

## 4 / 8 Channel DIN-Rail Analog Input Module MODBUS over RS485 Serial Interface

### Highlights

- 4 (AIMS-4X) or 8 (AIMS-8X) Analog Channels (Differential Input)
- AIMS-4U/8U : Each Channel Independently Configurable for Thermocouples, RTDs, Volts, mV and mA (No Jumper Settings)  
AIMS-4P/8P : All Channels RTD Pt100 (3-Wire)  
AIMS-4T/8T : All Channels Independently Configurable for Thermocouples / mV  
AIMS-4D/8D : All Channels Independently Configurable for DC V / mA
- 4 Programmable Soft Alarms for each Channel with LED Indicators
- Isolated Version Available (All Channels Isolated from RS485 Port)
- PC Tool for Easy Configuration and Parameter Settings

### Features

- Fast Channel Update Rate
- 16 Bit Sigma-Delta ADC ( $\pm 32,768$  Counts)
- High Accuracy, High Resolution, High Stability
- Automatic CJC for Thermocouple & LRC for RTD Inputs
- Software Linearization for Thermocouple & RTD Inputs
- User Settable Range Low & Range High for DC V/mV/mA Inputs
- Wide Supply Voltage Range : 20 ~ 34 VDC (24 VDC Nominal)



### Specifications

<b>Analog Input Channels</b>	
Number of Channels	4 / 8
Input Types	Thermocouples : J, K, T, R, S, B, N RTD : Pt100, 3-Wire DC mV : $\pm 80$ mV DC Volts : $\pm 1.25V, \pm 5 V, \pm 1$ to $\pm 5 V, \pm 10 V$ DC mA : 0-20 mA, 4-20 mA
Accuracy	$\pm 0.25\%$ of reading
Corrections	<ul style="list-style-type: none"> <li>• Cold-Junction Compensation for Thermocouples (Accuracy Better than <math>\pm 0.5^{\circ}C</math>)</li> <li>• Lead Resistance Compensation for RTD (Upto 22 Ohms in each lead)</li> </ul>
Range	Thermocouple & RTD Pt100 : Refer Table-1 DC Volts / Current : $\pm 0$ to 30000 Counts
Zero Offset	User Adjustable over Full Range for Each Channel
ADC	16 Bit ( $\pm 32,768$ Counts), Sigma-Delta ( $\Sigma\Delta$ )
Sampling Time	AIMS-4U/8U : 250mS Per Channel (4 Samples per Second) AIMS-4P/8P : 333mS Per Channel (3 Samples per Second) AIMS-4T/8T : 100mS Per Channel (10 Samples per Second) AIMS-4D/8D : 100mS Per Channel (10 Samples per Second)
Input Resistance	Differential Mode > 20 M $\Omega$ Common Mode > 10 M $\Omega$
Common Mode Rejection	> 100dB at 50/60 Hz
Input Protection	ESD : 8KV      EFT : 2KV      Surge : 1KV
Input Conditioning	First Order Analog R-C Low-Pass Filter
Isolation (Optional)	All Channels Isolated from RS485 Port 1500VAC for 1 second or 250VAC continuous

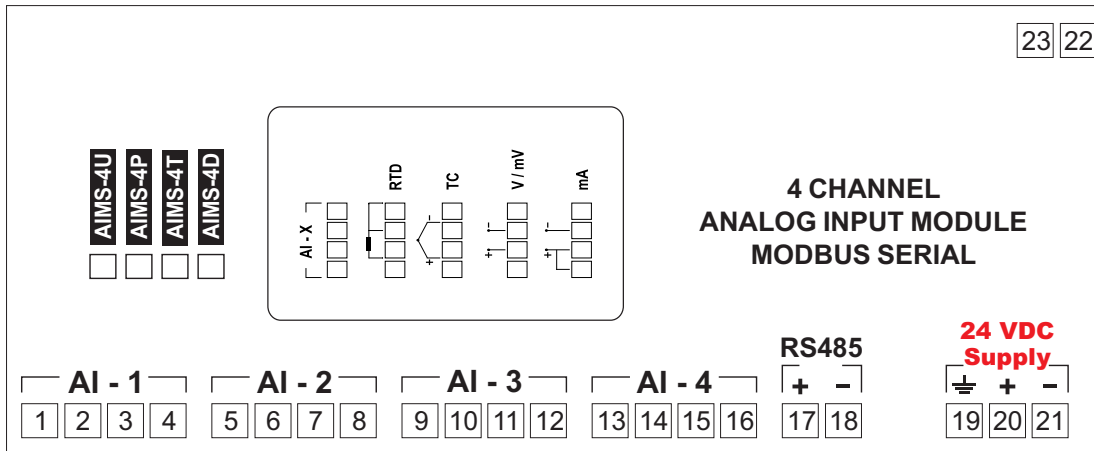
<b>Alarms</b>	
Numbers	4, Independent for Each Channel
Programmable Parameters	Type : Process Low, Process High Setpoint : Adjustable over Full Range Hysteresis : 1 to 3000 Unit Counts Inhibit : No, Yes
<b>Serial Communication</b>	
Port	RS485, 2-wire, Half Duplex, Start-Stop Synchronized
Protocol	Modbus RTU
Baud Rate	Settable : 2400, 4800, 9600, 19200, 38400, 57600, 115200
Parity	Settable : None, Even, Odd
Max. Units per Loop	31
Max. Distance	1200 Meters
<b>Power Supply</b>	
Type	Switch Mode (SMPS)
Supply Voltage	20 to 32 VDC (24 VDC Nominal)
Consumption	3VA Max
<b>Physical</b>	
Mounting	DIN-Rail
Overall Dimensions	101(W) X 119(L) X 22.5(D), mm
Terminals	Screw Type, Pluggable
Weight	400 gm, Appx.
<b>Environmental</b>	
Operating Ambient	0 to 55°C & 5 to 90%RH Non-condensing
Storage Temperature	-10 to +70°C
EMC Standards	EN50081-2 & EN 50082-2 Generic Stds for Industrial Environment
Safety Standards	Meets EN61010, Installation Catagory II
Atmospheres	Not Suitable for use in Corrosive or Explosive Atmospheres. The Panel in which the Instrument is Mounted must be free of Electrically Conductive Pollution.

**Table 1 : Temperature Ranges for Thermocouples & RTD**

<b>Input Type</b>	<b>Range (Min. to Max.)</b>
Type J Thermocouple (Fe-K)	0 to +960.0°C / +32.0 to +1760.0°F
Type K Thermocouple (Cr-Al)	-200.0 to +1376.0°C / -328.0 to +2508.0°F
Type T Thermocouple (Cu-Con)	-200.0 to +387.0°C / -328.0 to +728.0°F
Type R Thermocouple (Pt/Pt-Rh13%)	0 to +1771.0°C / +32.0 to +3219.0°F
Type S Thermocouple (Pt/Pt-Rh10%)	0 to +1768.0°C / +32.0 to +3214.0°F
Type B Thermocouple	0 to +1826.0°C / +32.0 to +3218.0°F
Type N Thermocouple	0 to +1314.0°C / +32.0 to +2397.0°F
3-wire, RTD Pt100	-199.0 to +600.0°C / -328.0 to +1112.0°F

# Back Panel Terminations

## 4 Channel Module



## 8 Channel Module

