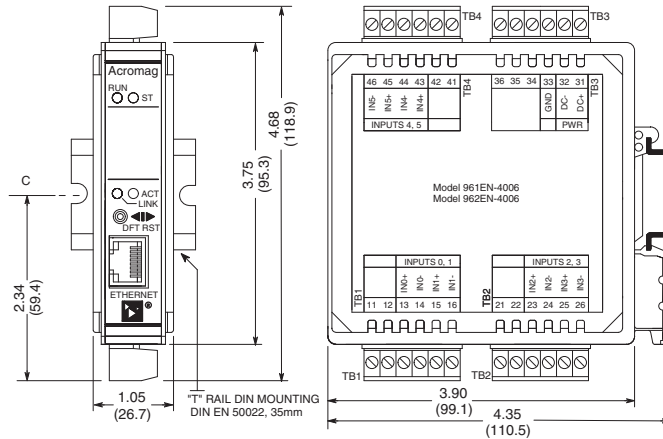


Ethernet I/O: BusWorks® Series

961EN, 962EN Ethernet Analog Input Modules



Standard model includes cage clamp terminal blocks. Optional terminals are available (see Page 26).

EtherNet/IP™
conformance tested

Modbus/TCP
conformance tested

6-channel differential analog current or voltage input ◆ Ethernet/IP, Modbus TCP/IP, i2o peer-to-peer

Description

Models

961EN: 6 DC current input channels
962EN: 6 DC voltage input channels

These modules provide an isolated Ethernet network interface for six analog input channels. Differential inputs eliminate ground loops and thus the need for isolators in many applications. Multi-range inputs accept signals from a variety of sensors and devices. High-resolution, low noise, A/D converters deliver high accuracy and reliability.

Input Ranges

Ranges are selectable for a 3-channel group.

DC Current:

0 to 1mA, 0 to 11mA, 0 to 20mA, 4 to 20mA
0 to 20 amps AC (with optional AC sensor)

DC Voltage:

±78mV to ±10V DC (eight range options)

Network Communication

EtherNet/IP or Modbus TCP/IP 10/100Mbps

Power Requirement

15 to 36V DC supply (2 Watts) required

Approvals

CE/ATEX marked.

UL, cUL listed, Class I; Div. 2; Groups A, B, C, D.
EtherNet/IP, Modbus/TCP conformance tested.

Key Features & Benefits

- Configurable from standard web browser
- EtherNet/IP or Modbus TCP/IP communication with auto 10/100Mbps data rate negotiation
- i2o technology for peer-to-peer communication without a network controller (see Page 6)
- 6-input stand-alone module is very economical
- Differential inputs eliminate ground loops
- High-resolution 16-bit Σ - Δ A/D converters ensure precise, high accuracy measurements
- Wide operational temperature range permits installation in extreme environments

Performance Specifications

◆ Input

Accuracy

Better than ±0.05% of span for nominal input ranges.

Analog to Digital Converter (A/D)

16-bit Σ - Δ converter. 0.005% (1/20000) resolution.

Noise Rejection

Normal Mode: Better than 40dB @ 60Hz.

Common Mode: Better than 140dB @ 60Hz.

Input Filter Bandwidth

-3dB at 3Hz, typical.

Input Conversion Rate

80mS per channel.

Input Impedance

DC current input: 25 ohms.

DC voltage input: Greater than 110.5K ohms.

◆ Environmental

Ambient Temperature and Humidity

Operating: -25 to 70°C (-13 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 or 250V AC continuous.

3-way isolation between I/O, network, and power.

Ordering Information

NOTE: i2o function only on Modbus TCP/IP modules

◆ I/O Modules

961EN-4006

Current input, 6-channel, Ethernet Modbus TCP/IP, i2o communication

961EN-6006

Current input, 6-channel, EtherNet/IP

962EN-4006

Voltage input, 6-channel, Ethernet Modbus TCP/IP, i2o communication

962EN-6006

Voltage input, 6-channel, EtherNet/IP

◆ Accessories

Industrial Ethernet Switches

See Page 25.

Hardware Accessories and Power Supplies

See Page 26.

Software Support

See Page 27.

