

# NPort W2150A-W4/W2250A-W4 系列

## 1 和 2 埠 RS-232/422/485 IEEE 802.11a/b/g 無線串列設備伺服器



### 特色與優點

- 可將任何串列裝置連接至 IEEE 802.11a/b/g 網路
- 透過內建乙太網路或 WLAN 執行 Web-based 設定
- 安全啟動僅允許 Moxa 授權的韌體在裝置上運行
- 利用 HTTPS (TLS 1.3) 和 SSH 強化遠端設定
- 透過 WEP、WPA 和 WPA2 保護存取資料的安全性
- WPA/WPA2 Enterprise IEEE 802.1X/RADIUS (EAP-TLS 1.3)
- 快速漫遊，可在存取點之間快速自動切換
- 具備離線埠緩衝和串列資料記錄功能
- 強化的區域網路、串列和電力突波保護
- 雙電源輸入 (1 螺旋式電源接頭、1 端子台)

### 認證



### 簡介

NPort® W2150A-W4 和 W2250A-W4 是將串列和乙太網路裝置（例如 PLC、儀表和感測器）連接到無線 LAN 的理想選擇。您的通訊軟體將能夠透過無線 LAN 隨處存取串列裝置。此外，無線裝置伺服器需要較少纜線，相當適合不便佈線的應用。在基礎架構模式中，NPort® W2150A-W4 和 NPort® W2250A-W4 可以連接辦公室和工廠的 Wi-Fi 網路，以便使用者在多個 AP（存取點）之間移動或漫遊，並且對於經常在不同的地點之間移動的裝置提供絕佳的解決方案。

### 規格

#### 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)<br>Windows Utility                                                                                                                                                     |
| Management               | DHCP Option 82<br>HTTP<br>IPv4<br>SMTP<br>SNMPv1/v2c/v3<br>Syslog<br>Telnet<br>Web Console                                                                                                      |
| Windows Real COM Drivers | Windows 11, 10, 8.1, 8, 7, Vista, XP, ME, 98 and 95<br>Windows Server 2022, 2019, 2016, 2012 R2, 2012, 2008 R2, 2008, 2003, 2000 and NT<br>Windows Embedded CE 5.0 and 6.0, Windows XP Embedded |

|                             |                                                                                                                                                                                                  |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Linux Real TTY Drivers      | Kernel Versions: 6.x, 5.x, 4.x, 3.x, 2.6.x and 2.4.x                                                                                                                                             |
| Fixed TTY Drivers           | macOS versions: 14, 13, 12, 11 and 10.1x<br>SCO UNIX, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X                                             |
| Arm®-based Platform Support | Windows 11<br>Linux Kernel 6.x, 5.x and 4.x<br>macOS 14, 13, 12 and 11                                                                                                                           |
| Virtual Machine             | VMWare ESXi (Windows 11 / 10)<br>VMware Fusion (Windows on macOS 14, 13, 12, 11 and 10.1x)<br>Parallels Desktop (Windows on macOS 14, 13, 12, 11 and 10.1x)                                      |
| Android API                 | Android 3.1.x and later                                                                                                                                                                          |
| MIB                         | Device Settings MIB<br>RFC1213, RFC1317                                                                                                                                                          |
| Security                    | HTTPS/SSL<br>User Authentication Management: local database, RADIUS<br>Secure Protocols: HTTPS (TLSv1.3), SSH, SNMPv3<br>Cryptography: HMAC, SHA-1, SHA-256, SHA-384, RSA-1024, AES-128, AES-256 |
| Time Management             | NTP Client<br>SNTP Client                                                                                                                                                                        |

## WLAN Interface

|                                                                   |                                                                                                                                                |
|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| WLAN Standards                                                    | 802.11a/b/g/n                                                                                                                                  |
| Receiver Sensitivity for 802.11a (measured at 5.680 GHz)          | Typ. -91 @ 6 Mbps<br>Typ. -74 @ 54 Mbps                                                                                                        |
| Receiver Sensitivity for 802.11b (measured at 2.437 GHz)          | Typ. -92 dBm @ 1 Mbps<br>Typ. -84 dBm @ 11 Mbps                                                                                                |
| Receiver Sensitivity for 802.11g (measured at 2.437 GHz)          | Typ. -91 dBm @ 6 Mbps<br>Typ. -73 dBm @ 54 Mbps                                                                                                |
| Receiver Sensitivity for 802.11n (2.4 GHz; measured at 2.437 GHz) | Typ. -89 dBm @ 6.5 Mbps (20 MHz)<br>Typ. -71 dBm @ 72.2 Mbps (20 MHz)                                                                          |
| Receiver Sensitivity for 802.11n (5 GHz; measured at 5.680 GHz)   | Typ. -89 dBm @ 6.5 Mbps (20 MHz)<br>Typ. -71 dBm @ 72.2 Mbps (20 MHz)<br>Typ. -85 dBm @ 13.5 Mbps (40 MHz)<br>Typ. -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)                                                                                                                    |

|                                                   |                                                                                                                                                                                                         |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                   | 12 dBm @ 1.5 Mbps (150 MHz)                                                                                                                                                                             |
| Frequency Band for CN (20 MHz operating channels) | 2.412 to 2.472 GHz (13 channels)<br>5.180 to 5.240 GHz (4 channels)<br>5.260 to 5.320 GHz (4 channels) <sup>1</sup><br>5.745 to 5.825 GHz (5 channels)                                                  |
| Frequency Band for EU (20 MHz operating channels) | 2.412 to 2.472 GHz (13 channels)<br>5.180 to 5.240 GHz (4 channels)<br>5.260 to 5.320 GHz (4 channels) <sup>1</sup><br>5.500 to 5.700 GHz (11 channels) <sup>1</sup>                                    |
| Frequency Band for JP (20 MHz operating channels) | 2.412 to 2.472 GHz (13 channels)<br>5.180 to 5.240 GHz (4 channels)<br>5.260 to 5.320 GHz (4 channels) <sup>1</sup><br>5.500 to 5.700 GHz (11 channels) <sup>1</sup>                                    |
| Frequency Band for US (20 MHz operating channels) | 2.412 to 2.462 GHz (11 channels)<br>5.180 to 5.240 GHz (4 channels)<br>5.260 to 5.320 GHz (4 channels) <sup>1</sup><br>5.500 to 5.700 GHz (11 channels) <sup>1</sup><br>5.745 to 5.825 GHz (5 channels) |
| 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                                        | Infrastructure mode                                                                                                                                                                                     |

### Antenna Characteristics

|              |                  |
|--------------|------------------|
| Connector    | RP-SMA (male)    |
| Antenna Type | Omni-directional |

### Security Functions

|                         |                                                                                          |
|-------------------------|------------------------------------------------------------------------------------------|
| Authentication          | Local database<br>RADIUS                                                                 |
| Encryption              | AES-128<br>AES-256<br>HMAC<br>RSA-1024<br>SHA-1<br>SHA-256<br>SHA-384                    |
| Security Protocols      | SNMPv3<br>SSHv2<br>HTTPS (TLS 1.3)                                                       |
| Wireless Security       | WEP<br>WPA/WPA2-Enterprise (IEEE 802.1X/RADIUS support EAP-TLS 1.3)<br>WPA/WPA2-Personal |
| Hardware-based Security | Secure Boot                                                                              |

### Serial Interface

|                  |                                                                  |
|------------------|------------------------------------------------------------------|
| Connector        | DB9 male                                                         |
| No. of Ports     | NPort W2150A-W4/W2150A-W4-T: 1<br>NPort W2250A-W4/W2250A-W4-T: 2 |
| Serial Standards | RS-232<br>RS-422<br>RS-485                                       |

1. 支援 DFS (動態頻率選擇) 頻道：在 AP 模式下，當設備偵測到一個雷達信號，會自動切換到另一個頻道。然而，根據規定，當頻道切換後，若要重啟服務，需要 60 秒的可用性檢查期。

|                                   |                                                                                                                                            |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Operation Modes                   | Real COM mode<br>TCP Server mode<br>TCP Client mode<br>UDP mode<br>RFC2217 mode<br>Pair Connection mode<br>Ethernet Modem mode<br>Disabled |
| Baudrate                          | 300 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<br>RTS/CTS<br>XON/XOFF                                                                                                                |
| RS-485 Data Direction Control     | Automatic Data Direction Control (ADDC)                                                                                                    |
| 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<br>DIN-rail mounting (with optional kit)<br>Wall mounting                            |
| Dimensions (with ears, without antenna) | 100 x 111 x 26 mm (3.94 x 4.37 x 1.02 in)                                                    |
| Dimensions (without ears or antenna)    | 77 x 111 x 26 mm (3.03 x 4.37 x 1.02 in)                                                     |
| Weight                                  | NPort W2150A-W4/W2150A-W4-T: 185 g (0.41 lb)<br>NPort W2250A-W4/W2250A-W4-T: 191 g (0.42 lb) |
| Antenna Length                          | 108 mm (4.25 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-W4/W2150A-W4-T: 429 mA @ 12 VDC<br>NPort W2250A-W4/W2250A-W4-T: 455 mA @ 12 VDC |
| Input Voltage | 12 to 48 VDC                                                                                 |

### Standards and Certifications

|     |                                                                                         |
|-----|-----------------------------------------------------------------------------------------|
| EMC | EN 55032/35                                                                             |
| 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 |

|                 |                                                                                                                                                                                                     |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | 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 |
| Radio Frequency | CE (ETSI EN 301 893, ETSI EN 300 328, ETSI EN 301489-1/-17), MIC, KC, RCM, WPC                                                                                                                      |
| Safety          | UL 62368-1<br>IEC 62368-1                                                                                                                                                                           |

### Reliability

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

### MTBF

|           |                                                                                          |
|-----------|------------------------------------------------------------------------------------------|
| Time      | NPort W2150A-W4/W2150A-W4-T: 1,356,464 hrs<br>NPort W2250A-W4/W2250A-W4-T: 1,187,539 hrs |
| Standards | Telcordia SR332                                                                          |

### 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-W4/W2250A-W4 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                        |

## 尺寸

### 訂購資訊

| Model Name            | No. of serial ports | WLAN Channels | Input Current   | Operating Temp. | Power Adapter in Box | Notes          |
|-----------------------|---------------------|---------------|-----------------|-----------------|----------------------|----------------|
| NPort W2150A-W4-CN    | 1                   | China bands   | 429 mA @ 12 VDC | 0 to 55°C       | Yes (CN plug)        | —              |
| NPort W2150A-W4-EU    | 1                   | Europe bands  | 429 mA @ 12 VDC | 0 to 55°C       | Yes (EU/UK/AU plug)  | —              |
| NPort W2150A-W4-EU/KC | 1                   | Europe bands  | 429 mA @ 12 VDC | 0 to 55°C       | Yes (KR plug)        | KC certificate |
| NPort W2150A-W4-JP    | 1                   | Japan bands   | 429 mA @ 12 VDC | 0 to 55°C       | Yes (JP plug)        | —              |
| NPort W2150A-W4-US    | 1                   | US bands      | 429 mA @ 12 VDC | 0 to 55°C       | Yes (US plug)        | —              |
| NPort W2150A-W4-T-CN  | 1                   | China bands   | 429 mA @ 12 VDC | -40 to 75°C     | No                   | —              |
| NPort W2150A-W4-T-EU  | 1                   | Europe bands  | 429 mA @ 12 VDC | -40 to 75°C     | No                   | —              |
| NPort W2150A-W4-T-JP  | 1                   | Japan bands   | 429 mA @ 12 VDC | -40 to 75°C     | No                   | —              |
| NPort W2150A-W4-T-US  | 1                   | US bands      | 429 mA @ 12 VDC | -40 to 75°C     | No                   | —              |
| NPort W2250A-W4-CN    | 2                   | China bands   | 455 mA @ 12 VDC | 0 to 55°C       | Yes (CN plug)        | —              |

| Model Name            | No. of serial ports | WLAN Channels | Input Current   | Operating Temp. | Power Adapter in Box | Notes          |
|-----------------------|---------------------|---------------|-----------------|-----------------|----------------------|----------------|
| NPort W2250A-W4-EU    | 2                   | Europe bands  | 455 mA @ 12 VDC | 0 to 55°C       | Yes (EU/UK/AU plug)  | —              |
| NPort W2250A-W4-EU/KC | 2                   | Europe bands  | 455 mA @ 12 VDC | 0 to 55°C       | Yes (KR plug)        | KC certificate |
| NPort W2250A-W4-JP    | 2                   | Japan bands   | 455 mA @ 12 VDC | 0 to 55°C       | Yes (JP plug)        | —              |
| NPort W2250A-W4-US    | 2                   | US bands      | 455 mA @ 12 VDC | 0 to 55°C       | Yes (US plug)        | —              |
| NPort W2250A-W4-T-CN  | 2                   | China bands   | 455 mA @ 12 VDC | -40 to 75°C     | No                   | —              |
| NPort W2250A-W4-T-EU  | 2                   | Europe bands  | 455 mA @ 12 VDC | -40 to 75°C     | No                   | —              |
| NPort W2250A-W4-T-JP  | 2                   | Japan bands   | 455 mA @ 12 VDC | -40 to 75°C     | No                   | —              |
| NPort W2250A-W4-T-US  | 2                   | US bands      | 455 mA @ 12 VDC | -40 to 75°C     | No                   | —              |

## 配件（選購）

### Antennas

|                   |                                                                                       |
|-------------------|---------------------------------------------------------------------------------------|
| ANT-WDB-ASM-03 BK | 2 dBi at 2.4 GHz or 2 dBi at 5 GHz, RP-SMA (male) omnidirectional rubber-duck antenna |
|-------------------|---------------------------------------------------------------------------------------|

### 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-RJ45P-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 Adapters

|                   |                                                                                                                                                                                                                                                                                                                          |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PWR-12050-AU-S1   | Locking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, AU plug, 0 to 40°C operating temperature                                                                                                                                                                                                                             |
| PWR-12050-CN-S1   | Locking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, CN plug, 0 to 40°C operating temperature                                                                                                                                                                                                                             |
| PWR-12050-EU-S1   | Locking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, EU plug, 0 to 40°C operating temperature                                                                                                                                                                                                                             |
| PWR-12050-UK-S1   | Locking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, UK plug, 0 to 40°C operating temperature                                                                                                                                                                                                                             |
| PWR-12050-USJP-S1 | Locking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, US/JP plug, 0 to 40°C operating temperature                                                                                                                                                                                                                          |
| PWR-12050-KR-S1   | Locking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, KR plug, 0 to 40°C operating temperature                                                                                                                                                                                                                             |
| PWR-12150-AU-SA-T | Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, AU plug, -40 to 75°C operating temperature<br><br>Applicable Models:<br>NPort W2150A-W4-T-CN<br>NPort W2150A-W4-T-EU<br>NPort W2150A-W4-T-JP<br>NPort W2150A-W4-T-US<br>NPort W2250A-W4-T-CN<br>NPort W2250A-W4-T-EU<br>NPort W2250A-W4-T-JP<br>NPort W2250A-W4-T-US |
| PWR-12150-CN-SA-T | Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, CN plug, -40 to 75°C operating temperature<br><br>Applicable Models:<br>NPort W2150A-W4-T-CN<br>NPort W2150A-W4-T-EU<br>NPort W2150A-W4-T-JP<br>NPort W2150A-W4-T-US<br>NPort W2250A-W4-T-CN                                                                         |

|                     |                                                                                                                                                                                                                                                                                                                            |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     | NPort W2250A-W4-T-EU<br>NPort W2250A-W4-T-JP<br>NPort W2250A-W4-T-US                                                                                                                                                                                                                                                       |
| PWR-12150-EU-SA-T   | Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, EU plug, -40 to 75°C operating temperature<br><br>Applicable Models:<br>NPort W2150A-W4-T-CN<br>NPort W2150A-W4-T-EU<br>NPort W2150A-W4-T-JP<br>NPort W2150A-W4-T-US<br>NPort W2250A-W4-T-CN<br>NPort W2250A-W4-T-EU<br>NPort W2250A-W4-T-JP<br>NPort W2250A-W4-T-US   |
| PWR-12150-UK-SA-T   | Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, UK plug, -40 to 75°C operating temperature<br><br>Applicable Models:<br>NPort W2150A-W4-T-CN<br>NPort W2150A-W4-T-EU<br>NPort W2150A-W4-T-JP<br>NPort W2150A-W4-T-US<br>NPort W2250A-W4-T-CN<br>NPort W2250A-W4-T-EU<br>NPort W2250A-W4-T-JP<br>NPort W2250A-W4-T-US   |
| PWR-12150-USJP-SA-T | Locking barrel plug, 12 VDC 1.5 A, 100 to 240 VAC, US/JP plug, -40 to 75°C operating temperature<br><br>Applicable Models:<br>NPort W2150A-W4-T-CN<br>NPort W2150A-W4-T-EU<br>NPort W2150A-W4-T-JP<br>NPort W2150A-W4-T-US<br>NPort W2250A-W4-T-CN<br>NPort W2250A-W4-T-EU<br>NPort W2250A-W4-T-JP<br>NPort W2250A-W4-T-US |

## Power Cords

|                     |                                        |
|---------------------|----------------------------------------|
| CBL-PJ21NOPEN-BK-30 | Locking barrel plug to bare-wire cable |
|---------------------|----------------------------------------|

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