

# NPort W2150A/W2250A Series

1 and 2-port serial-to-WiFi (802.11a/b/g/n) device servers with wireless client



## Features and Benefits

- Links serial and Ethernet devices to an IEEE 802.11a/b/g/n network
- Web-based configuration using built-in Ethernet or WLAN
- Enhanced surge protection for serial, LAN, and power
- Remote configuration with HTTPS, SSH
- Secure data access with WEP, WPA, WPA2
- Fast roaming for quick automatic switching between access points
- Offline port buffering and serial data log
- Dual power inputs (1 screw-type power jack, 1 terminal block)

## Certifications



## Introduction

The NPort® W2150A and W2250A are the ideal choice for connecting your serial and Ethernet devices, such as PLCs, meters, and sensors, to a wireless LAN. Your communications software will be able to access the serial devices from anywhere over a wireless LAN. Moreover, the wireless device servers require fewer cables and are ideal for applications that involve difficult wiring situations. In Infrastructure Mode or Ad-Hoc Mode, the NPort® W2150A and NPort® W2250A can connect to Wi-Fi networks at offices and factories to allow users to move, or roam, between several APs (access points), and offer an excellent solution for devices that are frequently moved from place to place.

## Specifications

### Ethernet Interface

|                                       |   |
|---------------------------------------|---|
| 10/100BaseT(X) Ports (RJ45 connector) | 1   |
| Magnetic Isolation Protection         | 1.5 kV (built-in)                                     |
| Standards                             | IEEE 802.3 for 10BaseT<br>IEEE 802.3u for 100BaseT(X) |

### Ethernet Software Features

|                          |   |
|--------------------------|---|
| Configuration Options    | Web Console (HTTP/HTTPS), Windows Utility   |
| Management               | DHCP Option 82, HTTP, IPv4, SMTP, SNMPv1/v2c/v3, Syslog, Telnet, Web Console  |
| 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 |
| Linux Real TTY Drivers   | Kernel version: 2.4.x, 2.6.x, 3.x, 4.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  |
| Android API              | Android 3.1.x and later   |
| MIB                      | Device Settings MIB, RFC1213, RFC1317   |

|  |  |
|--|--|
| Security                                   | HTTPS/SSL, Local Account Accessibility, TACACS+, SSH   |
| Time Management                            | NTP Client, SNTP Client  |
| <b>WLAN Interface</b>                      |  |
| WLAN Standards                             | 802.11a/b/g/n  |
| Receiver Sensitivity for 802.11a           | -91 dBm @ 6 Mbps<br>-74 dBm @ 54 Mbps  |
| Receiver Sensitivity for 802.11b           | -92 dBm @ 1 Mbps<br>-84 dBm @ 11 Mbps  |
| Receiver Sensitivity for 802.11g           | -91 dBm @ 6 Mbps<br>-73 dBm @ 54 Mbps  |
| Receiver Sensitivity for 802.11n (2.4 GHz) | -89 dBm @ 6.5 Mbps (20 MHz)<br>-71 dBm @ 72.2 Mbps (20 MHz)  |
| Receiver Sensitivity for 802.11n (5 GHz)   | -89 dBm @ 6.5 Mbps (20 MHz)<br>-71 dBm @ 72.2 Mbps (20 MHz)<br>-85 dBm @ 13.5 Mbps (40 MHz)<br>-67 dBm @ 150 Mbps (40 MHz)   |
| Modulation Type                            | DSSS<br>OFDM   |
| Transmission Distance                      | Up to 100 meters (in open areas)   |
| Transmission Rate                          | 802.11a/g: 54 Mbps<br>802.11b: 11 Mbps<br>802.11n: 6.5 to 150 Mbps   |
| Transmitter Power for 802.11b              | 16±1.5 dBm @ 1 Mbps<br>16±1.5 dBm @ 11 Mbps  |
| Transmitter Power for 802.11g              | 16±1.5 dBm @ 6 Mbps<br>14±1.5 dBm @ 54 Mbps  |
| Transmitter Power for 802.11a              | 15±1.5 dBm @ 6 Mbps<br>14±1.5 dBm @ 54 Mbps  |
| Transmitter Power for 802.11n (2.4 GHz)    | 16 dBm @ 1.5 Mbps (6.5 MHz)<br>12 dBm @ 1.5 Mbps (72.2 MHz)  |
| Transmitter Power for 802.11n (5 GHz)      | 15 dBm @ 1.5 Mbps (6.5 MHz)<br>12 dBm @ 1.5 Mbps (150 MHz)   |
| Wireless Security                          | WEP encryption (64-bit and 128-bit)<br>WPA/WPA2-Enterprise (IEEE 802.1X/RADIUS, TKIP, AES)<br>WPA/WPA2-Personal              |
| WLAN Modes                                 | Ad-hoc Mode, Infrastructure mode   |
| <b>Serial Interface</b>                    |  |
| Connector                                  | DB9 male   |
| No. of Ports                               | NPort W2150A/W2150A-T: 1<br>NPort W2250A/W2250A-T: 2   |
| Serial Standards                           | RS-232, RS-422, RS-485   |
| Operation Modes                            | Real COM mode, TCP Server mode, TCP Client mode, UDP mode, RFC2217 mode, Pair Connection mode, Ethernet Modem mode, Disabled |
| Baudrate                                   | 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                      | None, RTS/CTS, XON/XOFF                  |
| RS-485 Data Direction Control     | ADDC® (automatic data direction control) |
| Pull High/Low Resistor for RS-485 | 1 kilo-ohm, 150 kilo-ohms                |
| Terminator for RS-485             | 120 ohms                                 |
| Surge                             | 1 kV                                     |

#### Physical Characteristics

|   |  |
|---|--|
| Housing                                 | Metal  |
| Installation                            | Desktop, DIN-rail mounting (with optional kit), Wall mounting                    |
| Dimensions (with ears, without antenna) | 77 x 111 x 26 mm (3.03 x 4.37 x 1.02 in)   |
| Dimensions (without ears or antenna)    | 100 x 111 x 26 mm (3.94 x 4.37 x 1.02 in)  |
| Weight                                  | NPort W2150A/W2150A-T: 547 g (1.21 lb)<br>NPort W2250A/W2250A-T: 557 g (1.23 lb) |
| Antenna Length                          | 109.79 mm (4.32 in)  |

#### Environmental Limits

|  |   |
|--|---|
| Operating Temperature                  | Standard Models: 0 to 55°C (32 to 131°F)<br>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)   |

#### Power Parameters

|               |  |
|---------------|--|
| Input Current | NPort W2150A/W2150A-T: 179 mA @ 12 VDC<br>NPort W2250A/W2250A-T: 200 mA @ 12 VDC |
| Input Voltage | 12 to 48 VDC   |

#### 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<br>IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m<br>IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV<br>IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV<br>IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m; Signal: 3 V/m<br>IEC 61000-4-8 PFMF<br>IEC 61000-4-11 DIPs |
| Radio Frequency | CE (ETSI EN 301 893, ETSI EN 300 328, ETSI EN 301 489-17, ETSI EN 301 489-1), ARIB RCR STD-33, ARIB STD-66  |

#### Reliability

|                          |                       |
|--------------------------|-----------------------|
| Alert Tools              | RTC (real-time clock) |
| Automatic Reboot Trigger | Built-in WDT          |

## MTBF

|           |  |
|-----------|--|
| Time      | NPort W2150A/W2150A-T: 383,187 hrs<br>NPort W2250A/W2250A-T: 363,327 hrs |
| Standards | Telcordia (Bellcore) Standard TR/SR                                      |

## Warranty

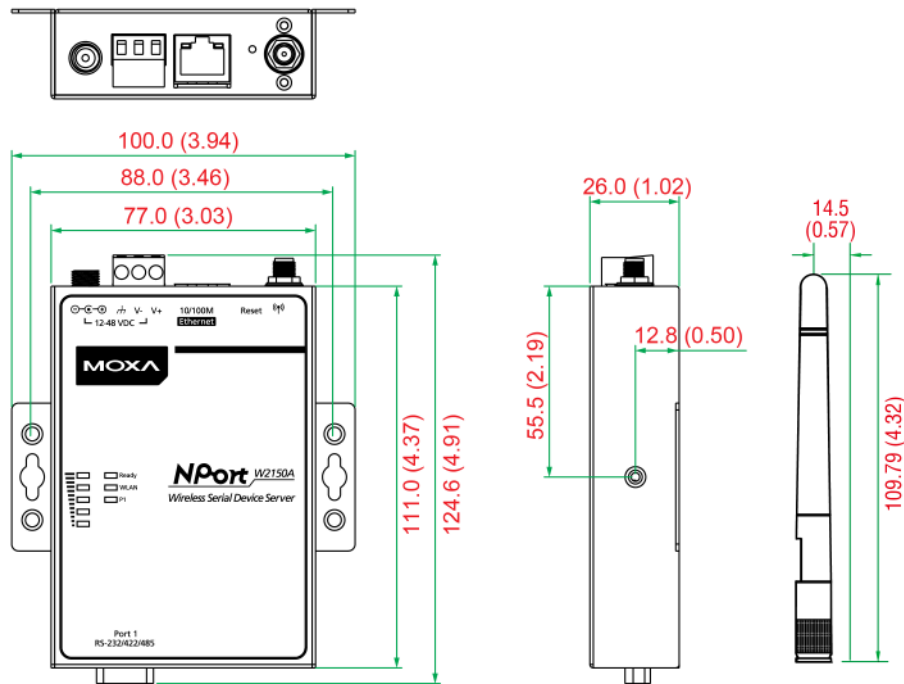
|                 |  |
|-----------------|--|
| Warranty Period | 5 years  |
| Details         | See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> |

## Package Contents

|               |  |
|---------------|--|
| Device        | 1 x NPort W2150A/W2250A Series device server                             |
| Power Supply  | 1 x power adapter, suitable for your region (standard temp. models only) |
| Antenna       | 1 x 2.4/5 GHz antenna  |
| Documentation | 1 x quick installation guide<br>1 x warranty card                        |

## Dimensions

Unit: mm (inch)



## Ordering Information

| Model Name     | No. of serial ports | Serial Standards | Baudrate             | Operating Temp. | Input Current   | Input Voltage |
|----------------|---------------------|------------------|----------------------|-----------------|-----------------|---------------|
| NPort W2150A   | 1                   | RS-232/422/485   | 50 bps to 921.6 kbps | 0 to 55°C       | 179 mA @ 12 VDC | 12-48 VDC     |
| NPort W2250A   | 2                   | RS-232/422/485   | 50 bps to 921.6 kbps | 0 to 55°C       | 200 mA @ 12 VDC | 12-48 VDC     |
| NPort W2150A-T | 1                   | RS-232/422/485   | 50 bps to 921.6 kbps | -40 to 75°C     | 179 mA @ 12 VDC | 12-48 VDC     |
| NPort W2250A-T | 2                   | RS-232/422/485   | 50 bps to 921.6 kbps | -40 to 75°C     | 200 mA @ 12 VDC | 12-48 VDC     |

## Accessories (sold separately)

### 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 |

### 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-PJ21NOPEB-BK-30 | Locking barrel plug to bare-wire cable |
|---------------------|--|

### Power Adapters

|                     |   |
|---------------------|---|
| PWR-12050-WPAU-S1   | Locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, Australia (AU) plug, 0 to 40°C operating temperature   |
| PWR-12050-WPCN-S1   | Locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, China (CN) plug, 0 to 40°C operating temperature   |
| PWR-12050-WPEU-S1   | Locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, Continental Europe (EU) plug, 0 to 40°C operating temperature  |
| PWR-12050-WPUK-S1   | Locking barrel plug, 12 VDC, 0.5 A, 100-240 VAC, United Kingdom (UK) plug, 0 to 40°C operating temperature  |
| PWR-12050-WPUSJP-S1 | 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<br><br>Applicable Models:<br>NPort W2150A-T<br>NPort W2250A-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<br><br>Applicable Models:<br>NPort W2150A-T<br>NPort W2250A-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<br><br>Applicable Models:<br>NPort W2150A-T<br>NPort W2250A-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<br><br>Applicable Models:<br>NPort W2150A-T<br>NPort W2250A-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<br><br>Applicable Models:<br>NPort W2150A-T<br>NPort W2250A-T |

### Antennas

|                |   |
|----------------|---|
| ANT-WDB-ARM-02 | 2.4/5 GHz, omni-directional rubber duck antenna, 2 dBi, RP-SMA (male) |
|----------------|---|

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