

Features

- I-7018BL
 - Open Thermocouple Detection
- I-7018P
 - Additional Thermocouple Types, L and M
- 8-channel Differential or 6-channel Differential and 2-channel Single-ended Analog Input
- Current, Voltage or Thermocouple Input
- High Resolution: 16-bit
- 3000 Vdc Intra-module Isolation
- Dual Watchdog
- RoHS Compliant
- Wide Operating Temperature Range: -25 to +75°C



Introduction

The I-7018P is an Analog Input module that features current and voltage input, as well as thermocouple input. The I-7018BL is a thermocouple input module. Both of the modules provide 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 modules also feature 3000 VDC intra-module isolation as well as ±35 VDC overvoltage protection. The I-7018BL provides thermocouple open wire detection and the I-7018P provides support for two additional thermocouple types, L and M.

Applications

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

System Specifications

Model	I-7018BL	I-7018P
Communication		
Interface	RS-485	
Bias Resistor	No (Usually supplied by the RS-485 Master. Alternatively, add a tM-SG4 or SG-785.)	
Format	(N, 8, 1) (N, 8, 2) (E, 8, 1) (O, 8, 1)	
Baud Rate	1200 to 115200 bps	
Protocol	DCON	
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)	
LED Indicators/Display		
System LED Indicator	Yes, 1 as Power/Communication Indicator	
I/O LED Indicators	-	
7-segment LED Display	-	
Isolation		
Intra-module Isolation, Field-to-Logic	3000 Vdc	
EMS Protection		
ESD (IEC 61000-4-2)	±2 kV Contact for each Terminal	
EFT (IEC 61000-4-4)	±4 kV to Power Line	
Surge (IEC 61000-4-5)	±0.5 kV for Power Line	
Power		
Reverse Polarity Protection	Yes	
Input Range	+10 ~ +30 Vdc	
Consumption	1.0 W	
Mechanical		
Dimensions (L x W x H)	123 mm x 72 mm x 35 mm	
Installation	DIN-Rail or Wall Mounting	
Environment		
Operating Temperature	-25 to +75°C	
Storage Temperature	-40 to +85°C	
Humidity	10 to 95% RH, Non-condensing	

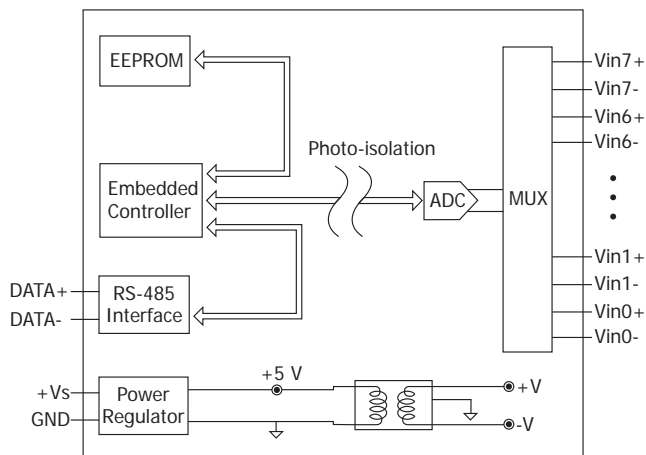
I/O Specifications

Model	I-7018BL	I-7018P	
Analog Input			
Channels	Differential and Single-ended, or Differential		
Wiring	Differential		
Sensor Types	Thermocouple	J, K, T, E, R, S, B, N, C	J, K, T, E, R, S, B, N, C, L, M
	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	0.15% of FSR	0.1% of FSR	
Sampling Rate	10 Hz		
Input Impedance	> 400 kΩ		
Common Voltage Protection	±15 VDC		
Individual Channel Configuration	-		
Overvoltage Protection	±35 Vdc	±80 Vdc	
Open Wire Detection (for thermocouple only)	Yes	-	
Temperature Outputs Consistency	-		
Stable Temperature Output in the Field	-		

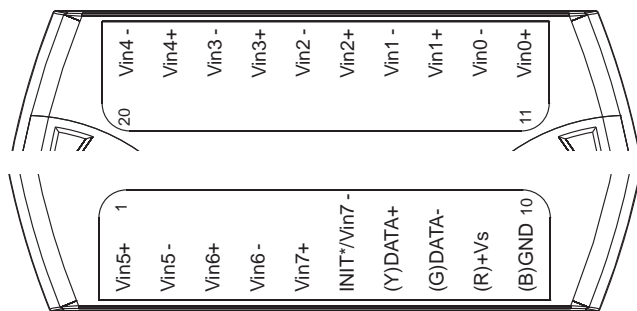
Note: For highly-accurate thermocouple measurement, ICP DAS recommends selecting the I-7018Z/I-7019Z module, which features automatic cold-junction compensation for each channel, ensuring consistent and stable temperature output.

I-7018BL/I-7018P

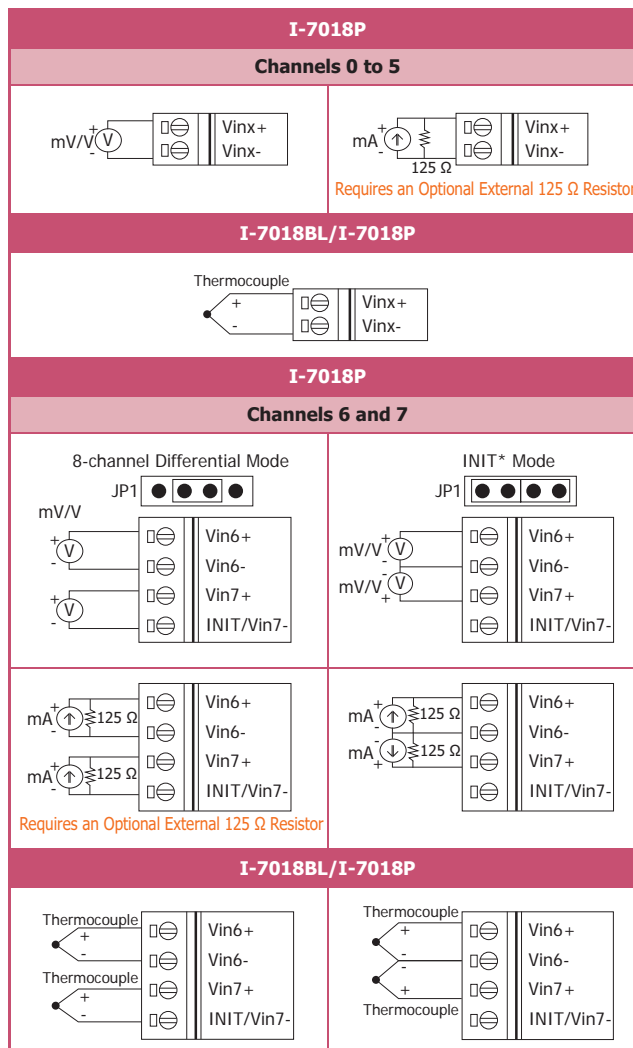
Internal I/O Structure



Pin Assignments



Wire Connections



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

Ordering Information

I-7018BL CR	8-channel Thermocouple Input Module using the DCON Protocol (Blue Cover) (RoHS)
I-7018P CR	8-channel Analog Input Module using the DCON Protocol (Blue Cover) (RoHS)
I-7018P-G CR	8-channel Analog Input Module using the DCON Protocol (Gray Cover) (RoHS)

Accessories

	tM-7520U CR	RS-232 to RS-485 Converter (RoHS)
	tM-7561 CR	USB to RS-485 Converter (RoHS)
	tM-SG4 CR	RS-485 Bias and Termination Resistor Module (RoHS)
	I-7514U CR	4-channel RS-485 Hub (RoHS)

	SG-770 CR	7-channel Differential or 14-channel Single-ended Surge Protector (RoHS)
	SG-3000 Series	Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Input Transformers
	125 Ω, 0.1% DIP Resistor	125 Ω External Resistor for use with Current input on I-7011/I-7012/I-7017/I-7018 series modules