Vertrieb durch AMC
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NPort IA5000A Series

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

Features and Benefits

- 2 Ethernet ports with the same IP or dual IP addresses for network redundancy
- C1D2, ATEX, and IECEx certified for harsh industrial environments
- Cascading Ethernet ports for easy wiring
- Enhanced surge protection for serial, LAN, and power
- Screw-type terminal blocks for secure power/serial connections
- Redundant DC power inputs
- Warnings and alerts by relay output and email
- 2 kV isolation for serial signals (isolation models)
- -40 to 75°C operating temperature range (-T models)

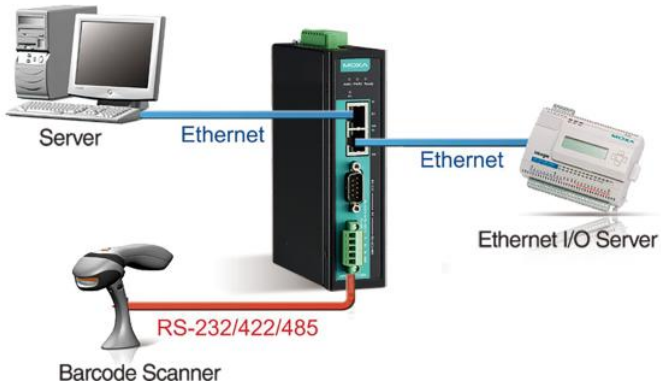
Certifications

Introduction

The NPort IA5000A 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 solidly built, come in a metal housing and with screw connectors, and provide full surge protection. The NPort IA5000A device servers are extremely user-friendly, making simple and reliable serial-to-Ethernet solutions possible.

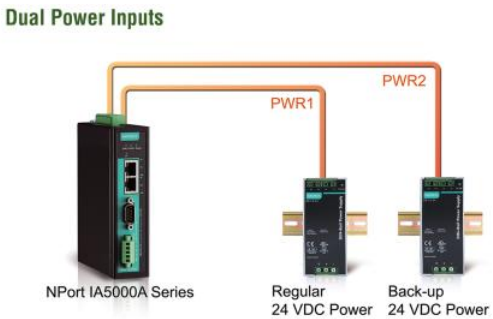
Cascading Ethernet Ports Make Wiring Easy

The NPort IA5000A 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 either 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 of 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.



Relay Output Warning and Email 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 email 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.

Surge Protection for Serial, Ethernet, 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 UL 508 safety certification for industrial control equipment. In addition, these device servers are UL/cUL listed (for Class 1, Division 2, Groups A,B,C,D), ATEX Class 1 Zone 2, and IECEx compliant for use in hazardous locations.

Specifications

Ethernet Interface	
10/100BaseT(X) Ports (RJ45 connector)	Supports 2 IP addresses Auto MDI/MDI-X connection
Magnetic Isolation Protection	1.5 kV (built-in)

Ethernet Software Features	
Configuration Options	Web Console (HTTP/HTTPS), Windows Utility, Device Search Utility (DSU), MCC Tool, Serial Console, Telnet Console
Management	ARP, BOOTP, DHCP Client, DNS, HTTP, HTTPS, ICMP, IPv4, LLDP, Rtelnet, SMTP, SNMPv1/v2c, TCP/IP, Telnet, UDP
Filter	IGMP v1/v2
Linux Real TTY Drivers	Kernel versions: 2.4.x, 2.6.x, 3.x, 4.x, and 5.x
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, macOS 10.12, macOS 10.13, macOS 10.14, macOS 10.15
Android API	Android 3.1.x and later
Time Management	SNTP
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1/10/11 (x86/x64), Windows 2008 R2/2012/2012 R2/2016/2019 (x64), Windows Server 2022, Windows Embedded CE 5.0/6.0, Windows XP Embedded

Security Functions	
Authentication	Local database
Encryption	HTTPS, AES-128, RSA-1024, SHA-1, SHA-256
Security Protocols	HTTPS (TLS 1.2) IA5450A Models: SNMPv3

Serial Interface

Connector	NPort IA5150A Models: DB9 male (RS-232), Terminal Block (RS-422/485) NPort IA5250A/IA5450A Models: DB9 male (RS-232/422/485)
No. of Ports	NPort IA5150A Models: 1 NPort IA5250A Models: 2 NPort IA5450A Models: 4
Serial Standards	RS-232, RS-422, RS-485
Operation Modes	Disabled, Ethernet Modem, Pair Connection, Real COM, Reverse Telnet, RFC2217, TCP Client, TCP Server, UDP
Baudrate	Supports standard baudrates (unit=bps): 50, 75, 110, 134, 150, 300, 600, 1200, 1800, 2400, 4800, 7200, 9600, 19200, 38400, 57600, 115200, 230.4k, 460.8k, 921.6k
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Parity	None, Even, Odd, Space, Mark
Flow Control	None, RTS/CTS (RS-232 only), DTR/DSR (RS-232 only), XON/XOFF
Isolation	NPort IA5150AI/IA5250AI/IA5450AI Models: 2 kV (I models)
Pull High/Low Resistor for RS-485	1 kilo-ohm, 150 kilo-ohms
Terminator for RS-485	120 ohms
RS-485 Data Direction Control	ADDC (automatic data direction control)

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 IA5150A Models: 220 mA @ 12 VDC NPort IA5150AI Models: 225 mA @ 12 VDC NPort IA5250A Models: 250 mA @ 12 VDC NPort IA5250AI Models: 290 mA @ 12 VDC NPort IA5450A Models: 374 mA @ 12 VDC NPort IA5450AI Models: 512 mA @ 12 VDC
Input Voltage	12 to 48 VDC
No. of Power Inputs	2
Power Connector	Terminal block

Physical Characteristics

Housing	Metal
Dimensions	NPort IA5150A/IA5250A Models: 36 x 105 x 140 mm (1.42 x 4.13 x 5.51 in) NPort IA5450A Models: 45.8 x 134 x 105 mm (1.8 x 5.28 x 4.13 in)
Weight	NPort IA5150A Models: 475 g (1.05 lb) NPort IA5250A Models: 485 g (1.07 lb) NPort IA5450A Models: 560 g (1.23 lb)
Installation	DIN-rail mounting, Wall mounting (with optional kit)

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 (package included)	-40 to 75°C (-40 to 167°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

Standards and Certifications

EMC	EN 55032/35
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 150 kHz to 80 MHz: 10 V/m; Signal: 10 V/m IEC 61000-4-8 PFMF IEC 61000-4-11
Hazardous Locations	NPort IA5100A/IA5200A Models: UL/cUL Class I Division 2 Groups A/B/C/D, ATEX Zone 2 NPort IA5100A-IEX/IA5200A-IEX Models: UL/cUL Class I Division 2 Groups A/B/C/D, ATEX Zone 2, IECEx NPort IA5400A Models: UL/cUL Class I Division 2 Groups A/B/C/D, ATEX Zone 2, IECEx
Safety	UL 508
Vibration	IEC 60068-2-6
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32

Declaration

Green Product	RoHS, CRoHS, WEEE

MTBF

Time	NPort IA5150A/IA5250A Models: 262,805 hrs NPort IA5450A Models: 763,711 hrs
Standards	Telcordia (Bellcore) Standard TR/SR

Warranty

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

Package Contents

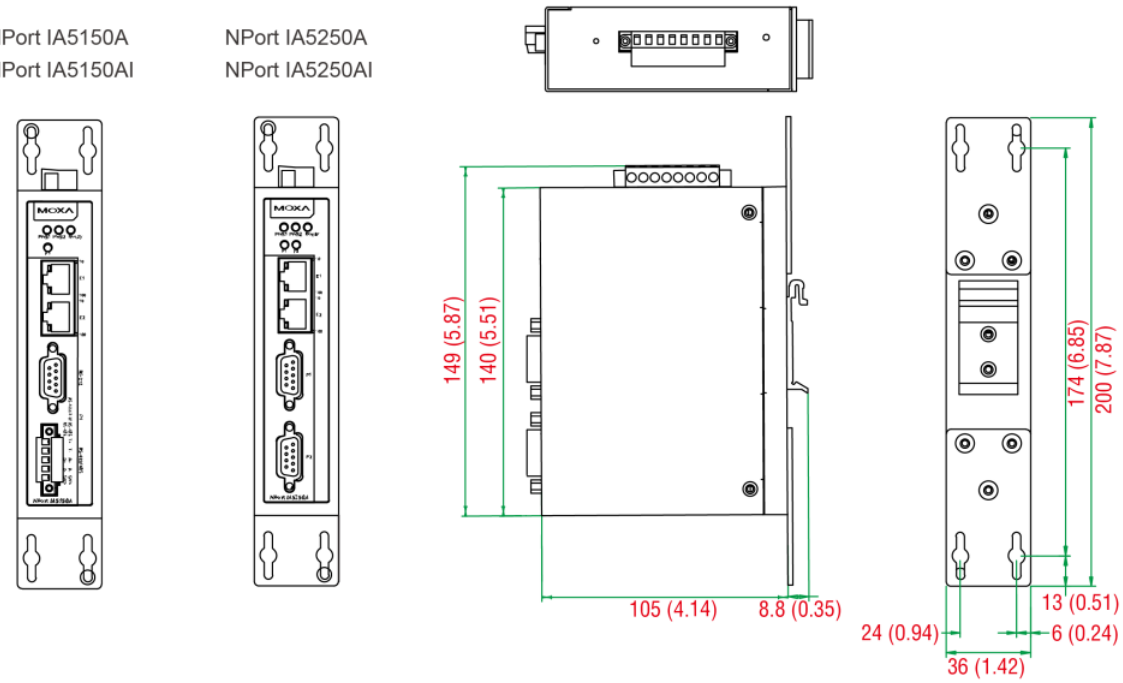
Device	1 x NPort IA5000A Series device server
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm (inch)

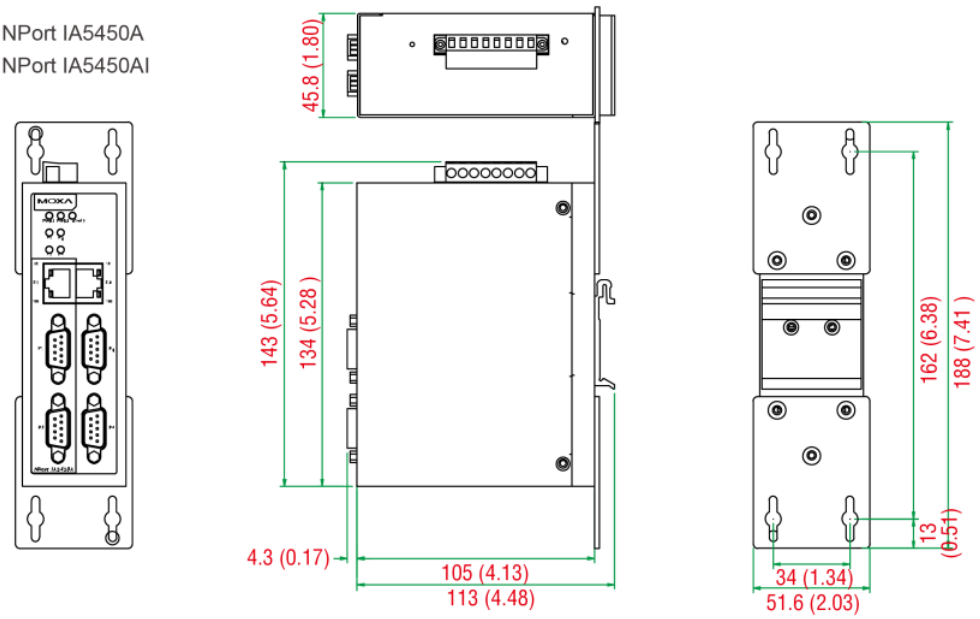
NPort IA5150A
NPort IA5150AI

NPort IA5250A
NPort IA5250AI



Unit: mm (inch)

NPort IA5450A
NPort IA5450AI



Ordering Information

Model Name	Operating Temp.	Serial Standards	Serial Isolation	No. of Serial Ports	Certification: Hazardous Locations
NPort IA5150A	0 to 60°C	RS-232/422/485	–	1	ATEX, C1D2
NPort IA5150A-T	-40 to 75°C	RS-232/422/485	–	1	ATEX, C1D2
NPort IA5150AI	0 to 60°C	RS-232/422/485	2 kV	1	ATEX, C1D2
NPort IA5150AI-T	-40 to 75°C	RS-232/422/485	2 kV	1	ATEX, C1D2
NPort IA5150A-IEX	0 to 60°C	RS-232/422/485	–	1	ATEX, C1D2, IECEx
NPort IA5150A-T-IEX	-40 to 75°C	RS-232/422/485	–	1	ATEX, C1D2, IECEx

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Model Name	Operating Temp.	Serial Standards	Serial Isolation	No. of Serial Ports	Certification: Hazardous Locations
NPort IA5150AI-IEX	0 to 60°C	RS-232/422/485	2 kV	1	ATEX, C1D2, IECEx
NPort IA5150AI-T-IEX	-40 to 75°C	RS-232/422/485	2 kV	1	ATEX, C1D2, IECEx
NPort IA5250A	0 to 60°C	RS-232/422/485	–	2	ATEX, C1D2
NPort IA5250A-T	-40 to 75°C	RS-232/422/485	–	2	ATEX, C1D2
NPort IA5250AI	0 to 60°C	RS-232/422/485	2 kV	2	ATEX, C1D2
NPort IA5250AI-T	-40 to 75°C	RS-232/422/485	2 kV	2	ATEX, C1D2
NPort IA5250A-IEX	0 to 60°C	RS-232/422/485	–	2	ATEX, C1D2, IECEx
NPort IA5250A-T-IEX	-40 to 75°C	RS-232/422/485	–	2	ATEX, C1D2, IECEx
NPort IA5250AI-IEX	0 to 60°C	RS-232/422/485	2 kV	2	ATEX, C1D2, IECEx
NPort IA5250AI-T-IEX	-40 to 75°C	RS-232/422/485	2 kV	2	ATEX, C1D2, IECEx
NPort IA5450A	0 to 60°C	RS-232/422/485	–	4	ATEX, C1D2, IECEx
NPort IA5450A-T	-40 to 75°C	RS-232/422/485	–	4	ATEX, C1D2, IECEx
NPort IA5450AI	0 to 60°C	RS-232/422/485	2 kV	4	ATEX, C1D2, IECEx
NPort IA5450AI-T	-40 to 75°C	RS-232/422/485	2 kV	4	ATEX, C1D2, IECEx

Accessories (sold separately)

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Cables

CBL-F9M9-150	DB9 female to DB9 male serial cable, 1.5 m
CBL-F9M9-20	DB9 female to DB9 male serial cable, 20 cm
CBL-RJ458P-100	8-pin RJ45 CAT5 Ethernet cable, 1 m
CBL-RJ45SF9-150	8-pin RJ45 to DB25 male serial cable with shielding, 1.5m

Connectors

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

Power Cords

CBL-PJTB-10	Non-locking barrel plug to bare-wire cable

Power Supplies

DR-4524	45W/2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC or 120 to 370 VDC input, -10 to 50° C operating temperature
DR-120-24	120W/2.5A DIN-rail 24 VDC power supply with universal 88 to 132 VAC or 176 to 264 VAC input by switch, or 248 to 370 VDC input, -10 to 60°C operating temperature
DR-75-24	75W/3.2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC or 120 to 370 VDC input, -10 to 60°C operating temperature

Wall-Mounting Kits

WK-36-02	DIN-rail/wall-mounting kit, 2 plates, 6 screws Applicable Models: NPort IA5150A NPort IA5250A
WK-51-01	Wall mounting kit with 2 plates (51.6 x 67 x 2 mm) and 6 screws Applicable Models: NPort IA5450A

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