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 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.

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.

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.

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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.
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.

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.

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**
- Number of Ports: 2
- Speed: 10/100 Mbps, auto MDI/MDIX
- Connector: 8-pin RJ45

**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:
  - 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 92.16 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, IPv4, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP, HTTP, SMTP, SNTP, IGMP, ARP
- Configuration Options: Web Console, Serial Console, Telnet Console, Windows Utility
- 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: Linux 2.4.x, 2.6.x, 3.x

**Physical Characteristics**
- Housing: Metal
- Weight:
  - NPort IA5150A: 475 g (1.05 lb)
  - NPort IA5250A: 485 g (1.07 lb)
  - NPort IA5450A: 560 g (1.23 lb)
- 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
Serial-to-Ethernet Device Servers

Input Current:
- NPort IA5150A: 220 mA @ 12 VDC
- NPort IA5150AI: 225 mA @ 12 VDC
- NPort IA5250A: 250 mA @ 12 VDC
- NPort IA5250AI: 290 mA @ 12 VDC
- NPort IA5450A: 374 mA @ 12 VDC
- NPort IA5450AI: 512 mA @ 12 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, IECEx
- EMC: EN 55022/24
- EMI: CISPR 22, FCC Part 15B Class A

EMC:
- 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
- Freefall: IEC 60068-2-32
- Vibration: IEC 60068-2-6
- Shock: IEC 60068-2-27

Reliability
- Alert Tools: Built-in buzzer and RTC (real-time clock)
- Automatic Reboot Trigger: Built-in WDT (watchdog timer)

Pin Assignment

<table>
<thead>
<tr>
<th>PIN</th>
<th>RS-232</th>
<th>RS-422/RS-485-4w</th>
<th>RS-485-2w</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DCD</td>
<td>TxD-(A)</td>
<td>–</td>
</tr>
<tr>
<td>2</td>
<td>RXD</td>
<td>TxD+(B)</td>
<td>–</td>
</tr>
<tr>
<td>3</td>
<td>TXD</td>
<td>RxD+(B) Data+(B)</td>
<td>–</td>
</tr>
<tr>
<td>4</td>
<td>DTR</td>
<td>RxD-(A) Data-(A)</td>
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<tr>
<td>5</td>
<td>GND</td>
<td>GND</td>
<td>GND</td>
</tr>
<tr>
<td>6</td>
<td>DSR</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>7</td>
<td>RTS</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>8</td>
<td>CTS</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

RS-422/485 Terminal Block Wiring

<table>
<thead>
<tr>
<th>PIN</th>
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<th>RS-485-2w</th>
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</thead>
<tbody>
<tr>
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<td>TxD-(B)</td>
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</tr>
<tr>
<td>2</td>
<td>TxD+(A)</td>
<td>–</td>
</tr>
<tr>
<td>3</td>
<td>RxD+(B) Data+(B)</td>
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<tr>
<td>4</td>
<td>RxD-(A) Data-(A)</td>
<td>–</td>
</tr>
<tr>
<td>5</td>
<td>GND</td>
<td>GND</td>
</tr>
</tbody>
</table>

Dimensions

- NPort IA5150A
- NPort IA5150AI
- NPort IA5250A
- NPort IA5250AI
- NPort IA5450A
- NPort IA5450AI

MTBF (mean time between failures)
- Time: 262,805 hrs
- Standard: Telcordia (Bellcore) Standard TR/SR

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

WARNING: Use appropriate protective equipment when handling electrical components. Compact models are designed for wall mounting only.
## 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 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 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, -40 to 75°C operating temperature

**NPort IA5250AI-IEX:** 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 IA5450AI-IEX:** 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 IA5150AI-IEX:** 1-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, IECEx, 0 to 60°C operating temperature

**NPort IA5250AI-IEX:** 2-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, IECEx, 0 to 60°C operating temperature

**NPort IA5450AI-IEX:** 4-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, IECEx, 0 to 60°C operating temperature

**IECEx Models**

**NPort IA5150AI-IEX:** 1-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, IECEx, 0 to 60°C operating temperature

**NPort IA5250AI-IEX:** 2-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, IECEx, 0 to 60°C operating temperature

**NPort IA5450AI-IEX:** 4-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, IECEx, 0 to 60°C operating temperature

**NPort IA5150AI-IEX:** 1-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, IECEx, 0 to 60°C operating temperature

**NPort IA5250AI-IEX:** 2-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, IECEx, 0 to 60°C operating temperature

**NPort IA5450AI-IEX:** 4-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, IECEx, 0 to 60°C operating temperature

**NPort IA5150AI-IEX:** 1-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, IECEx, 0 to 60°C operating temperature

**NPort IA5250AI-IEX:** 2-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, IECEx, 0 to 60°C operating temperature

**NPort IA5450AI-IEX:** 4-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, IECEx, 0 to 60°C operating temperature

**NPort IA5150AI-IEX:** 1-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, IECEx, 0 to 60°C operating temperature

**NPort IA5250AI-IEX:** 2-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, IECEx, 0 to 60°C operating temperature

**NPort IA5450AI-IEX:** 4-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, IECEx, 0 to 60°C operating temperature

**IECEx Models**

**NPort IA5150AI-IEX:** 1-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, IECEx, 0 to 60°C operating temperature

**NPort IA5250AI-IEX:** 2-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, IECEx, 0 to 60°C operating temperature

**NPort IA5450AI-IEX:** 4-port RS-232/422/485 industrial automation device server with serial/LAN/power surge protection, two 10/100BaseT(X) ports with single IP, IECEx, 0 to 60°C operating temperature

**Optional Accessories** (can be purchased separately)

- **Mini DB9F-to-TB:** DB9 female to terminal block adapter for RS-422/485 applications
- **WK-36-02:** Wall-mounting kit for the NPort IA5150A/IA5250A
- **WK-51-01:** Wall-mounting kit for the NPort IA5450A

**Package Checklist**

- 1 NPort IA5000A series device server
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card
# Power Accessory Selection Guide

## Barrel Plug Type: Locking Barrel Plug

<table>
<thead>
<tr>
<th>Plug Type</th>
<th>EU</th>
<th>AU</th>
<th>UK</th>
<th>CN</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Port</td>
<td><img src="image1" alt="Image" /></td>
<td><img src="image2" alt="Image" /></td>
<td><img src="image3" alt="Image" /></td>
<td><img src="image4" alt="Image" /></td>
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<td>NPort S110</td>
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<td>NPort S130</td>
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<tr>
<td>NPort S150</td>
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<tr>
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<td>✓</td>
<td>–</td>
</tr>
<tr>
<td>NPort S130A</td>
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## Barrel Plug Type: Non-Locking Barrel Plug

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<th>UK</th>
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<tbody>
<tr>
<td>1 Port</td>
<td><img src="image5" alt="Image" /></td>
<td><img src="image6" alt="Image" /></td>
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<td>NPort W2150A</td>
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<td>–</td>
<td>–</td>
<td>–</td>
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<tr>
<td>NPort 22150/23150</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

## O/P

- 12 VDC 0.5 A, 100 to 240 VAC (Switch-Mode)
# Power Accessory Selection Guide

<table>
<thead>
<tr>
<th>Barrel Plug Type</th>
<th>Non-Locking Barrel Plug</th>
<th>O/P</th>
<th>12 VDC 1.25/1.5 A, 100 to 240 VAC</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>Plug Type</th>
<th>US/JP</th>
<th>EU</th>
<th>AU</th>
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</thead>
</table>

## Appearance

### Model Name

<table>
<thead>
<tr>
<th>Model Name</th>
<th>PWR-12125-USJP-S1</th>
<th>PWR-12150-EU-S2</th>
<th>PWR-12150-AU-S2</th>
<th>PWR-12150-UK-S2</th>
<th>PWR-12125-CN-S1</th>
</tr>
</thead>
</table>

### 4 Ports

- nPort 5410
- nPort 5430
- nPort 5430i
- nPort 5450
- nPort 5450i

### 8 Ports

- nPort 5610-8
- nPort 5630-8
- nPort 5650-8
- nPort 5650-8-M-SC
- nPort 5650-8-S-SC
- nPort 5610-8-DT
- nPort 5610-8-DT-J
- nPort 5650-8-DT
- nPort 5650-8-DT-J
- nPort 5650i-8-DT
- nPort 5610-8-DTL
- nPort 5610-8-DTL-J
- nPort 5650-8-DTL
- nPort 5650i-8-DTL

### 16 Ports

- nPort 5610-16
- nPort 5630-16
- nPort 5650-16

## Locking Barrel Plug

<table>
<thead>
<tr>
<th>Barrel Plug Type</th>
<th>Locking Barrel Plug</th>
<th>O/P</th>
<th>12 VDC 2 A, 100 to 240 VAC (desktop type)</th>
<th>10A/250V Power Cord, 183 cm</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Plug Type</th>
<th>Must accompany with one power cord</th>
<th>US</th>
<th>JP</th>
<th>EU</th>
<th>AU</th>
<th>UK</th>
<th>CN</th>
</tr>
</thead>
</table>

## Appearance

### Model Name

|------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|

### 4 Ports

- nPort 5410
- nPort 5430
- nPort 5430i
- nPort 5450
- nPort 5450i

### 8 Ports

- nPort 5610-8
- nPort 5630-8
- nPort 5650-8
- nPort 5650-8-M-SC
- nPort 5650-8-S-SC
- nPort 5610-8-DT
- nPort 5610-8-DT-J
- nPort 5650-8-DT
- nPort 5650-8-DT-J
- nPort 5650i-8-DT
- nPort 5610-8-DTL
- nPort 5610-8-DTL-J
- nPort 5650-8-DTL
- nPort 5650i-8-DTL

### 16 Ports

- nPort 5610-16
- nPort 5630-16
- nPort 5650-16