NPort IAW5000A-I/O Series

1/2-port RS-232/422/485 IEEE 802.11a/b/g/n wireless device server with 6 or 12 digital IOs

Overview

The NPort IAW5000A-I/O wireless serial device servers with digital IOs provide maximum flexibility when you need to integrate serial equipment in the field with a wireless Ethernet network. The combination of digital IOs makes the device servers well-suited for a variety of industrial data acquisition applications. The DI/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 IAW5000A-I/O series 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 IAW5000A-I/O series, 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:**  
- **802.11b:**  
  - Typ. 16 dBm ±1.5 dBm @ 1 Mbps,  
  - Typ. 16 dBm ±1.5 dBm @ 11 Mbps  
- **802.11a:**  
  - Typ. 16 dBm ±1.5 dBm @ 6 Mbps,  
  - Typ. 16 dBm ±1.5 dBm @ 54 Mbps  
- **802.11n 2.4 GHz:**  
  - Typ. 16 dBm ±1.5 dBm @ 6.5 Mbps,  
  - Typ. 16 dBm ±1.5 dBm @ 72.2 Mbps  
- **802.11n 5 GHz:**  
  - Typ. 16 dBm ±1.5 dBm @ 6.5 Mbps,  
  - Typ. 16 dBm ±1.5 dBm @ 150 Mbps  
- **RX Sensitivity:**  
- **802.11b:**  
  - -92 dBm @ 1 Mbps, -84 dBm @ 11 Mbps  
- **802.11a:**  
  - -91 dBm @ 6 Mbps, -74 dBm @ 54 Mbps  
- **802.11g:**  
  - -91 dBm @ 6 Mbps, -73 dBm @ 54 Mbps  
- **802.11n 2.4 GHz:**  
  - -89 dBm @ 6.5 Mbps (20 MHz), -71 dBm @ 72.2 Mbps (20 MHz)  
- **802.11n 5 GHz:**  
  - -89 dBm @ 6.5 Mbps (20 MHz), -71 dBm @ 72.2 Mbps (20 MHz)  
  - -65 dBm @ 13.5 Mbps (40 MHz), -67 dBm @ 150 Mbps (40 MHz)  
**Radio Frequency Type:** DSSS/OFDM  
**Transmission Rate:**  
- **802.11a:** 54 Mbps  
- **802.11b:** 11 Mbps  
- **802.11g:** 6 to 150 Mbps  
**Transmission Distance:** Up to 100 meters (in open areas)

### Digital Input/Output

**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

### Radio Frequency Type

**Transmission Rate:**  
- **802.11a:** 54 Mbps  
- **802.11b:** 11 Mbps  
- **802.11g:** 6 to 150 Mbps

### Digital Filtering Time Interval

Software Configurable

### Digital Output

**Type:** Sink  
**I/O Mode:** Digital 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, DHCP, Telnet, DNS, SNMP V1/V2c/V3, HTTP, SMTP, SSH, HTTPS, Modbus TCP (for I/O communication)  
**Configuration Options:** Web Console, Serial Console, Telnet Console, Windows Utility  
**Secure Configuration Options:** HTTPS, SSH

### Physical Characteristics

**Housing:** Aluminum sheet metal  
**Weight:**  
- NPort IAW5150A-I/O: without the box: 795.50 g (1.75 lb); with the box: 936.50 g (2.06 lb)  
- NPort IAW5250A-I/O: without the box: 865.50 g (1.89 lb); with the box: 993.45 g (2.20 lb)  
**Dimensions:** 59.6 x 101.7 x 134 mm (2.35 x 4 x 5.28 in)  
**Antenna Length:** 108.79 mm (4.29 in)
Serial-to-Ethernet Device Servers

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-I/O: 300 mA @ 12 V
NPort IAW5250A-I/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
EMI: CISPR 22, FCC Part 15B Class A
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

Dimensions (NPort IAW5000A-I/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: 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 IAW5150A-12I/O: 1-port RS-232/422/485 IEEE 802.11a/b/g/n wireless device server with 8DIs and 4DOs, 0 to 60°C operating temperature
NPort IAW5250A-12I/O: 1-port RS-232/422/485 IEEE 802.11a/b/g/n wireless device server with 8DIs and 4DOs, 0 to 60°C operating temperature

Optional Accessories (can be purchased separately)
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

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
NPort IAW5150A-12I/O: 277,975 hrs
NPort IAW5250A-12I/O: 234,130 hrs

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

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