NPort® IA5000A Series

1, 2, and 4-port serial device servers for industrial automation

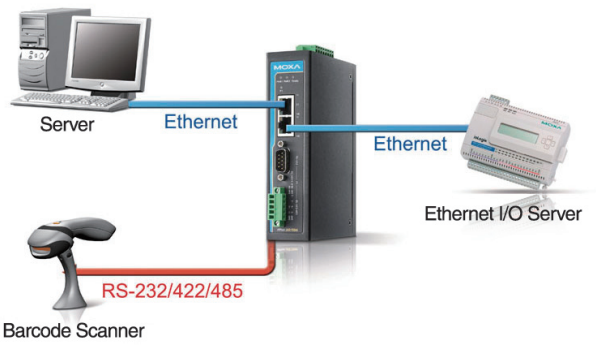
- Enhanced surge protection for LAN/serial/power
- 2 KV isolation for serial signals
- Screw-type terminal blocks for secure power/serial connections
- C1D2 and ATEX certified for harsh industrial environments
- Cascading Ethernet ports for easy wiring
- Redundant DC power inputs
- Warning by relay output and email
- Low power consumption with built-in MiiNe CPU
- -40 to 75°C operating temperature range (T models)

Overview

The NPort IA5000A series device servers are designed for connecting industrial automation serial devices, such as PLCs, sensors, meters, motors, drives, barcode readers, and operator displays. The device servers are built solid with a metal housing, screw connectors, and provide full surge protection. The NPort IA5000A series device servers are extremely user-friendly, making simple and reliable serial-to-Ethernet solutions possible.

Cascading Ethernet Ports Make Wiring Easy (10/100BaseTX models only)

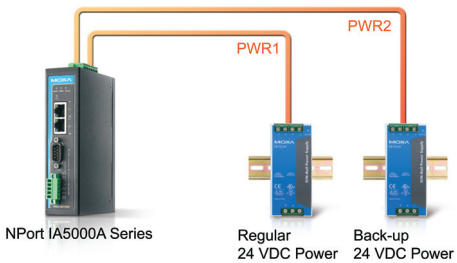
The NPort IA5000A series device servers each have two Ethernet ports that can be used as Ethernet switch ports. One port connects directly to the network or server, and the other port can be connected to another NPort IA device server or another Ethernet device. The dual Ethernet ports help reduce wiring costs by eliminating the need to connect each device to a separate Ethernet switch.



Redundant Power Inputs

The NPort IA5000A series device servers have two power inputs that can be connected simultaneously to live DC power sources. If one power source fails, the other source takes over automatically. Redundant power inputs help ensure uninterrupted operation of your device server.

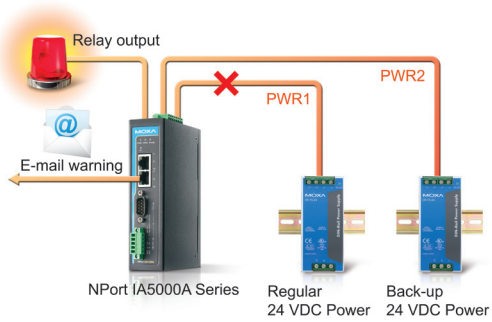
Dual Power Inputs



Relay Output Warning and E-mail Alerts

The built-in relay output can be used to alert administrators when the network is down, when power failure occurs or when there is a change in the DCD or DSR serial signals. An e-mail warning can also be issued when an abnormality is detected. These functions are valuable tools that enable maintenance engineers to react promptly to emergency situations.

Power Failure Alarm



Surge Protection for Serial, LAN, and Power

Moxa's leading-edge surge immunity solution, which is applied to the NPort® IA5000A's serial, power, and Ethernet lines, is tested and proven compliant with IEC 61000-4-5. This advanced surge protection provides a robust serial-to-Ethernet solution that can protect electrical devices from voltage spikes and resist electrical interference, such as in oil, gas, and power automation applications.

Industrial-grade Certification

To ensure safe and reliable operation in industrial environments, the NPort® IA5000A device servers have obtained various industrial certifications, including an IP30 rating for mechanical protection and UL508 safety certification for industrial control equipment. In addition, these device servers are UL/cUL listed (for Class1, Division 2, Groups A,B,C,D) and ATEX Class1 Zone 2 compliant for use in hazardous locations.

Specifications

Ethernet Interface

Number of Ports: 2
Speed: 10/100 Mbps, auto MDI/MDIX
Connector: 8-pin RJ45
Magnetic Isolation Protection: 1.5 KV built-in
Ethernet Line Protection: 1 KV (level 2) surge protection

Serial Interface

Number of Ports:
NPort IA5150A: 1
NPort IA5250A: 2
NPort IA5450A: 4
Serial Standards: RS-232/422/485
Connector:
NPort IA5150A: DB9 for RS-232, terminal block for RS-422/485
NPort IA5250A/IA5450A: DB9 for RS-232/422/485
Serial Line Protection:
• 15 KV ESD protection for all signals
• 2 KV isolation protection for isolation models
• 1 KV (level 2) surge protection
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: 50 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, Rtelnet, DNS, SNMP, HTTP, SMTP, SNTP, IGMP
Configuration Options: Web Console, Serial Console, 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
Linux Real TTY Drivers: Linux kernel 2.4.x, 2.6.x, 3.0.x

Physical Characteristics

Housing: Metal
Weight:
NPort IA5150A: 475 g
NPort IA5250A: 485 g
NPort IA5450A: 560 g
Dimensions:
NPort IA5150A/IA5250A: 36 x 105 x 140 mm (1.42 x 4.13 x 5.51 in)
NPort IA5450A: 45.8 x 134 x 105 mm (1.8 x 5.28 x 4.13 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)
Storage Temperature: -40 to 75°C (-40 to 167°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)

Power Requirements

Input Voltage: 12 to 48 VDC
Power Consumption:
NPort IA5150A: 12 to 48 VDC; 220 mA @ 12 VDC, 110 mA @ 24 VDC
NPort IA5150AI: 12 to 48 VDC; 255 mA @ 12 VDC, 130 mA @ 24 VDC
NPort IA5250A: 12 to 48 VDC; 250 mA @ 12 VDC, 125 mA @ 24 VDC
NPort IA5250AI: 12 to 48 VDC; 290 mA @ 12 VDC, 150 mA @ 24 VDC
NPort IA5450A: 12 to 48 VDC; 374 mA @ 12 VDC, 184 mA @ 24 VDC
NPort IA5450AI: 12 to 48 VDC; 512 mA @ 12 VDC, 242 mA @ 24 VDC

Standards and Certifications

Safety: UL 508
Hazardous Location: UL/cUL Class I Division 2 Groups A/B/C/D, ATEX Class I Zone 2
EMC: CE, FCC
EMI: EN 55022 Class A, FCC Part 15 Subpart B Class A
EMS:
EN 55024,
EN 61000-4-2 (ESD) Level 3,
EN 61000-4-3 (RS) Level 3,
EN 61000-4-4 (EFT) Level 4,
EN 61000-4-5 (Surge) Level 3,
EN 61000-4-6 (CS) Level 3,
EN 61000-4-8,
EN 61000-4-11
Shock: IEC 60068-2-27
Freefall: IEC 60068-2-32
Vibration: IEC 60068-2-6

Reliability

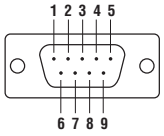
Alert Tools: Built-in buzzer and RTC (real-time clock)
Automatic Reboot Trigger: Built-in WDT (watchdog timer)
MTBF (mean time between failures):
262,805 hrs

Warranty

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

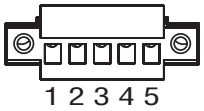
Pin Assignment

RS-232/422/485 DB9 male port



PIN	RS-232	RS-422/RS-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	–	–

RS-422/485 Terminal Block Wiring

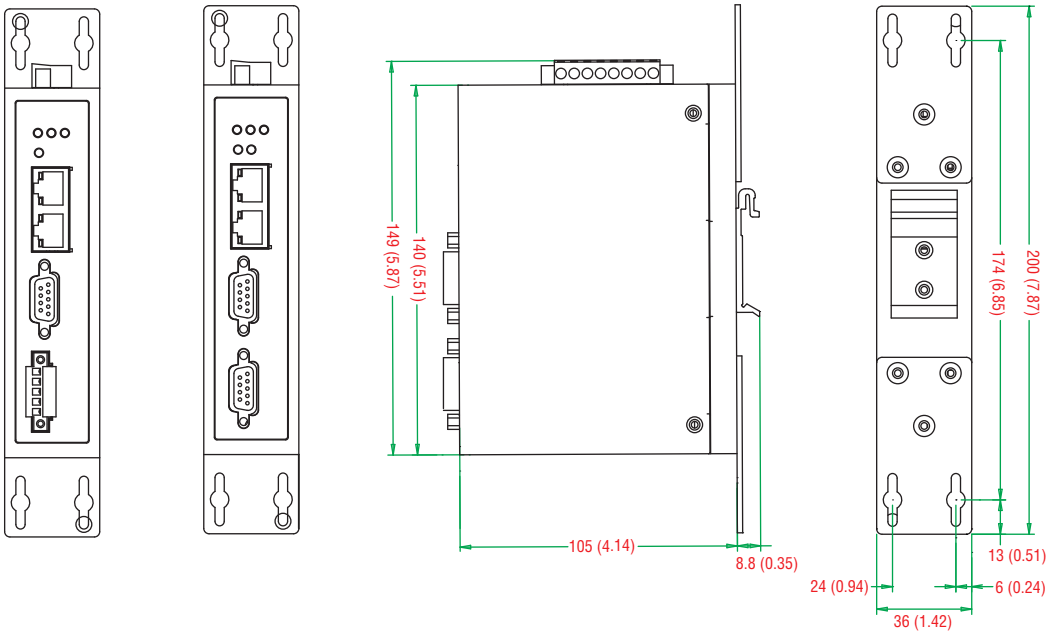


PIN	RS-422/RS-485-4w	RS-485-2w
1	TxD+(B)	–
2	TxD-(A)	–
3	RxD+(B)	Data+(B)
4	RxD-(A)	Data-(A)
5	GND	GND

Dimensions

Unit: mm (inch)

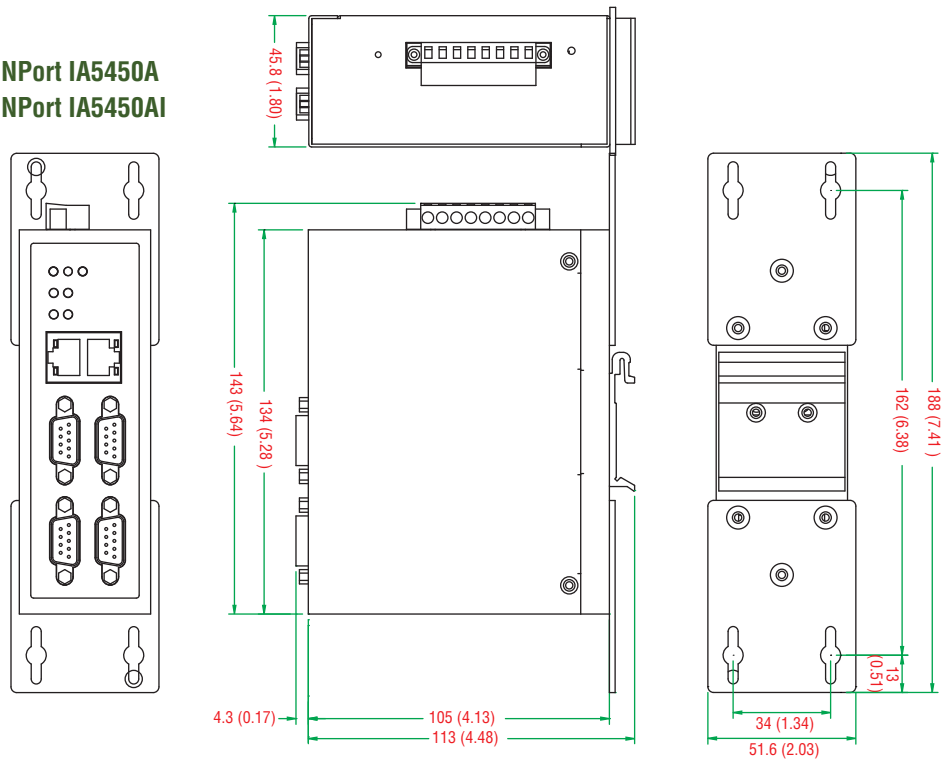
NPort IA5150A **NPort IA5250A**
NPort IA5150AI **NPort IA5250AI**



Dimensions

Unit: mm (inch)

NPort IA5450A
NPort IA5450AI



Ordering Information

Available Models

NPort IA5150A: 1-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, 0 to 60°C operating temperature
NPort IA5150AI: 1-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, 2 KV isolation, 0 to 60°C operating temperature
NPort IA5250A: 2-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, 0 to 60°C operating temperature
NPort IA5250AI: 2-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, 2 KV isolation, 0 to 60°C operating temperature
NPort IA5450A: 4-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, 0 to 60°C operating temperature
NPort IA5450AI: 4-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, 2 KV isolation protection, 0 to 60°C operating temperature
NPort IA5150A-T: 1-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, -40 to 75°C operating temperature
NPort IA5150AI-T: 1-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, 2 KV isolation, -40 to 75°C operating temperature
NPort IA5250A-T: 2-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, -40 to 75°C operating temperature
NPort IA5250AI-T: 2-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, 2 KV isolation, -40 to 75°C operating temperature
NPort IA5450A-T: 4-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, -40 to 75°C operating temperature
NPort IA5450AI-T: 4-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, 2 KV isolation protection, -40 to 75°C operating temperature

Optional Accessories (can be purchased separately)

8-contact screw-type terminal block: Power inputs and relay output
5-contact screw-type terminal block: For the NPort IA5150A's RS-422/485 port
WK-36-02: Wall mounting kit for the NPort IA5150A/IA5250A
WK-51-01: Wall mounting kit for the NPort IA5450A

Package Checklist

- NPort IA5000A series device server
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card

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Tento produkt můžete zakoupit u společnosti AutoCont IPC a.s.

AutoCont IPC a.s.

Váš dodavatel průmyslových počítačů, komponent a speciálních průmyslových IT systémů.

Uhlířská 1064/3, 710 00 Ostrava, Česká republika

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Pravidelní zákazníci u nás nakupují za nižší ceny. Výše slevy se odvíjí od realizovaného obratu.

SERVIS ON-SITE A IN-TIME
K projektovým dodávkám nabízíme rozšířenou podporu a servis s garancí výměny zařízení do 48 hodin.