

NPort IAW5000A-I/O Series

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



Features and Benefits

- Links serial and Ethernet devices to an IEEE 802.11a/b/g/n network
- Supports redundant dual DC power inputs and 1 relay output
- Secure data access with WEP, WPA, WPA2
- microSD card for configuration backup
- Wireless Client function for flexible integration
- 4 kV serial surge protection
- Serial device server with 6 or 12 digital I/Os

Certifications



Introduction

The NPort IA5000A-I/O serial device servers, which have built-in digital I/Os, provide maximum flexibility when you need to integrate serial equipment in the field with an Ethernet network. The combination of digital I/Os 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 supports 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

Memory

microSD Slot	Up to 32 GB (SD 2.0 compatible)
Input/Output Interface	
Digital Input Channels	6I/O models: 4 12I/O models: 8
Digital Output Channels	6I/O models: 2 12I/O models: 4

Isolation	3k VDC or 2k Vrms
Alarm Contact Channels	Relay output with current carrying capacity of 2 A @ 30 VDC
Digital Inputs	
Sensor Type	Dry contact Wet Contact (NPN or PNP)
Dry Contact	On: short to GND Off: open
Wet Contact (DI to COM)	On: 10 to 30 VDC Off: 0 to 3 VDC
I/O Mode	DI or event counter
Counter Frequency	20 Hz
Digital Filtering Time Interval	Software configurable
Digital Outputs	
I/O Mode	DO or pulse output
I/O Type	Sink
Over-Current Protection	2.6 A per channel @ 25°C
Over-Temperature Shutdown	175°C (typical), 150°C (min.)
Over-Voltage Protection	45 VDC
Ethernet Interface	
10/100BaseT(X) Ports (RJ45 connector)	1 Auto MDI/MDI-X connection
Magnetic Isolation Protection	1.5 kV (built-in)
Ethernet Software Features	
Configuration Options	Web Console (HTTP/HTTPS), Windows Utility, Telnet Console, Serial Console
Management	DHCP Client, DNS, HTTP, IPv4, SMTP, SNMPv1/v2c/v3, TCP/IP, Telnet, UDP, ICMP
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	MIB-II
Serial Interface	
Connector	DB9 male
No. of Ports	NPort IAW5150A Series: 1 NPort IAW5250A Series: 2
Serial Standards	RS-232, RS-422, RS-485
Baudrate	50 bps to 921.6 kbps (supports non-standard baudrates)

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
Pull High/Low Resistor for RS-485	1 kilo-ohm, 150 kilo-ohms
Terminator for RS-485	120 ohms
Surge	4 kV

Serial Signals

RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422	Tx+, Tx-, Rx+, Rx-, GND
RS-485-4w	Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w	Data+, Data-, GND

WLAN Interface

WLAN Standards	802.11a/b/g/n
Receiver Sensitivity for 802.11a	-91 dBm @ 6 Mbps -74 dBm @ 54 Mbps
Receiver Sensitivity for 802.11b	-92 dBm @ 1 Mbps -84 dBm @ 11 Mbps
Receiver Sensitivity for 802.11g	-91 dBm @ 6 Mbps -73 dBm @ 54 Mbps
Receiver Sensitivity for 802.11n (2.4 GHz)	-89 dBm @ 6.5 Mbps (20 MHz) -71 dBm @ 72.2 Mbps (20 MHz)
Receiver Sensitivity for 802.11n (5 GHz)	-89 dBm @ 6.5 Mbps (20 MHz) -71 dBm @ 72.2 Mbps (20 MHz) -85 dBm @ 13.5 Mbps (40 MHz) -67 dBm @ 150 Mbps (40 MHz)
Spread Spectrum	DSSS, OFDM
Transmission Distance	Up to 100 meters (in open areas)
Transmission Rate	802.11a/g: 54 Mbps 802.11b: 11 Mbps 802.11n: 6.5 to 150 Mbps
Transmitter Power for 802.11b	16±1.5 dBm @ 1 Mbps 16±1.5 dBm @ 11 Mbps
Transmitter Power for 802.11g	16±1.5 dBm @ 6 Mbps 14±1.5 dBm @ 54 Mbps
Transmitter Power for 802.11a	15±1.5 dBm @ 6 Mbps 14±1.5 dBm @ 54 Mbps
Transmitter Power for 802.11n (2.4 GHz)	16 dBm @ 1.5 Mbps (6.5 MHz) 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)

Wireless Security	WEP encryption (64-bit and 128-bit) WPA/WPA2-Enterprise (IEEE 802.1X/RADIUS, TKIP, AES) WPA/WPA2-Personal
WLAN Modes	Ad-hoc Mode, Infrastructure mode
Antenna Characteristics	
Antenna Connectors	1 RP-SMA male
Antenna Type	Omni-directional
Power Parameters	
Connection	Removable terminal block
Input Voltage	12 to 48 VDC
Input Current	300 mA @ 12 VDC
Reliability	
Automatic Reboot Trigger	Built-in WDT
Alert Tools	Built-in buzzer and RTC (real-time clock)
Physical Characteristics	
Housing	Metal
Dimensions	59.6 x 101.7 x 134 mm (2.35 x 4 x 5.28 in)
Weight	Packaged: NPort IAW5150A Series: 936.4 g (2.06 lb) NPort IAW5250A Series: 953.5 g (2.10 lb) Product only: NPort IA5150A Series: 739.5 g (1.67 lb) NPort IA5250A Series: 756.5 g (1.67 lb)
Installation	Wall mounting (with optional kit), DIN-rail mounting
Environmental Limits	
Operating Temperature	0 to 55°C (32 to 131°F)
Storage Temperature (package included)	-40 to 75°C (-40 to 167°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Standards and Certifications	
EMC	EN 61000-6-2/-6-4
EMI	CISPR 32, 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 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 PFMF
Radio Frequency	EN 300 328, EN 301 893
Safety	EN 60950-1, UL 60950-1
Declaration	
Green Product	RoHS, CRoHS, WEEE

MTBF

Time	NPort IAW5150A-6I/O: 282,087 hrs NPort IAW5150A-12I/O: 277,975 hrs NPort IAW5250A-6I/O: 237,037 hrs NPort IAW5250A-12I/O: 234,130 hrs
Standards	Telcordia (Bellcore) Standard TR/SR

Warranty

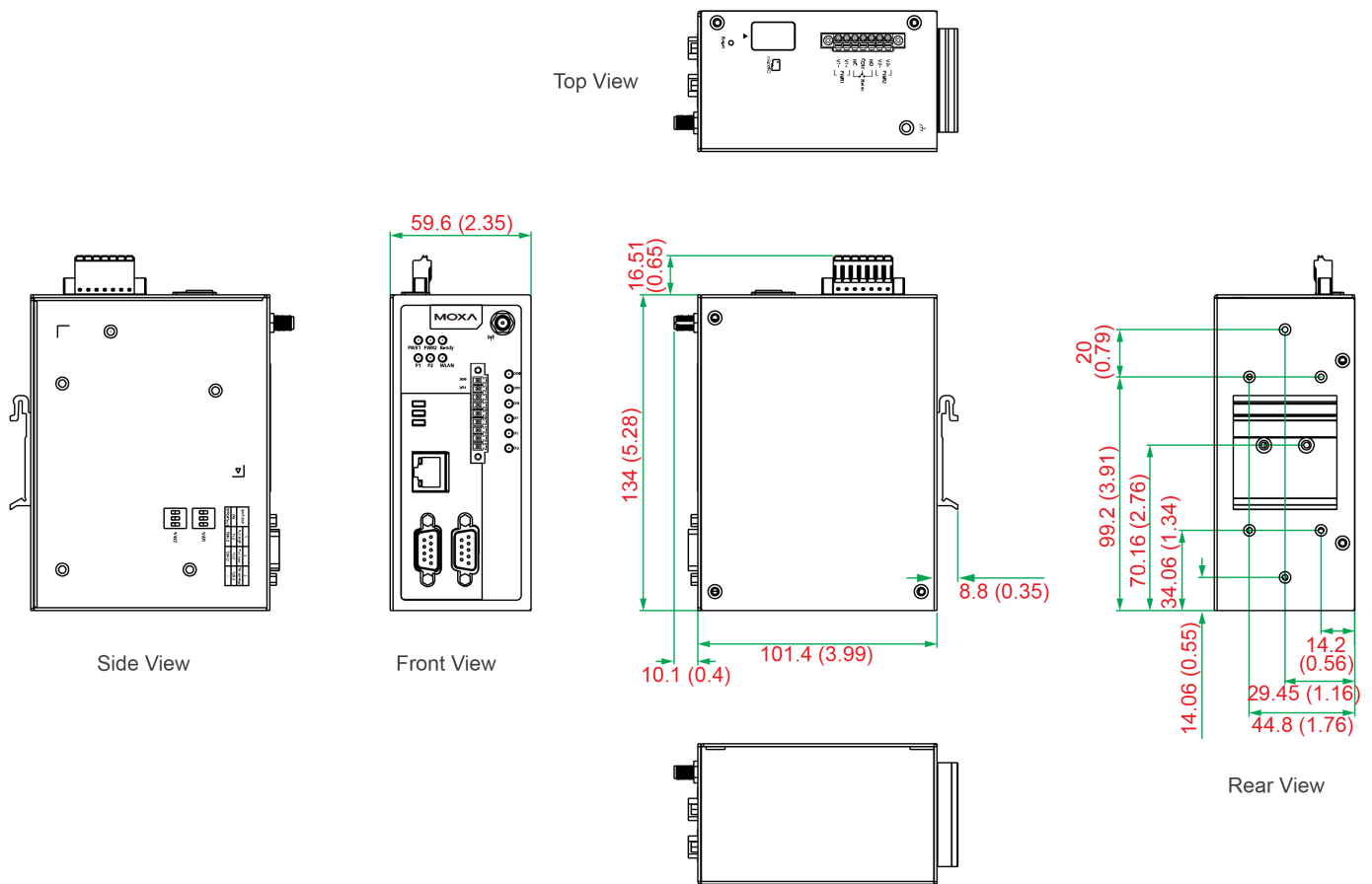
Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x NPort IAW5000A-I/O Series device server
Antenna	1 x 2.4/5 GHz antenna
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	No. of Serial Ports	No. of DIs	No. of DOs	Wi-Fi Standards
NPort IAW5150A-6I/O	1	4	2	802.11a/b/g/n
NPort IAW5250A-6I/O	2	4	2	802.11a/b/g/n

Model Name	No. of Serial Ports	No. of DIs	No. of DOs	Wi-Fi Standards
NPort IAW5150A-12I/O	1	8	4	802.11a/b/g/n
NPort IAW5250A-12I/O	2	8	4	802.11a/b/g/n

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

Antennas

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

DR-4524	45W/2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC or 120 to 370 VDC input, -10 to 50° C operating temperature
DR-75-24	75W/3.2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC or 120 to 370 VDC input, -10 to 60°C operating temperature
DR-120-24	120W/2.5A DIN-rail 24 VDC power supply with universal 88 to 132 VAC or 176 to 264 VAC input by switch, or 248 to 370 VDC input, -10 to 60°C operating temperature

Wall-Mounting Kits

WK-51-01	Wall-mounting kit, 2 plates, 6 screws, 51.6 x 67 x 2 mm
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