Acromag
THE LEADER IN INDUSTRIAL I/O

BusWorks® NT Series Expandable Remote I/O Modules For Ethernet

- Analog and Digital I/O Modules
- Modbus/TCP, Ethernet/IP and Profinet
- IIoT or Peer-to-Peer Communication
- IF/Then/Else Control Logic

Industrial I/O Solutions You Can Depend On.

ISO9001
AS9100
MADE IN USA

Bulletin #8401049B

Expandable Remote I/O

Acromag's Busworks® NT Series lets you add expansion I/O modules for a high-density, cost-efficient remote I/O solution

Base unit NTE Ethernet models handle the network communication and interface up to 16 analog or digital I/O channels for remote monitoring or control applications. NTX Expansion models provide a cost-effective way to add a mix of I/O signal types under a single IP address.

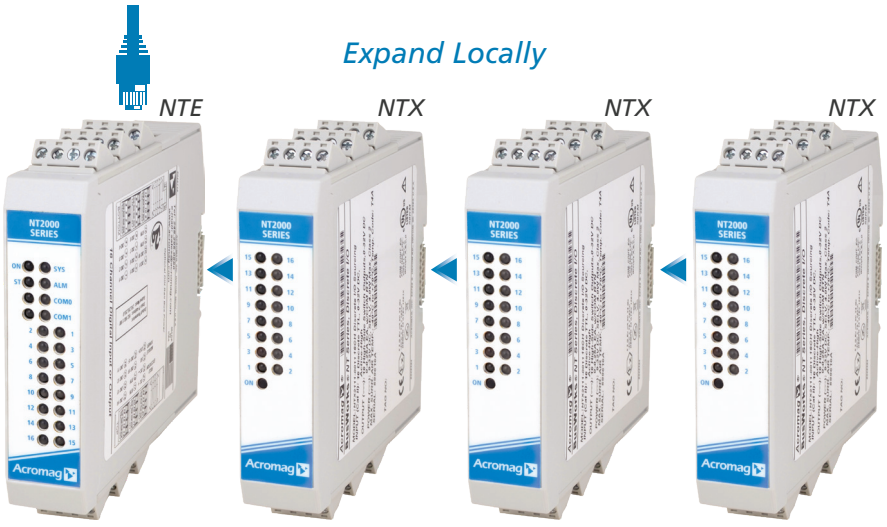
Multi-protocol support

The NTE Ethernet I/O modules are pre-programmed to support Modbus/TCP, Ethernet/IP* and Profinet* protocols. Just select which is to be used. Modules also support direct i2o® peer-to-peer communication without a master.

- Integrated I/O expansion bus
- Up to 64 I/O channels per port
- Mix analog, digital, and temperature I/O on one port
- i2o peer-to-peer or multicast communications
- Rugged design, -40 to 70°C
- Hazardous location approvals

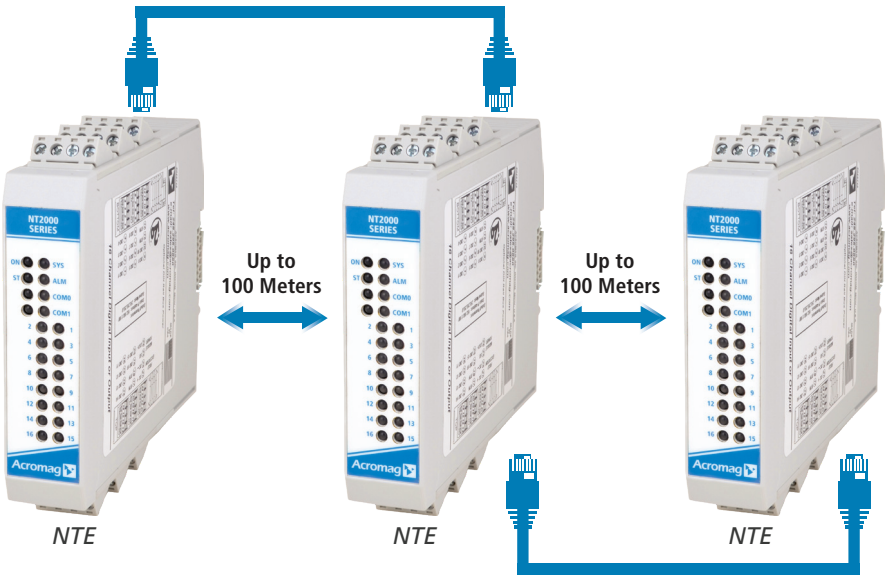
*coming soon

Expand Locally



Link up to three NTX expansion I/O modules to an NTE Ethernet I/O module over the integrated DIN rail I/O bus connectors.

Or Daisy Chain Remotely



Connect NTE Ethernet I/O modules with a daisy-chain topology using the internal dual-port switch to simplify network cabling.

I/O Support	Input Modules	Output Modules
DC Current	8 differential or 16 single-ended channels	8 output channels
DC Voltage	8 differential or 16 single-ended channels	8 output channels
Thermocouple	8 channels of Type J, K, T, R, S, B, E, N, or mV	
RTD/Resistance	4 channels PT100, Cu10, 0-500 ohms.	
Digital I/O	16 channels	16 channels
Relays, Contact Closures	6 channels 120/240V AC	6 normally open 5A relays

Telephone: 877-214-6267 ▪ sales@acromag.com ▪ www.acromag.com

Ethernet-based Configuration

Easy setup from anywhere with a web browser

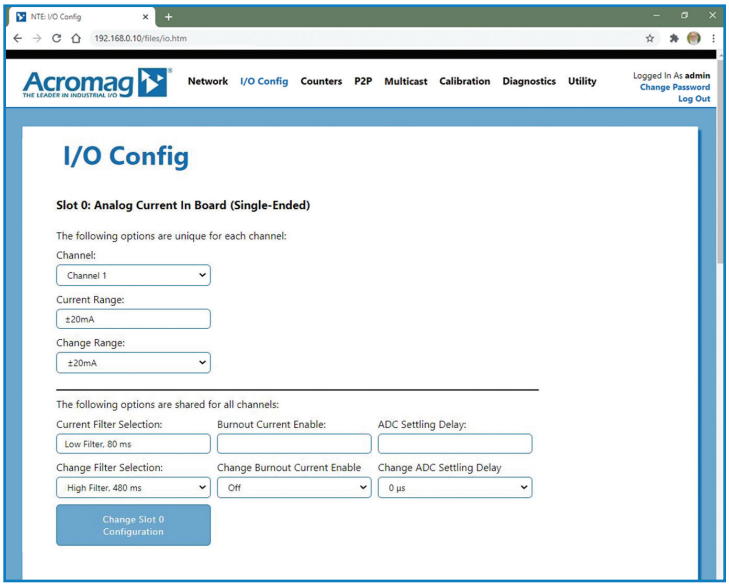
NTE Ethernet I/O modules have a built-in web server for convenient configuration without installing any software. Several web pages lead you through the options to set your IP addresses, protocol, and I/O parameters. A diagnostics page lets you monitor I/O values from your PC, tablet, or smartphone.

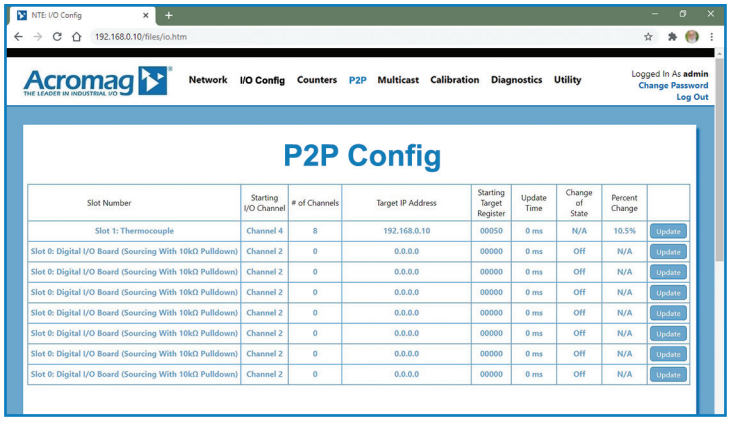
Advanced features for IIoT and local control logic functions

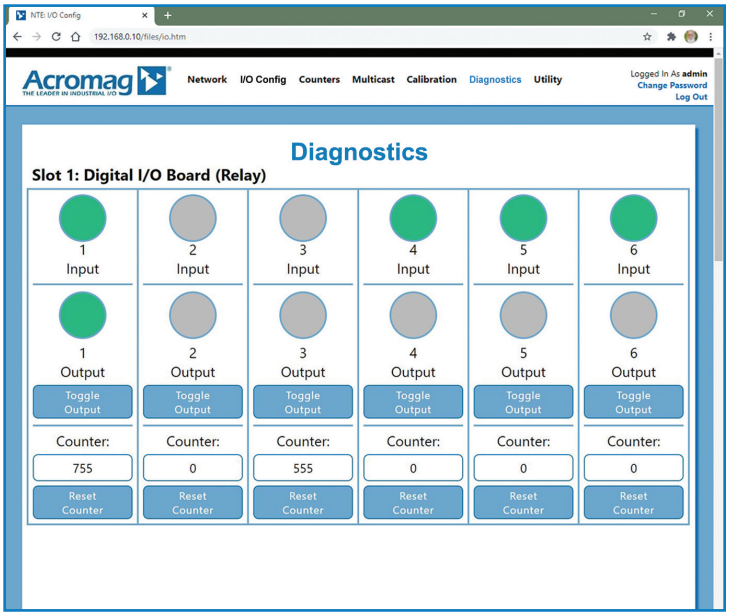
The configuration pages will help you quickly setup advanced capabilities such as peer-to-peer communication, conditional logic computation, and alarm output.

- Peer-to-peer communication
- Counter/timers
- IF/THEN/ELSE logic*
- Alarm output*
- RESTful APIs*
- OPC-UA server*
- MQTT support*
- Field-upgradeable

**coming soon*







Common Specifications

Network Communication

Interface: 10/100Mbps Ethernet.

Protocols: Modbus TCP/IP, Ethernet/IP, or Profinet and i2o® peer-to-peer / multi-cast.

IIoT communication: OPC-UA, MQTT, RESTful APIs (pending).

Connectors: Two shielded 8-pin RJ-45 sockets, 10BaseT/100BaseTX.

Approvals and Certifications

CE marked.

UL/cUL Class I; Div. 2;
Groups A, B, C, D (pending).

ATEX/IECEx Zone 2 (pending).

EtherNet/IP, Modbus/TCP, Profinet conformance (pending).

Radiated Emissions: BS EN 61000-6-4, CISPR 16.

RFI: BS EN 61000-6-2, IEC 61000-4-3.

Conducted RFI: BS EN 61000-6-2, IEC 61000-4-6.

ESD: BS EN 61000-6-2, IEC 61000-4-2.

EFT: BS EN 61000-6-2, IEC 61000-4-4.

Surge Immunity: BS EN 61000-6-2, IEC 61000-4-5.

Environmental

Temperature ranges:
Operation: -40 to 70°C (-40 to 158°F).
Storage: -40 to 85°C (-40 to 185°F).

Relative humidity:
5 to 95% non-condensing.

Vibration: 4g, per IEC 60068-2-64.

Shock: 25g, per IEC 60068-2-27.

Isolation: 1500V AC for 60 seconds or 250V AC continuous between I/O, network, and power.

Power requirement: 9 to 32V DC SELV, 2.0W max (83mA maximum @ 24V).

Physical

Housing: General purpose plastic enclosure for mounting on 35mm "T-type" DIN rail.

Case Material: Self-extinguishing polyamide, UL94 V-0 rated, general purpose NEMA Type 1.

Circuit Board: Military grade fire-retardant epoxy glass (IPC-4101/98).

I/O Connectors: Removable terminal blocks rated for 12A/250V; AWG #26-12, stranded/solid copper wire.

Dimensions (W x H x D):
25.0 x 116.9 mm (0.98 x 4.6 inches).
NTE: 139.2 mm (5.48 inches).
NTX: 116.65 mm (4.59 inches).

Weight:
NTE models: 0.5 lbs (0.23 Kg).
NTX models: 0.3 lbs (0.14 Kg).

Models: Ethernet I/O Units

NTE2111-1111 .... Dual RJ45 ports, discrete I/O, sinking output, 16-ch
NTE2121-1111 .... Dual RJ45 ports, discrete I/O, sourcing output, 16-ch
NTE2131-1111 .... Dual RJ45 ports, discrete I/O, relay output, 6 MR + 6 DI
NTE2141-1111* .. Dual RJ45 ports, discrete I/O, 120/240V AC input, 6 DI + 6 DO
NTE2211-1111 .... Dual RJ45 ports, analog input, differential current, 8 AI + 2 DIO
NTE2221-1111 .... Dual RJ45 ports, analog input, single-ended current, 16-ch
NTE2231-1111 .... Dual RJ45 ports, analog input, differential voltage, 8 AI + 2 DIO
NTE2241-1111 .... Dual RJ45 ports, analog input, single-ended voltage, 16-ch
NTE2311-1111* .. Dual RJ45 ports, analog output, current, 8-ch
NTE2321-1111* .. Dual RJ45 ports, analog output, voltage, 8-ch
NTE2511-1111* .. Dual RJ45 ports, combo I/O, 4 AI + 2 AO + 4 DIO
NTE2611-1111 .... Dual RJ45 ports, temperature input, 8 thermocouple + 2 DIO
NTE2621-1111* .. Dual RJ45 ports, temperature input, 4 RTD + 2 DIO

Models: Expansion I/O Units

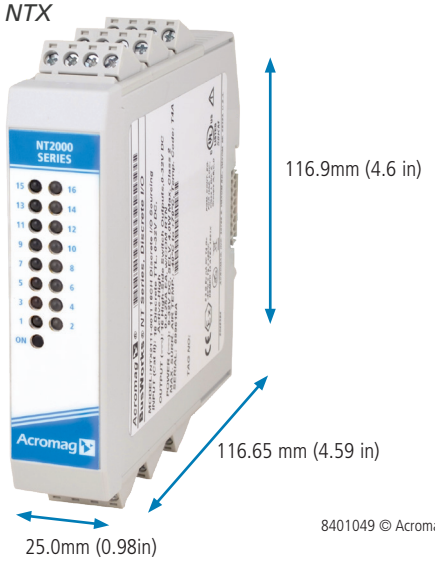
NTX2111-0011 .... Discrete I/O, sinking output, 16-ch
NTX2121-0011 .... Discrete I/O, sourcing output, 16-ch
NTX2131-0011 .... Discrete I/O, relay output, 6 MR + 6 DI
NTX2141-0011* .. Discrete I/O, 120/240V AC input, 6 DI + 6 DO
NTX2211-0011 .... Analog input, differential current, 8 AI + 2 DIO
NTX2221-0011 .... Analog input, single-ended current, 16-ch
NTX2231-0011 .... Analog input, differential voltage, 8 AI + 2 DIO
NTX2241-0011 .... Analog input, single-ended voltage, 16-ch
NTX2311-0011* .. Analog output, current, 8-ch
NTX2321-0011* .. Analog output, voltage, 8-ch
NTX2511-0011* .. Combo I/O, 4 AI + 2 AO + 4 DIO
NTX2611-0011 .... Temperature input, 8 thermocouple + 2 DIO
NTX2621-0011* .. Temperature input, 4 RTD + 2 DIO

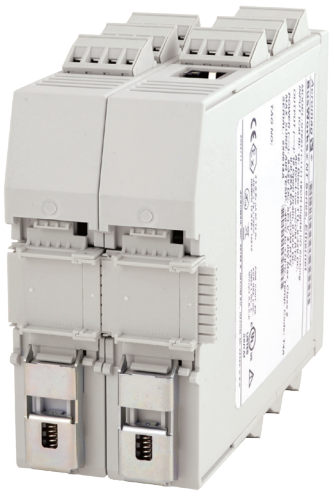
**coming soon*

Dimensions: *Units in millimeters (inches)*

NTE

NTX





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