



I-7018P

8-ch Thermocouple Input Module

Features

- Additional Thermocouple Types, L and M
- 8 Differential, or 6 Differential and 2 Single-ended Analog Inputs
- Current, Voltage, and Thermocouple Inputs
- High Resolution: 16-bit
- Built-in Dual Watchdog



Introduction

The I-7018P is an Analog Input module that features current and voltage input, as well as thermocouple input. The module provides 8-channel differential or 6-channel differential and 2-channel single-ended input that can be selected via a jumper, and all channels can be configured for the same input type. Note that an optional external 125 Ω resistor is required for current input. The I-7018P supports two additional thermocouple types, L and M, compared to the I-7018/7018R.

Applications

- Building Automation
- Machine Automation
- Remote Diagnosis
- Factory Automation
- Remote Maintenance
- 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)	± 2 kV Contact for Each Terminal
Surge (IEC 61000-4-5)	± 0.5 kV for Power Line
LED Indicators	
Status	1 x Power and Communication
COM Ports	
Ports	1 x RS-485
Baud Rate	1200 ~ 115200 bps
Data Format	(N, 8, 1), (N, 8, 2), (E, 8, 1), (O, 8, 1)
Protocol	DCON
Power	
Reverse Polarity Protection	Yes
Input Range	+10 ~ +30 VDC
Consumption	1.0 W
Mechanical	
Dimensions (mm)	72 x 123 x 35 (W x L x H)
Installation	DIN-Rail Mounting
Environment	
Operating Temperature	-25 ~ +75 $^{\circ}$ C
Storage Temperature	-40 ~ +85 $^{\circ}$ C
Humidity	10 ~ 95% RH, Non-condensing

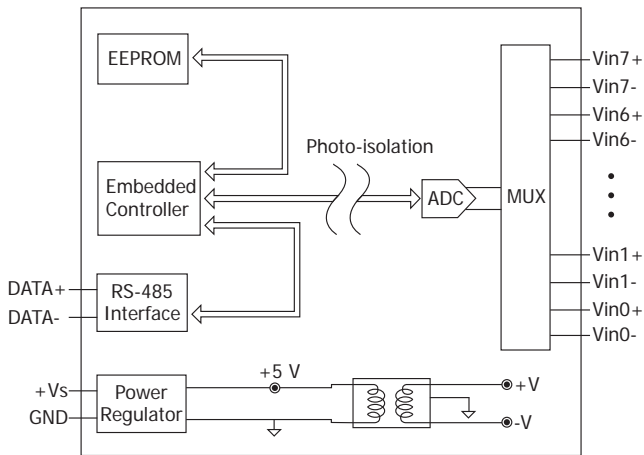
I/O Specifications

Analog Input		
Channels	6 Differential and 2 Single-ended, or 8 Differential	
Type	Voltage, Current, Thermocouple	
Sensor Types	Thermocouple	J, K, T, E, R, S, B, N, C, L, M
Range	Voltage	± 15 mV, ± 50 mV, ± 100 mV, ± 500 mV, ± 1 V, ± 2.5 V
	Current	± 20 mA (requires an optional external 125 Ω resistor)
Resolution	16-bit	
Accuracy	0.1% of FSR	
Sampling Rate	10 Hz	
Input Impedance	> 400 k Ω	
Common Voltage Protection	± 15 VDC	
Overvoltage Protection	± 80 VDC	

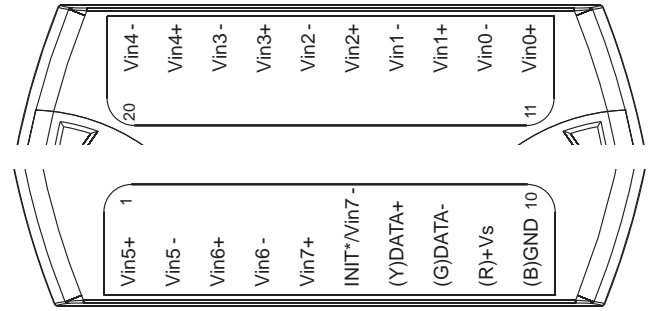
Note:

For highly-accurate thermocouple measurement, ICP DAS recommends selecting the I-7018Z/I-7019Z module, which features automatic cold-junction compensation for each channel, ensuring consistent and stable temperature output.

Internal I/O Structure



Pin Assignments



Wire Connections

Channels 0 to 5		
Voltage	Current	Thermocouple
	<p>Requires an Optional External 125 Ω Resistor</p>	

Channels 6 and 7		
Voltage	Current	Thermocouple
<p>8-channel Differential Mode</p>	<p>Requires an Optional External 125 Ω Resistor</p>	<p>8-channel Differential Mode</p>
<p>INIT* Mode</p>		<p>INIT* Mode</p>

Note: To access the jumpers, the cover must be opened.

Ordering Information

I-7018P CR	8-ch Thermocouple Input Module using DCON Protocol (Gray Cover) (RoHS)
I-7018P-G CR	8-ch Thermocouple Input Module using DCON Protocol (Blue Cover) (RoHS)

Accessories

tM-7520U CR	Tiny Isolated RS-232 to RS-485 Converter (RoHS)	SG-770 CR	7/14 channel Surge Protector (RoHS)
tM-7561 CR	Tiny USB to Isolated RS-485 Converter with CA-USB18 Cable (RoHS)	SG-3000 Series	Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Input Transformers
tM-SG4 CR	RS-485 Pull-high/Pull-low and Termination Resistor Module (RoHS)	2AB125R CR	IP Resistor, 125 ohm, 0.1%, 1/4W, MF, 50 ppm/ $^{\circ}$ C (1PCS) (RoHS)
I-7514U CR	Isolated 4-channel RS-485 Repeater/Hub/Splitter (Gray Cover) (RoHS)		