Wireless I/O: BusWorks® NTW Series

NTW2510/2530 Wi-Fi Ethernet Multi-Function I/O Modules

CE | 24 HOUR STOCK ITEM | 2 YEAR WARRANTY | RoHS Compliant

EtherNet/IP

Modbus TCP/IP

Shown with NTX Expansion I/O Module

4 analog inputs ◆ 2 analog outputs ◆ 4 discrete I/O ◆ Ethernet I/O plus Expansion I/O ◆ Multi-protocol support

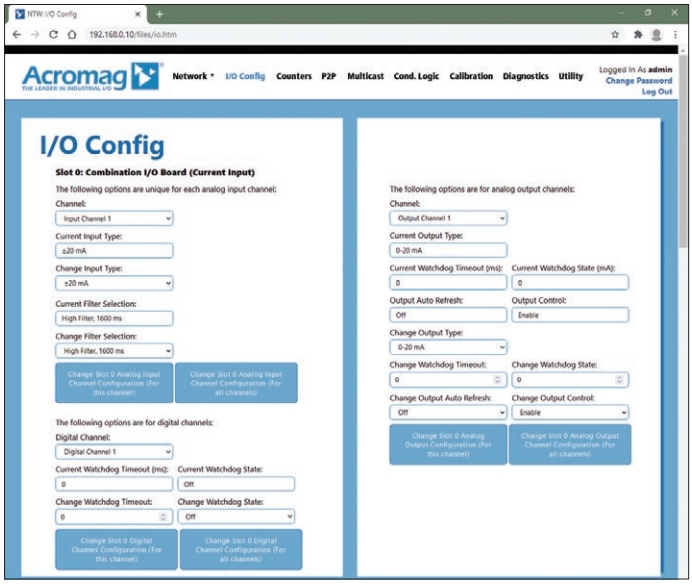
BusWorks® NTW2000 modules offer a cost-effective, wireless solution for Ethernet remote I/O systems. NTW Wi-Fi models provide the protocol interface plus I/O signal processing channels. Connecting NTX expansion modules can add extra I/O channels or a mix of signal types over a single Wi-Fi interface.

NTW2510 modules offer 4 current inputs, 2 current outputs, and 4 discrete I/O channels. NTW2530 models have voltage input. Each module has an embedded wireless IoT gateway providing a Wi-Fi interface to monitor and control I/O signals. An RJ45 port provides additional flexibility for a cabled network interface.

Applications include monitoring and controlling analog signals representing temperature, pressure, level, and flow. Discrete I/O sense and control levels on motors, lamps, valves, and other equipment.

An isolated RS-485 bus links up to three NTX expansion modules to the NTW Wi-Fi module with connectors that join units along the DIN rail. This internal NT bus distributes power and communication between the modules. Users can mix temperature, current, voltage, and discrete I/O modules across the NT bus.

Acromag's i2o® messaging technology allows direct peer-to-peer communication between remote modules without a master controller.



Easily configure I/O modules using any web browser.

Key Features & Benefits

- Wireless 802.11 a/b/g/n dual-band 2.4 and 5 GHz Wi-Fi interface
- Configured over Ethernet with web browser
- Expandable I/O capacity, up to 64 I/O channels of mixed signal types on one IP address
- Field-selectable Modbus TCP/IP or EtherNet/IP communication
- i2o peer-to-peer communication
- RJ45 port enables cable connections
- Four differential analog inputs
  current ranges: 0/4-20mA, ±20mA, 0/10-50mA
  voltage ranges: 0-1/5/10V, ±1/5/10V
- Two process current 0/4-20mA outputs (optional)
- Four tandem discrete I/O for TTL or 32V input
- OPC-UA, MQTT and RESTful API IIoT support
- Conditional logic for rule-based I/O operation
- 1500V isolation between I/O, network, and power
- Thin 25mm housing with pluggable terminals
- Wide temperature operation (-40 to 70°C)
- LED status indicators for visual troubleshooting
- CE compliant. UL/cUL Class 1 Div 2 and ATEX/IECEx Zone 2 approvals (pending)

Acromag® THE LEADER IN INDUSTRIAL I/O

Tel 877-214-6267 ■ sales@acromag.com ■ www.acromag.com ■ 30765 Wixom Rd, Wixom, MI 48393 USA

Wireless I/O: BusWorks® NTW Series

NTW2510/2530 Wi-Fi Ethernet Multi-Function I/O Modules

Performance Specifications

Ethernet Interface

Communication
Configurable for Modbus TCP/IP and EtherNet/IP.

10/100Mbps data rate, auto-sensing.

IP Address
Default 192.168.0.10. Configurable from static IP or via WLAN using DHCP

Wi-Fi Interface

Wireless Communication
Dual Band 2/.4/5GHz Wi-Fi interface.
IEEE 802.11a/b/g up to 54Mbps.
IEEE 802.11n up to 150Mbps.
IEEE 802.11r fast roaming.

Data Rate
Fixed 100Mbps, full-duplex (not auto-negotiated).

Wi-Fi Security
WPA3 / TLS 1.2 with PKI and X.509 certificate management. AES 256-bit encryption.

Antenna
Single external UFL antenna wired to external whip/tilt type antenna using an RP-SMA connector. 2.15dBi.
Dimension (straight): 108.5 x 10 mm (4.27 x 0.39").
Dimension (bent): 31.5 x 87 mm (1.24 x 3.43").

Communication Distance
100 meters line-of-sight, typical.

RF Certification
USA (FCC Part 15), Canada (IC RSS), EU (RED), Japan (MIC), China (SRRC), AU/NZS.

Analog Inputs

A/D Converter
Four input channels differentially multiplexed to a 24-bit sigma-delta ADC through unity-gain differential buffers (only 16-bits are used).

Input Current Ranges (NT2510 models)
±20mA, 0-20mA, 4-20mA, 0-50mA, or 10-50mA.

Input Voltage Ranges (NT2530 models)
±1V, ±5V, ±10V, 0-1V, 0-5V, 0-10V.

Input Accuracy
Better than ±0.05% of span typical, ±0.1% maximum.

Analog Outputs

NTW2511, 2531 models only
D/A Converter
Two current output channels driven by a 16-bit DAC.

Output Current Ranges
0-20mA, 4-20mA.

Output Accuracy
Factory calibrated to better than ±0.1% of span. Manual calibration can be better than ±0.05%.

Output Excitation
Two excitation inputs for 12V and 24V sources.

Discrete Inputs (Active-high)

Input Signal Voltage Range
0 to 32VDC.

Input Signal Threshold
TTL compatible w/100mV of hysteresis, typical.
Low-to-High threshold: 1.7VDC, typical.
High-to-Low threshold: 1.6VDC, typical.
TTL logic limit - LOW: 0.8V DC max.
TTL logic limit – HIGH: 2.0VDC min.

Tandem I/O Channels
Inputs support loop-back monitoring of output state.

Discrete Outputs (Sourcing)

Output "ON" Voltage Range
TTC (6V) to 32V DC.

Output "ON" Current Range
0 to 300mA DC, continuous.

General I/O

Input Update/Conversion Rate
Fresh data available to the network every 10mS.
Dependent on number of samples with averaging.

Response Time from an Ethernet command
Less than 5mS, typical.

Environmental and Physical

Temperature and Humidity
Operating: -40 to +70°C (-40 to +158°F).
Storage: -40 to +85°C (-40 to +185°F).
Relative Humidity: 5 to 95%, non-condensing.

Isolation
1500V AC for 60 seconds and 250V AC or 354V DC continuous between I/O channels (group), each network port and power circuits. Note, network isolation is <1500V.

Power Supply
10-32V DC SELV power wired to NTE models only. Power to NTX models is via NT bus connection.

Dimensions (width x height x depth - w/o antenna)
NTW: 25 x 116.9 x 139.2 mm (0.98 x 4.6 x 5.48 inches).

Weight
NTW: 0.5 lbs (0.23 kg).

Standards and Certifications

Electromagnetic Compatibility (EMC)
CE marked, per EMC Directive 2004/108/EC.

Safety Approvals
UL/cUL: Class I; Div 2; Groups A, B, C, D (pending).
ATEX/IECEx: Zone 2 (pending).

Ordering Information

Models

Go to on-line ordering page >

NTW2511-1111
Wi-Fi Ethernet I/O module with one RJ45 port, 4 current inputs, 2 current outputs, 4 discrete I/O

NTW2512-1111
Wi-Fi Ethernet I/O module with one RJ45 port, 4 current inputs, 4 discrete I/O

NTW2531-1111
Wi-Fi Ethernet I/O module with one RJ45 port, 4 voltage inputs, 2 current outputs, 4 discrete I/O

NTW2532-1111
Wi-Fi Ethernet I/O module with one RJ45 port, 4 voltage inputs, 4 discrete I/O

Expansion I/O Modules

See Acromag.com/NT for a full list of NTX Expansion I/O Units.

Accessories

5020-350
Toroidal 0 to 20A AC current sensor. 0-11, 17mA output.

5035-369
5035-370
Ethernet patch cable, low EMI, double-shielded. 3 feet (5035-369) or 15 feet (5035-370).

PS5R-VB24
Power supply, 24V DC, 15W output.

See www.acromag.com for other sizes.

ISO9001
AS9100
MADE IN USA

Acromag®
THE LEADER IN INDUSTRIAL I/O

Tel 877-214-6267 ■ sales@acromag.com ■ www.acromag.com ■ 30765 Wixom Rd, Wixom, MI 48393 USA