NPort IAW5000A-6I/O Series

1/2-port RS-232/422/485 IEEE 802.11a/b/g/n wireless device server with 4 DIs and 2 DOs

Overview

The NPort IAW5150A-6I/O and NPort IAW5250A-6I/O series, which are wireless serial device servers with digital I/Os, provide maximum flexibility when you need to integrate serial equipment in the field with a wireless Ethernet network. The combination of digital I/Os makes the device servers well-suited for a variety of industrial data acquisition applications. The DIs/OS on the device can be controlled over TCP/IP using the Modbus TCP protocol and can be configured and secured from a web browser. The device can also be installed as a COM Port (patented Real COM) on a Windows/Linux PC to make it compatible with legacy applications.

All models are ruggedly constructed, DIN-rail mountable, and designed with redundant power inputs to ensure uninterrupted operation for industrial applications.

Wireless Client

The device servers are equipped with one Ethernet port that allows data to be transferred seamlessly between the serial line, LAN, and WAN, allowing the LAN and WLAN interfaces to be bridged together using a single IP address.

Secure Remote Management and Configuration with SSH/HTTPS

Unauthorized access is one of the biggest headaches for system managers. In addition to IP filtering and password protection, the NPort IAW5150A-6I/O and NPort IAW5250A-6I/O also support SSH and HTTPS to provide protection from hackers. To transmit control messages securely, open the web console using a web browser that supports HTTPS (Internet Explorer, for example). You may also open the serial or Telnet console, such as PuTTY, using a terminal emulator that supports SSH.

Select “Any Baudrate” between 50 bps and 921.6 kbps

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 IAW5150A-6I/O and NPort IAW5250A-6I/O, you can use any baudrate between 50 and 921.6 kbps. If your device's baudrate is not a standard baudrate, select “other” from the drop-down list and then enter the baudrate.
Specifications

**Ethernet Interface**
Number of Ports: 1
Speed: 10/100 Mbps, auto MDI/MDIX
Connector: RJ45
Magnetic Isolation Protection: 1.5 kV built-in

**WLAN Interface**
Standards Compliance: 802.11a/b/g/n
Network Modes: Infrastructure, Ad-Hoc
TX Transmit Power:
- 802.11n (2.4 GHz):
  - 802.11n 2.4 GHz: Typ. 15 dBm ±1.5 dBm @ 6 Mbps, Typical 14 dBm ±1.5 dBm @ 54 Mbps
  - 802.11n 5 GHz: Typ. 15 dBm ±1.5 dBm @ 6.5 Mbps, Typical 12 dBm ±1.5 dBm @ 150 Mbps
RX Sensitivity:
- 802.11n:
  - 802.11n 2.4 GHz: -89 dBm @ 6 Mbps, -71 dBm @ 54 Mbps
  - 802.11n 5 GHz: -85 dBm @ 13.5 Mbps (40 MHz), -67 dBm @ 150 Mbps (40 MHz)
Radio Frequency Type: DSSS/OFDM
Transmission Rate:
- 802.11b: 54 Mbps
- 802.11a: 11 Mbps
- 802.11g: 54 Mbps
Transmission Distance: Up to 100 meters (in open areas)

**Serial Interface**
Number of Ports:
- NPort IAW5150A-6I/O: 1
- NPort IAW5250A-6I/O: 2
Serial Standards: RS-232/422/485 (DB9 male connector)
Serial Line Surge Protection: 4 kV (level 4)
Off-line Port Buffering:
- NPort IAW5150A-6I/O: 20 MB
- NPort IAW5250A-6I/O: 10 MB
Antenna Connector: Reverse SMA

**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 XON/XOFF
Baudrate: 50 bps to 921.6 kbps
Serial Data Log: 64 KB

**Serial Signals**
- RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
- RS-422: Tx+, Tx-, Rx+, Rx-, GND
- RS-485: Data+, Data-, GND

**Digital Input/Output**
Digital Inputs: 4 channels
Digital Outputs: 2 channels
Isolation: 3k VDC or 2k Vrms

**Digital Input**
Sensor Type: Wet Contact (NPN or PNP), Dry Contact
I/O Mode: DI or Event Counter
Dry Contact:
- On: short to GND
- Off: open

Wet Contact (DI to COM):
- On: 10 to 30 VDC
- Off: 0 to 3 VDC
Counter Frequency: 20 Hz

**Digital Output**
Type: Sink
I/O Mode: DO or Pulse Output
Over-Voltage Protection: 45 VDC
Over-Current Protection: 2.6 A
Over-Temperature Shutdown: 175°C (typical), 150°C (min.)
Current Rating: 200 mA per channel

**Storage Card Slot**: 1 microSD (SDHC) card slot; supports up to 32 GB

**Software**
Network Protocols: ICMP, IPv4, TCP, UDP, DHP, Telnet, DNS, SNMP
- V1/V2c/V3, HTTP, SMTP, SNTP, SSH, HTTPS, Modbus TCP (for I/O communication)
Configuration Options: Web Console, Serial Console, Telnet Console, Windows Utility
Secure Configuration Options: HTTPS, SSH
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
Utilities: Device Search Utility and NPort Windows Driver manager
Management: SNMP MIB-II

**Physical Characteristics**
Housing: Aluminum sheet metal
Weight:
- NPort IAW5150A-6I/O: 739.50 g (1.63 lb)
- NPort IAW5250A-6I/O: 840.20 g (1.85 lb)
Dimensions: 59.6 x 101.7 x 134 mm (2.35 x 4 x 5.28 in)
Antenna Length: 109.79 mm (4.32 in)
Environmental Limits
Operating Temperature:
Standard Models: 0 to 60°C (32 to 131°F)
Storage Temperature: -40 to 75°C (-4 to 167°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)

Power Requirements
Input Voltage: 12 to 48 VDC
Power Consumption:
NPort IAW5150A-6I/O: 300 mA @ 12 V
NPort IAW5250A-6I/O: 300 mA @ 12 V
Connector: Terminal block

Standards and Certifications
Safety: UL 60950-1, EN 60950-1
EMC: EN 61000-6-2/6-4
EMS: IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV
IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m
IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV
IEC 61000-4-5 Surge: Power 1 kV; Signal: Ethernet (2 kV), Serial (4 kV)
IEC 61000-4-6 CS: 10 V
IEC 61000-4-8

Radio: CE (ETSI EN 301 893, ETSI EN 300 328), ARIB RCR STD-33,
ARIB STD-66

Reliability
Alert Tool: RTC (real-time clock)
Automatic Reboot Trigger: Built-in WDT (watchdog timer)
MTBF (mean time between failures)
Time:
NPort IAW5150A-6I/O: 282,087 hrs
NPort IAW5250A-6I/O: 237,037 hrs
Standard: Telcordia (Bellcore) Standard TR/SR

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

Dimensions (NPort IAW5000A-6I/O)

Available Models
NPort IAW5150A-6I/O: 1-port RS-232/422/485 IEEE 802.11a/b/g/n wireless device server with 4DIs and 2DOs, 0 to 60°C operating temperature
NPort IAW5250A-6I/O: 2-port RS-232/422/485 IEEE 802.11a/b/g/n wireless device server with 4DIs and 2DOs, 0 to 60°C operating temperature

Optional Accessories
Mini DB9F-to-TB: DB9 female to terminal block connector
WK-51-01: Wall-mounting kit
DR-4524: 45W/2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC input
DR-75-24: 75W/3.2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC input
DR-120-24: 120W/5A DIN-rail 24 VDC power supply with 88 to 132 VAC or 176 to 264 VAC input, selected by a DIP switch

: Ordering Information

Package Checklist
• 1 NPort IAW5150A-6I/O or 1 NPort IAW5250A-6I/O
• 1 antenna
• Documentation and software CD
• Quick installation guide (printed)
• Warranty card

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