

# Analog Input Module

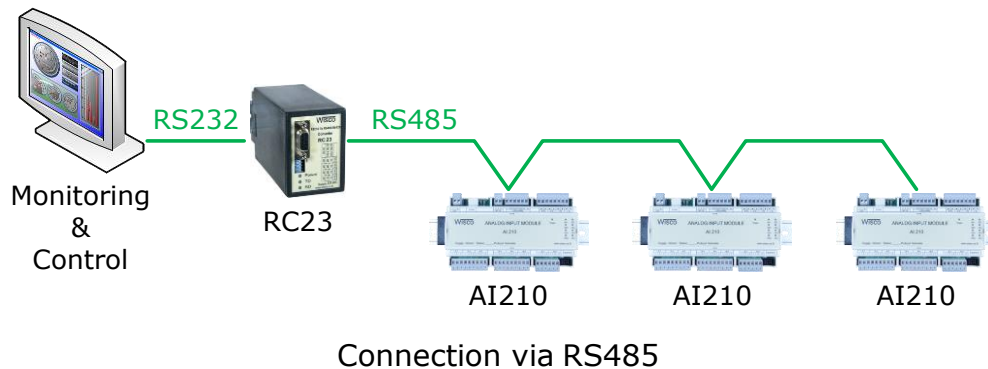
## AI210

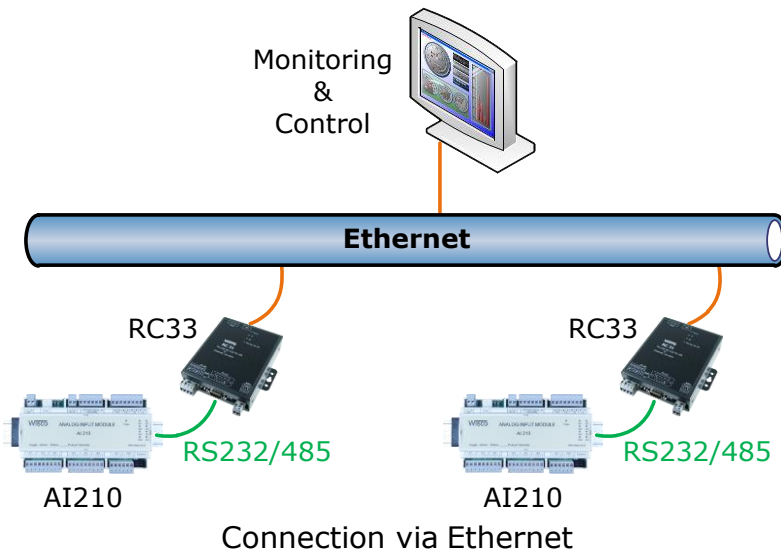


- Programmable Input Type
- 8 Analog Input Channels
- 4 Digital Input Channels
- 4 Digital Output Channels
- RS-232, RS-485 Isolated

**Analog Input Module AI210** has 8 Analog Input, 4 Digital Input and 4 Digital out. In addition, Analog Input is programmable input, user can set to use with various kind of sensor such as Thermocouple, RTD and Voltage etc. AI210 provides RS-232 connector and RS-485 connector which suitable for developing PC software, PLC, and touch screen display.

AI210 provides RS-232 connector and RS-485 connector which suitable for developing PC software, PLC, and touch screen display. AI210 has MODBUS ASCII protocol, MODBUS RTU protocol, moreover DDE Server to connect with windows program. Data file can be converting to MS word or MS excel using utility program.





## Specifications

### Serial Interface

#### Serial Standards:

RS232 Connector RJ12 6 Pin

RS485 (Isolated) 2 Pin Terminal Block

**Loading:** RS485 Max 32 Unit

#### Distance:

RS232 Length 15 m.

RS485 Length 1 Km.

**Protocol:** MODBUS (ASCII, RTU),

Wisco ASCII

**Support Software:** Citect, Wonderware,

Lab View, Fix, Genesis, etc.

### Serial Parameter

**Baud Rate:** 4800, 9600, 19200, 57600

**Data Bits:** 8

**Stop Bits:** 1

**Parity:** None

### Analog Input

**Number of Channel:** 8 Channels up to 24 Channels (EX24 Module)

**Input Type:** Programmable Input

#### Input Range:

Thermocouple (R, S, K, E, J, T, B)

RTD (Cu10, PT100, PT1000)

Resistance (0 to 600  $\Omega$ , 0 to 1.2 K $\Omega$ , 0 to 4 K $\Omega$ )

Voltage mVDC (0 to 80, 0 to 150 mVDC)

Voltage (0 to 1, 0 to 5, 0 to 15, 0 to 30 VDC)

Current (4 to 20, 0 to 20, 0 to 40 mA)

**ADC Resolution:** 16 Bits

**Isolation:** Relay Isolated

### Digital Input

**Number of Channel:** 4 Channels

**Sensor Type:** wet Contact (Opto Isolated)

#### wet Contact (DI to GND):

ON: 12 to 24 VDC

OFF: 0 to 3 VDC

### Digital Output

**Number of Channel:** 4 Channels

**Output Type:** NPN Open Collector

### Recording

**Recording Interface:** 1 Sec - 18 Hours (Programmable)

**record Mode:** Stop When Full or Roll Over

**Data Format:** Can be Exported to MS Excel

### Power Requirements

**Power Supply:** 85 to 230 VAC

(12 to 35 VDC Optional)

### Power Consumption

**Standby:** 280 mA @ 12 VDC (3.5 W)

**Start Record:** 350 mA @ 12 VDC (4.5 W)

### Environmental Limits

**Operating Temperature:** 0 to 55  $^{\circ}\text{C}$

**Operating Humidity:** 5 to 95% RH

**Storage Temperature:** 0 to 70  $^{\circ}\text{C}$

### Physical Characteristics

**Dimension:** W160 x H90 x D60 mm.

**Mounting:** DIN Rail

### Warranty

**Warranty Period:** 5 Year

**Ordering Information:** Specify Power Supply

Example AI210/85-230VAC

**Package Checklist**

1. AI210
2. RS-232 Cable
3. Resistor 250 Ω
4. Manual
5. CD Software

**Table 1.** Shown Accuracy and Resolution Each Input Type

Code	Input Type	Measuring Range	Resolution	Accuracy (%FS) @25 °C	
00	Not Use	-	-	-	
01	Thermocouple	R	0 - 1700 °C	1 °C	± 0.2% (3.4 °C)
02		S	0 - 1700 °C	1 °C	± 0.2% (3.4 °C)
03		K	(-)250.0 - 1300.0 °C	0.1 °C	± 0.2% (2.6 °C)
04		E	0.0 - 1000.0 °C	0.1 °C	± 0.2% (2.0 °C)
05		J	(-)200.0 - 700.0 °C	0.1 °C	± 0.2% (1.4 °C)
06		T	(-)250.0 - 400.0 °C	0.1 °C	± 0.2% (0.8 °C)
07		B	0 - 1800 °C	1 °C	± 0.2% (3.6 °C)
08	R.T.D.	Pt100	(-)200.0 - 800.0 °C	0.1 °C	± 0.2% (1.6 °C)
09	Voltage (mV)	0 - 100	0.00 - 100.00 mV	0.01 mV	± 0.02% (0.02 mV)
10	Voltage (V)	0 - 5	0.000 - 5.000 V	0.001 V	± 0.04% (0.002 V)
11		0 - 10	0.000 - 10.000 V	0.001 V	± 0.02% (0.002 V)
12	Current (mA)	0 - 20	0.00 - 20.00 mA	0.01 mA	± 0.1% (0.02 mA)
13		0 - 40	0.00 - 40.00 mA	0.01 mA	± 0.05% (0.02 mA)
14	R.T.D.	Cu10	0 - 150 °C	1°C	±0.1% (1.5°C)
15		PT1000	(-)200.0 - 800.0°C	0.1°C	±0.1% (0.8°C)
16	R (Ohm)	600 Ω	0.00 - 600.00 Ω	0.01 Ω	±0.01% (0.06 Ω)
17		1200 Ω	0.0 - 1200.0 Ω	0.1 Ω	±0.02% (0.24 Ω)
18		4000 Ω	0.0 - 4000.0 Ω	0.1 Ω	±0.02% (0.8 Ω)
19	Voltage (mV)	0 - 80	0.000 - 80.000 mV	1 μV	±0.1% (5μV)
20	Voltage (V)	0 - 1	0.0000 - 1.0000 V	100 μV	±0.05% (500μV)
21		0 - 30	0.00 - 30.00 V	10 mV	±0.033% (10 mV)
22	Current (mA)	4 - 20	4.000 - 20.000 mA	1 μA	±0.01% (5μA)