Analog Input Module

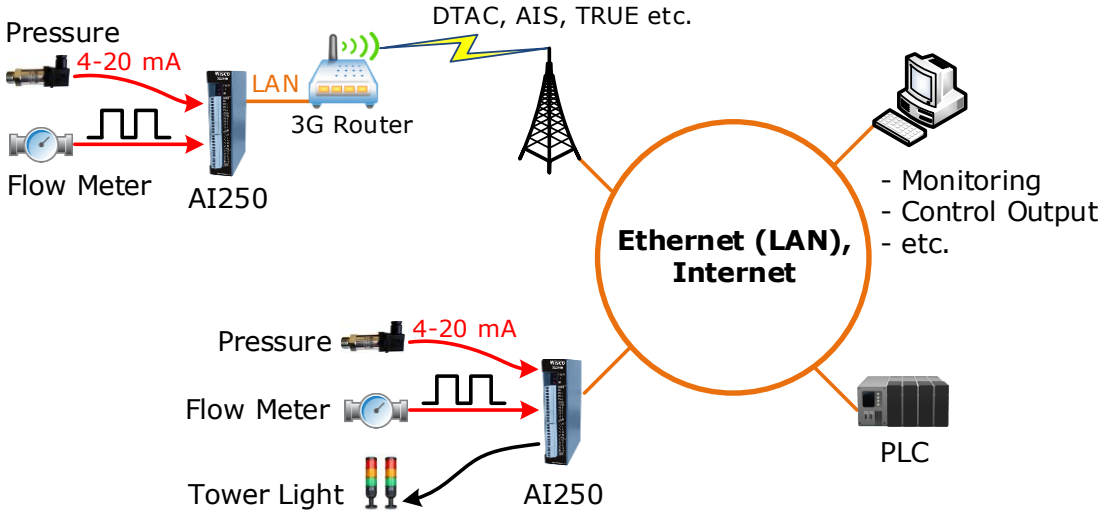
AI250

- 4 Channels Programmable Analog Input
- 2 Channels Digital Input
  (Totalizer or Rate)
- 2 Channels Digital Output
- Support Protocol MODBUS TCP/IP
- Support PoE Power Supply

Analog Input Module AI250 This device supports 4 analog input channels, 2 digital input channels, and 2 digital output channels. It is controlled by sending commands via the Ethernet port using the MODBUS TCP/IP protocol, enabling the use of a computer or PLC to programmatically read values and control the inputs and outputs.

Analog Input For the AI250, the input signal can be selected from options such as 4-20 mA, 0-150 mVDC, 0-5 VDC, 0-10 VDC, or thermocouple.

Digital Input It can accept Logic, Counter, and Rate signals. For Logic signals, it indicates an "ON" or "OFF" state; for Counter signals, it displays the totalized value of input pulses (such as the totalized volume or flow rate).



Connection to a computer or PLC via Ethernet or the Internet.

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Specifications

Ethernet Interface

Speed: 10/100 Mbps, Full-duplex or half-duplex, Auto MDI/MDIX

Connector: RJ45 (10 Base-T) Ethernet and PoE Power Supply

Standard: Accord 10 Base-T/100 Base-T standard

Transmission: 100 m.

Magnetic Isolation Protection:
15 KV Built-in

Protocol:
MODBUS TCP Server (Max. 4 Connections), Wisco Protocol (1 Connection)

Analog Input

Number of Channel: 4 Channels

Input Type: Programmable

Input Range:
Thermocouple: R, S, K, E, J, T, B
Voltage: 0 to 80, 0 to 150 mVDC
HI-Voltage: 0 to 1, 0 to 5, 0 to 10, 0 to 15, 0 to 30 VDC
Current: 4 to 20, 0 to 20 mA

ADC Resolution: 16 Bits

Accuracy: ± 0.2 % of span

Digital Input

Number of Channel: 2 Channels

Sensor Type: NPN/PNP Open Collector or Dry Contact (Source or Sink Mode)

Sink or Dry (DI to GND):
ON: Short to GND
OFF: Open

Source (DI to COM):
ON: 12 to 24 VDC
OFF: 0 to 3 VDC

Counter Frequency: Max. 200 Hz

Rate Frequency:
Min. 1 Hz
Max. 200 Hz

Minimum Pulse Width: 4 msec

Digital Output

Number of Channel: 2 Channels

Output Type: NPN Open Collector

Power Requirements

Power Supply: 12 to 35 VDC

Power Consumption

Operating: 100 mA @ 12 VDC

Environmental Limits

Operating Temperature: 0 to 55 °C

Operating Humidity: 5 to 95% RH

Storage Temperature: 0 to 70 °C

Physical Characteristics

Dimension: W88 x H133 x D31 mm.

Mounting: DIN Rail

Warranty

Warranty Period: 5 Year

Ordering Information:
Example AI250

Package Checklist
1. AI250 2. LAN Cable

Table 1. Shown Accuracy and Resolution Each Input Type

Input Type		Measuring Range	Resolution	Accuracy (%FS) @25 °C
Thermocouple (°C)	**R**	0 - 1700 °C	1 °C	± 0.2 % (3.4 °C)
	S	0 - 1700 °C	1 °C	± 0.2 % (3.4 °C)
	K	(-)250.0 - 1300.0 °C	0.1 °C	± 0.2 % (3.1 °C)
	E	0.0 - 1000.0 °C	0.1 °C	± 0.2 % (2.0 °C)
	J	(-)200.0 - 700.0 °C	0.1 °C	± 0.2 % (1.8 °C)
	T	(-)250.0 - 400.0 °C	0.1 °C	± 0.2 % (1.3 °C)
	B	0 - 1800 °C	1 °C	± 0.2 % (3.6 °C)
Voltage (mV)	**0 - 80**	0.000 - 80.000 mV	0.002 mV	± 0.01 % (0.008 mV)
	0 - 150	0.00 - 150.00 mV	0.004 mV	± 0.01 % (0.008 mV)
Voltage (V)	**0 - 1**	0.0000 - 1.0000 V	0.008 mV	± 0.05 % (500 µV)
	0 - 5	0.000 - 5.000 V	0.2 mV	± 0.04 % (2 mV)
	0 - 10	0.000 - 10.000 V	0.2 mV	± 0.04 % (2 mV)
	0 - 15	0.000 - 15.000 V	0.2 mV	± 0.04 % (2 mV)
	0 - 30	0.00 – 30.00 V	0.4 mV	± 0.033 % (10 mV)
Current (mA)	**4 - 20**	4.000 - 20.000 mA	0.002 mA	± 0.0189 % (3 µA)
	0 - 20	0.00 - 20.00 mA	0.002 mA	± 0.015 % (3 µA)