



M-6018-16

16-channel Universal Analog Input Module

Features

- 16-channel Differential Analog Input
- Current, Voltage or Thermocouple Input
- Adjustable CJC Offset
- Open Thermocouple Detection
- Dual Watchdog



Introduction

The M-6018-16 is an analog input module that includes 16 differential analog input channels. The voltage input range can be from ± 15 mV to ± 2.5 V, the current input range can be either +4 to +20 mA, 0 to +20 mA, or ± 20 mA, and types J, K, T, E, R, S, B, N, C, L, M, LDIN43710 thermocouple can be used for the thermocouple input. Overvoltage protection of up to 120 VDC is provided. The module also features per-channel open wire detection for the thermocouple input types, and provides 4 kV ESD protection as well as 3000 VDC intra-module isolation.

Applications

- Building Automation
- Factory Automation
- Machine Automation
- Remote Maintenance
- Remote Diagnosis
- Testing Equipment

System Specifications

CPU Module	
Watchdog Timer	Module, Communication (Programmable)
Isolation	
Intra-module Isolation	3000 VDC
EMS Protection	
EFT (IEC 61000-4-4)	± 4 kV for Power Line
ESD (IEC 61000-4-2)	± 4 kV Contact for each Terminal ± 8 kV Air for Random Point
Surge (IEC 61000-4-5)	± 1 kV for Power Line
LED Indicators	
Status	1 x Power and Communication
COM Ports	
Ports	1 x RS-485
Baud Rate	1200 to 115200 bps
Data Format	(N, 8, 1) (N, 8, 2) (E, 8, 1) (O, 8, 1)
Protocol	Modbus RTU, DCON
Bias Resistor	1 k Ω (DIP switch selectable)
Power	
Reverse Polarity Protection	Yes
Input Range	+10 ~ +48 VDC
Consumption	0.5 W
Mechanical	
Dimensions (mm)	116 x 120 x 64 (W x L x H)
Installation	DIN-Rail mounting

Environment	
Operating Temperature	-25 ~ +75 °C
Storage Temperature	-40 ~ +85 °C
Humidity	10 ~ 95% RH, Non-condensing

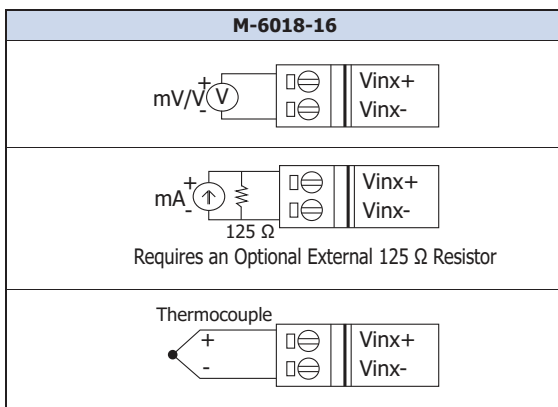
I/O Specifications

Analog Input		
Channels	16 Differential	
Sensor Types	Thermocouple	J, K, T, E, R, S, B, N, C
	Voltage	± 15 mV, ± 50 mV, ± 100 mV, ± 500 mV, ± 1 V, ± 2.5 V
	Current	± 20 mA, 0 ~ 20 mA, 4 ~ 20 mA (requires an optional external 125 Ω resistor)
Resolution	16-bit	
Accuracy	0.1% of FSR	
Sampling Rate	10 Hz (Total)	
Input Impedance	> 400 k Ω	
Common Voltage Protection	25 VDC	
Overvoltage Protection	120 VDC	
Open Wire Detection (for thermocouple only)	Yes	
Individual Channel Configuration	-	

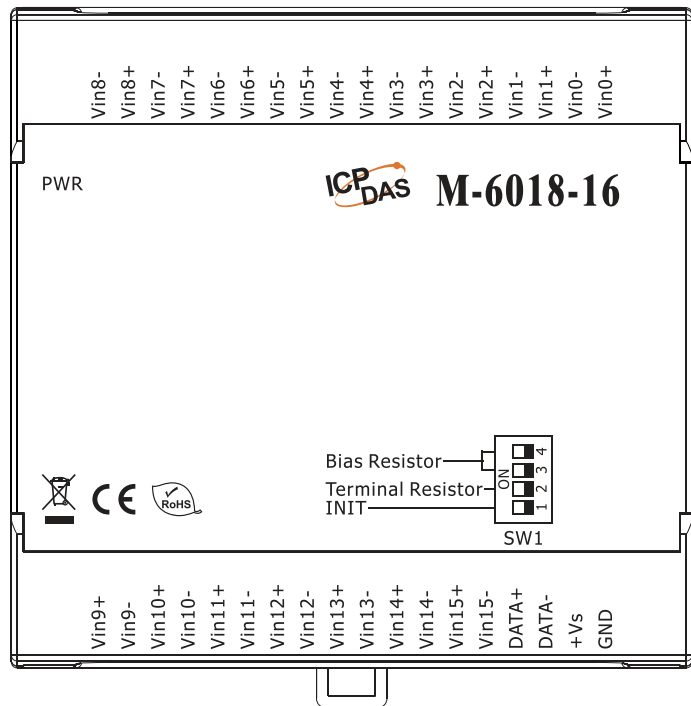
Thermocouple Type

Type Code	Thermocouple Type	Temperature Range
0E	J	-210 to +760°C
0F	K	-270 to +1372°C
10	T	-270 to +400°C
11	E	-270 to +1000°C
12	R	0 to +1768°C
13	S	0 to +1768°C
14	B	0 to +1820°C
15	N	-270 to +1300°C
16	C	0 to +2320°C

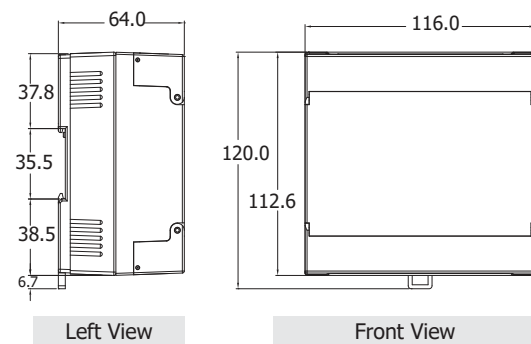
Wire Connections



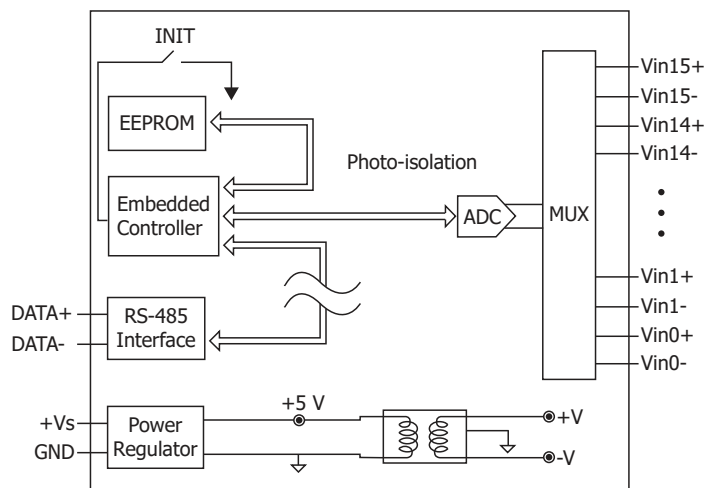
Pin Assignments



Dimensions (Units: mm)



Internal I/O Structure



Ordering Information

M-6018-16 CR	16-channel Thermocouple/Voltage/Current Input Module using the DCON and Modbus Protocols (RoHS)
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Accessories

2AB125R	 125 Ω, 0.1% DIP Resistor used for Current Type Input Modules
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