NPort W2150/W2250 Plus

1 and 2-port RS-232/422/485 Wireless Device Servers

NPort W2150 Plus

NPort W2250 Plus

Features

> **Link any serial device to IEEE 802.11 a/b/g network**
> **RS-232/422/485 serial interface, up to 921.6K bps**
> **Web-based configuration using built-in Ethernet or WLAN**
> **Enhanced remote configuration with HTTPS, SSH**
> **Secure data access with WEP, WPA, WPA2**
> **Built-in WLAN site survey tool**
> **Wireless roaming with user-defined signal strength threshold**
> **Off-line port buffering and serial data log**
> **Dual power inputs (1 power jack, 1 terminal block)**

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: Overview

The NPort W2150 Plus and W2250 Plus are the ideal choice for connecting your serial 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 WLAN environment offers an excellent solution where devices are frequently moved from place to place.

: 802.11 a/b/g Wireless Connectivity to Serial Devices

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 W2250 Plus and W2150 Plus can communicate with any host computer through an access point, or with another NPort W2250 Plus or W2150 Plus up to 100 meters away.

: Wireless Roaming Function

Wi-Fi networks at offices and factories allow users to move, or "roam," between several APs (Access Points). The NPort W2150 Plus and W2250 Plus include a "Connect Rule" setting to allow the wireless roaming.

Connect rule
Low signal strength reconnect

Fixed on 1st priority
Signal strength of AP
Priority sequential
Fixed on 1st priority

Submit

Priority

High ── Profile1
X   Profile2
Low ── Profile3

The NPort W2150 Plus and W2250 Plus allows 3 different connect rules.The server can be configured to reconnect based on the signal strength of the AP. The threshold is selectable, so the server can be configured to reconnect to an AP when the signal strength is at 20%, 40%, 60%, or even 80%.

You can set up three profiles on the NPort W2150 Plus or W2250 Plus. Wireless roaming can be configured based on the priorities that you define. You can also force the server to connect to the same AP by selecting "Fixed on first priority".

Off-line Port Buffering and Serial Data Log for Each Port

For mission-critical applications, data from the serial device must not be lost if the wireless connection goes down. The NPort W2150 Plus and W2250 Plus are designed to continue operation if the wireless connection is disconnected temporarily. When the wireless connection is retraining, or if the connection fails, the serial data from the serial device will be queued in the 10 MB port buffer built into the device server. As soon as the wireless connection returns to normal, the data stored in the buffer will be sent to its destination. In addition, a serial data log can be enabled to make troubleshooting easier.

NPort W2150 Plus, W2250 Plus: 64 KB per port

Built-in WLAN Site Survey Tool

The NPort W2150 Plus and W2250 Plus have a built-in WLAN site survey tool to help users perform a wireless site survey. Additional software is NOT required to complete the site survey.
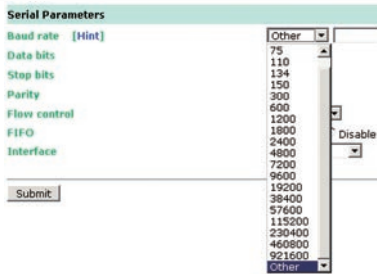
The goal of a WLAN site survey is to supply enough information to determine how many access points are required, and where the access points should be placed. For most implementations, the number and placement of access points is designed to guarantee a minimum data rate. With wireless systems, it's often necessary to perform a WLAN site survey before installing the access points, in order to completely understand the behavior of radio waves within the facility.

Secure Remote Management and Configuration with SSH/SSL

Unauthorized access is one of the biggest headaches for system managers. In addition to IP filtering and password protection, the NPort W2150 Plus and W2250 Plus also support SSH and SSL to protect the NPort W2150 Plus and W2250 Plus from hackers. To transmit control messages securely, open the web console using a web browser that supports https such as Internet Explorer. You may also open the serial or Telnet console using a terminal emulator that supports SSH, such as PuTTY.

Any Serial Baudrate between 50 and 921.6 Kbps

Serial Parameters

Baud rate [Hint] Other ▾
Data bits   75
Stop bits   110
                   134
Parity   150
Flow control   300
                   600
FIFO   1200
Interface   1800
                   2400   Disable
                   4800
                   7200
                   9600
Submit   19200
                   38400
                   57600
                   115200
                   230400
                   460800
                   921600
                   Other ▾

Most device servers only support a fixed number of serial baudrates. However, some applications require special baudrates, such as 250 Kbps or 500 Kbps. With the NPort W2150 Plus and W2250 Plus, you can enter any baudrate between 50 and 921.6 Kbps. Devices that use special baudrates can now connect properly to your network.

If your baudrate is not a standard baudrate, select "other" from the drop-down list and simply enter the baudrate.

: Ordering Information

NPort W2150 Plus   1-port RS-232/422/485 device server with 802.11 a/b/g WLAN, antenna

NPort W2250 Plus   2-port RS-232/422/485 device server with 802.11a/b/g WLAN, antenna
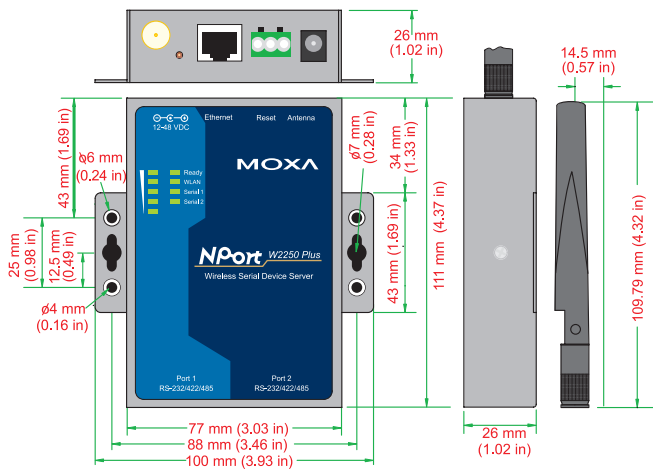
Package Checklist

• NPort W2250 Plus or W2150 Plus x 1

• Power adaptor

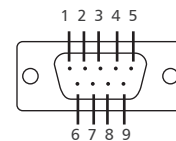• Quick Installation Guide

• Document and Software CD

Optional Accessories

Power adaptor: See page 12-8

Serial cable & serial adaptor: See page 12-4

DK-35A: DIN-Rail Mounting Kit (35 mm)

External antenna: See page 12-10

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Dimensions (unit = mm)

DB9 RS-232/422/485 port

1 2 3 4 5

6 7 8 9

Pin	RS-232	RS-422/485 (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	–	–
9	–	–	–

: Specifications

WLAN

Standard Compliance: 802.11 a/b/g

Radio Frequency Type: DSSS/OFDM

Tx Power : 17 dBm (typical) for Tx Power 11b

15 dBm (typical) for Tx Power 11g

14 dBm (typical) for Tx Power 11a

Rx Sensitivity: -80 dBm

Transmission Rate: 54 Mbps for 802.11a

11 Mbps for 802.11b

54 Mbps for 802.11g

54 Mbps (max.) with auto fallback

(54, 48, 36, 24, 18, 12, 11, 9, 6, 5.5, 2, 1 Mbps)

Transmission Distance: Up to 100 meters (in open areas)

Antenna Connector: Reverse SMA

Network Modes: Infrastructure, Ad-Hoc

Wireless Security: WEP: 64-bit/128-bit data encryption

WPA, WPA2, 802.11i: Enterprise mode and

Pre-Share Key (PSK) mode

Encryption: 128-bit TKIP/AES-CCMP

EAP-TLS, PEAP/GTC, PEAP/MD5, PEAP/MSCHAPV2,

EAP-TTLS/PAP, EAP-TTLS/CHAP, EAP-TTLS/MSCHAP,

EAP-TTLS/MSCHAPV2, EAP-TTLS/EAP-MSCHAPV2,

EAP-TTLS/EAP-GTC, EAP-TTLS/EAP-MD5, LEAP

LAN

Ethernet : 10/100 Mbps (RJ45)

Protection: Built-in 1.5 KV magnetic isolation

Serial

No. of Ports: 2 ports (NPort W2250-Plus), 1 port (NPort W2150-Plus)

Interface: RS-232/422/485

Port Type: DB9

Serial Data Log: 64 KB

Off-Line Port Buffering: 10 MB

Serial Communication Parameters

Parity : None, Even, Odd, Space, Mark

Data Bits: 5, 6, 7, 8

Stop Bits: 1, 1.5, 2

Flow Control: RTS/CTS, XON/XOFF, DTR/DSR

Transmission Speed: 50 bps to 921.6 Kbps

Software Features

Protocols: ICMP, IP, TCP, UDP, DHCP, BOOTP, Telnet,

SNMP, HTTP, SMTP, Vista

OS Driver Support: Windows 95/98/ME/NT/2000/XP/2003/XP

x64/2003 x64/Vista x64 COM driver

Utilities: Windows utility for Windows 98/ME/2000/XP/2003

Configuration: Web console, serial console, Telnet console, Windows

utility

Power Requirements

Power Input: 12 to 48 VDC

Power Consumption: 560 mA

Power Connecter: Power Jack or Terminal Block

Mechanical Specifications

Material: Aluminum sheet metal (1 mm)

Environmental

Operating Temperature: 0 to 55°C (32 to 131°F), 5 to 95%RH

Storage Temperature: -20 to 85°C (-4 to 185°F), 5 to 95%RH

Regulatory Approvals

EMC

CE: EN55022 Class A/EN55024,

ETSI EN 301 489-17, ETSI EN 301 489-1

FCC: FCC Part 17 Subpart B, Class A

FCC Part 15 Subpart B, Class A

Safety

UL: UL60950-1

TÜV: EN60950-1

DSPR : ARIB-STD 33, ARIB-STD 66

Warranty: 5 years

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