



I-87018PW-G
8-channel Thermocouple Input Module

Features

- 8-channel Thermocouple Input
- Individual Channel Configuration
- Open Thermocouple Detection
- Temperature Output Consistency
- Stable Temperature Output in the Field
- 240 Vrms Overvoltage Protection
- 4 kV ESD Protection
- Dual Watchdog
- 3000 Vdc Intra-module Isolation, Field-to-Logic



Introduction

The I-87018PW is an 8-channel thermocouple input module. The analog input range is software selectable and supports ± 15 mV, ± 100 mV, ± 500 mV, ± 1 V, ± 2.5 V, $0 \sim +20$ mA, $+4 \sim +20$ mA or ± 20 mA, and thermocouples of type J, K, T, E, R, S, B, N, C, L, M, and LDIN43710. It features automatic cold-junction compensation for each channel, and supports open thermocouple detection.

Applications

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

System Specifications

Communication	
Interface	RS-485
Format	N, 8, 1
Baud Rate	1200 to 115200 bps
Protocol	DCON
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)
LED Indicators/Display	
System LED Indicators	Yes, 1 as Power/Communication Indicator
I/O LED Indicators	16 as High/Low Alarm Signals
Isolation	
Intra-module Isolation, Field-to-Logic	3000 Vdc
EMS Protection	
ESD (IEC 61000-4-2)	± 4 kV Contact for each Terminal ± 8 kV Air for Random Point
Power	
Power Consumption	0.7 W
Mechanical	
Dimensions (W × L × H)	I-87018PW 30 mm × 114 mm × 85 mm CN-1824 29 mm × 83 mm × 43 mm
Environment	
Operating Temperature	-25 to +75°C
Storage Temperature	-40 to +85°C
Humidity	10 to 95% RH, Non-condensing

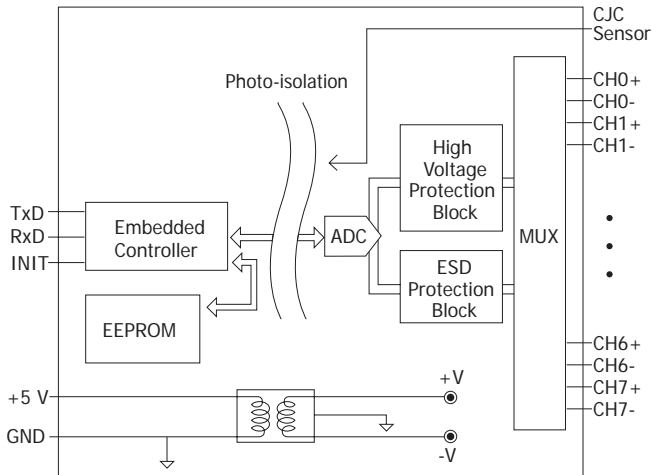
I/O Specifications

Analog Input	
Channels	8
Wiring	Differential
Sensor Type	± 15 mV, ± 50 mV, ± 100 mV, ± 500 mV, ± 1 VDC, ± 2.5 VDC ± 20 mA, $0 \sim +20$ mA, $+4 \sim +20$ mA (Requires Optional External 125 Ω Resistor) Thermocouple Type: (J, K, T, E, R, S, B, N, C, L, M, and LDIN43710)
Temperature Output Consistency	Yes
Stable Temperature Output in the Field	Yes
Resolution	16-bit
Accuracy	$\pm 0.1\%$ of FSR
Sampling Rate	10 Hz (Total)
-3dB Bandwidth	15.7 Hz
Zero Drift	± 0.5 μ V/°C
Span Drift	± 25 ppm/°C
Common Mode Rejection	150 dB
Normal Mode Rejection	100 dB
Input Impedance	>400 k Ω
Individual Channel Configurable	Yes
Open Wire Detection	Yes
Overvoltage Protection	240 Vrms
CN-1824	
Wire Strip Length	4 ~ 5 mm
Wire Range	16 ~ 24 AWG

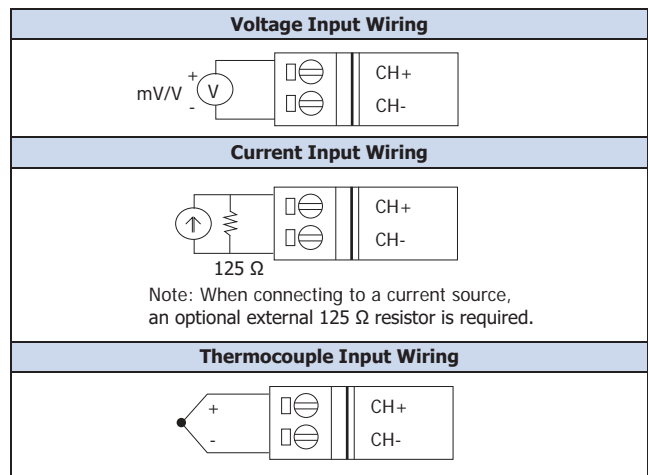
Thermocouple Type

Type	Temperature Range
J	-210 to +760°C
K	-270 to +1372°C
T	-270 to +400°C
E	-270 to +1000°C
R	0 to +1768°C
S	0 to +1768°C
B	0 to +1820°C
N	-270 to 1300°C
C	0 to 2320°C
L	-200 to +800°C
M	-200 to +100°C
LDIN43710	-200 to +900°C

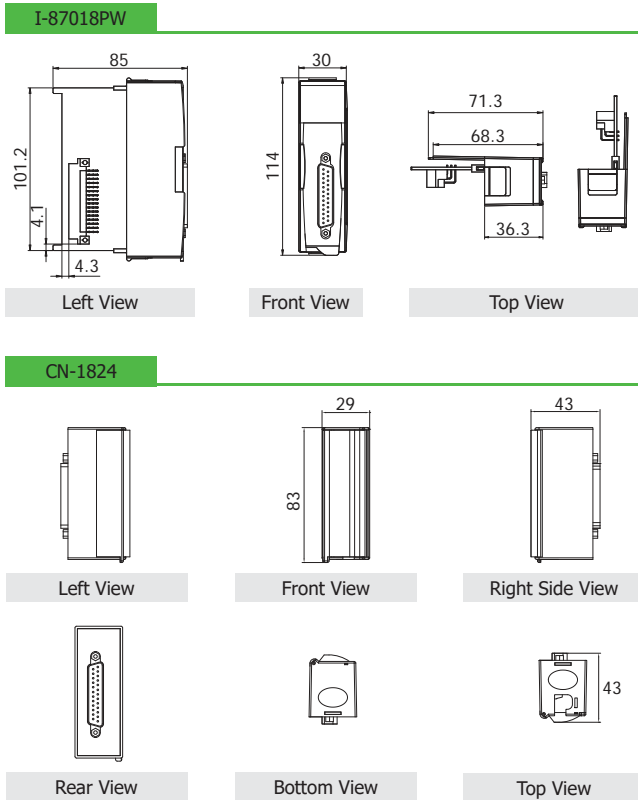
Internal I/O Structure



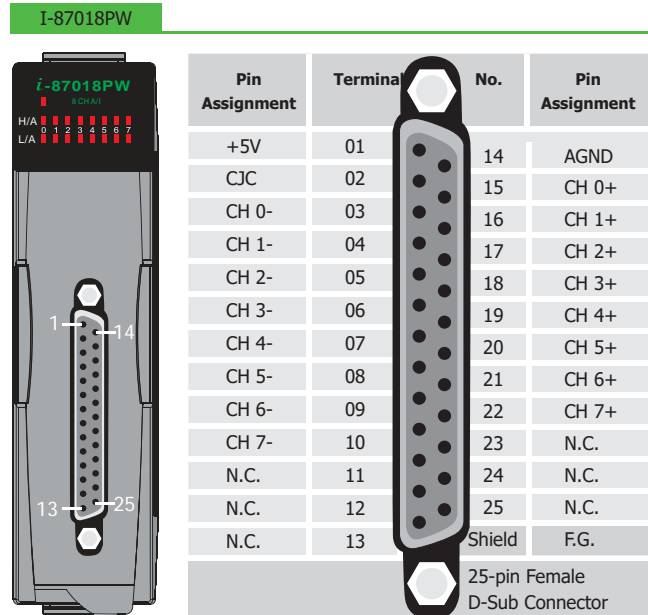
Wire Connections



Dimensions (Units: mm)



Pin Assignments



Ordering Information

I-87018PW-G CR	8-channel Thermocouple Input Module (Gray Cover) (RoHS). Includes the I-87018PW Module and a CN-1824 Daughter Board.
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Accessories

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