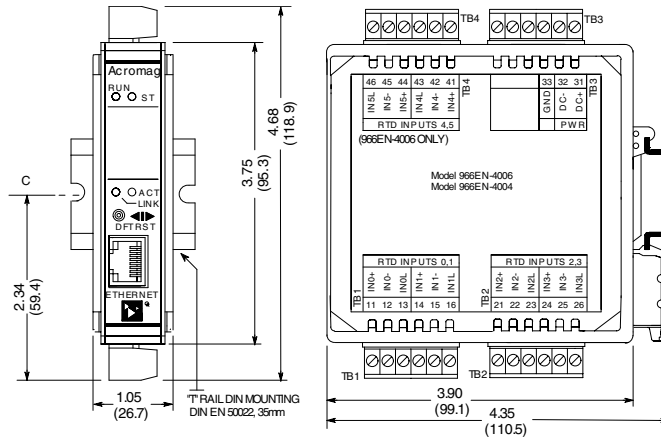


Ethernet I/O: BusWorks® Series



966EN Ethernet Temperature Input Modules



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

EtherNet/IP™
conformance tested

Modbus/TCP
conformance tested

4 or 6-channel RTD/resistance input ♦ Ethernet/IP, Modbus TCP/IP, i2o peer-to-peer messaging

Description

These modules provide an isolated Ethernet network interface for up to six input channels. Multi-range inputs accept signals from a variety of sensors and devices. High-resolution, low noise, A/D converters deliver high accuracy and reliability. 3-way isolation further improves the system performance.

Input Ranges

Input ranges are selectable for a 3-channel group.

RTD

2-wire and 3-wire RTDs are supported.

Platinum 100 ohm (alpha = 1.3850 or 1.3911)

Nickel 120 ohm

Copper 10 ohm

Resistance

0 to 500 ohms

Network Communication

EtherNet/IP or Modbus TCP/IP 10/100Mbps with automatic data rate negotiation

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
- 6-input stand-alone module has much lower start-up cost than multi-piece block I/O systems
- Versatile RTD or ohmic inputs support a wide variety of industrial sensors and devices
- RTD break detection (upscale or downscale) identifies sensor wiring failures
- 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

Input Type	Input Range	Accuracy (typical)
Pt 100 ohm	-200 to 850°C	±0.25°C
Ni 120 ohm	-80 to 320°C	±0.25°C
Cu 10 ohm	-200 to 260°C	±1.25°C
Resistance	0 to 500 ohms	±0.05 ohms

RTD Break Detection

Upscale or downscale selection applies to all channels.

Noise Rejection

Normal Mode: Better than 40dB @ 60Hz.

Common Mode: Better than 130dB @ 60Hz.

Input Filter Bandwidth

-3dB at 3Hz, typical.

Input Conversion Rate

80mS per channel.

Excitation Current

1mA DC typical, all RTD types.

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.

Inputs share a common.

Ordering Information

NOTE: i2o function only available on 6-channel Modbus TCP/IP modules

I/O Modules

966EN-4004

4-channel RTD input, Ethernet Modbus TCP/IP

966EN-6004

4-channel RTD input, EtherNet/IP interface

966EN-4006

6-channel RTD input, Ethernet Modbus TCP/IP, i2o

966EN-6006

6-channel RTD input, EtherNet/IP interface

Accessories

Industrial Ethernet Switches

See Page 25.

Hardware Accessories and Power Supplies

See Page 26.

Software Support

See Page 27.

