NPort® 5100A's serial, power, and Ethernet lines, is tested and proven compliant with IEC 61000-4-5. This state-of-the-art surge protection provides a robust serial-to-Ethernet solution that can protect electrical devices from voltage spikes and withstand electrically noisy environmental conditions.



3-step Web-based Configuration

The NPort® 5100A's 3-step web-based configuration tool is straightforward and user-friendly. The NPort® 5100A's web console guides users through 3 simple configuration steps that are necessary to activate the serial-to-Ethernet application. With this speedy 3-step web-based configuration, a user only needs to spend an average of 30 seconds to complete the NPort® settings and enable the application, saving a great amount of time and effort.



Easy to Troubleshoot

NPort® 5100A 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 password change.

Appearance



DK-35A DIN-Rail Kit

Available Accessory

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® 5110A: RS-232
NPort® 5130A: RS-422/485
NPort® 5150A: RS-232/422/485
Connector: DB9 male
Serial Line Protection: 15 KV ESD protection for all signals, Level 1 Surge, EN61000-4-5
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: 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/V2c, HTTP, SMTP, IGMP V1/2
Configuration Options: Web Console (with new Quick Setup), Serial Console (NPort® 5110A/5150A only), Telnet Console, Windows Utility
Windows Real COM Drivers: Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7 x86/x64
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, Mac 10.3
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 60°C (32 to 140°F)
Wide Temp. Models: -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® 5110A: 82.5 mA @ 12 V, 47.3 mA @ 24 V
NPort® 5130A: 89.1 mA @ 12 V, 49.5 mA @ 24 V
NPort® 5150A: 92.4 mA @ 12 V, 52.8 mA @ 24 V

Regulatory Approvals

Power Line Protection: Level 2 Burst (EFT), EN61000-4-4, Level 3 Surge, EN61000-4-5
EMC: CE (EN55022 Class A, EN55024), FCC Part 15 Subpart B Class A
Safety: UL (UL60950-1, Pending), LVD (EN60950-1, Pending)

Reliability

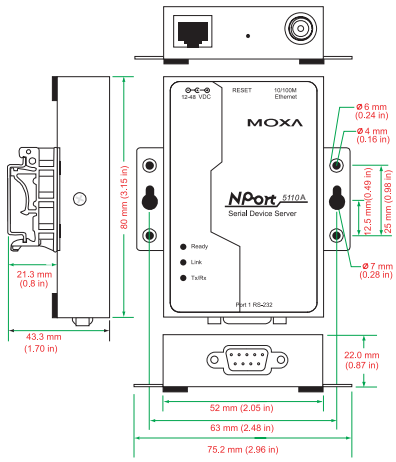
Automatic Reboot Trigger: Built-in WDT (watchdog timer)

Warranty

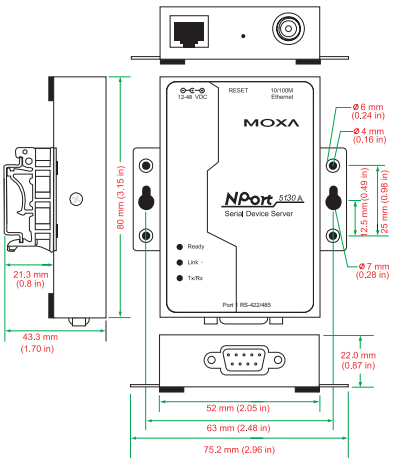
Warranty Period: 5 years
Details: See www.moxa.com/warranty

Dimensions

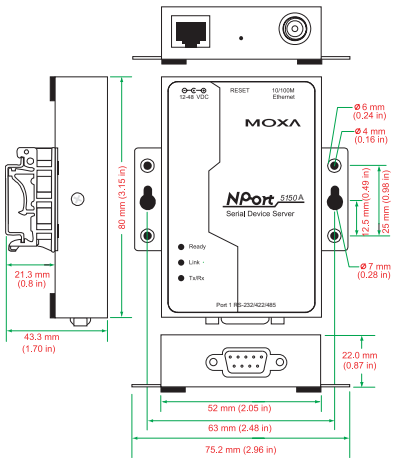
NPort® 5110A



NPort® 5130A

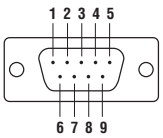


NPort® 5150A



Pin Assignment

DB9 male connector



NPort® 5110A (RS-232)

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

NPort® 5130A (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® 5150A (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® 5110A: 1-port RS-232 device server, 0 to 60°C operating temperature
NPort® 5130A: 1-port RS-422/485 device server, 0 to 60°C operating temperature
NPort® 5150A: 1-port RS-232/422/485 device server, 0 to 60°C operating temperature
NPort® 5110A-T: 1-port RS-232 device server, -40 to 75°C operating temperature
NPort® 5130A-T: 1-port RS-422/485 device server, -40 to 75°C operating temperature
NPort® 5150A-T: 1-port RS-232/422/485 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® 5100A series device server
- Power Adaptor (only for non-T models)
- Document and Software CD
- Quick Installation Guide (printed)
- Warranty Card

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