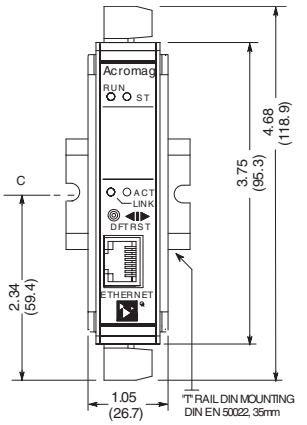
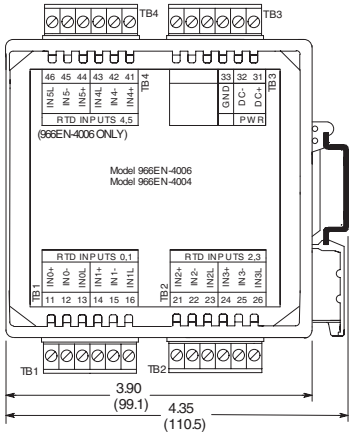
Ethernet I/O: BusWorks® Series

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, i20 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.

Acromag® THE LEADER IN INDUSTRIAL I/O

Tel: 248-295-0880 ■ Fax: 248-624-9234 ■ sales@acromag.com ■ www.acromag.com ■ 30765 S Wixom Rd, Wixom, MI 48393 USA