



I-9018/S1 | I-9018-16/S1

8/16-Channel High Speed Thermocouple Input Module

Features

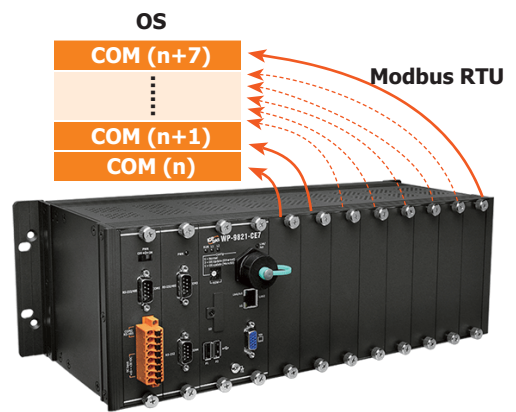
- 8/16-channel thermocouple input
- Open wire detection
- Individual channel configuration
- 100 Hz high-speed sampling rate for each channel
- Modbus RTU protocol
- 921k bps UART communication
- Each module occupies one COM port
- COM port driver available on PACs with Windows 10 IoT, WES7, WinCE 6.0, WinCE 7.0, Linux



Introduction

The I-9018/S1, I-9018-16/S1 is an 8, 16-channel thermocouple input module. Each channel provides 100 Hz high-speed sampling rate and supports various thermocouple input types, including J, K, T, E, R, S, B, N, and C, L, M and LDIN43710. It features automatic cold-junction compensation for each channel and supports open thermocouple detection and 30VDC overvoltage protection.

System Specifications



Model	I-9018/S1	I-9018-16/S1
COM Port		
Ports	RS-232	
Data Format	N, 8, 1	
Baud Rate	921600 bps	
Protocol	Modbus RTU	
LED Indicators		
System LED Indicator	1	
I/O LED Indicator	16	32
Isolation		
Intra-module Isolation, Field-to-Logic	3000 VDC	
EMS Protection		
ESD (IEC 61000-4-2)	±4 kV Contact for Each port, ±8 kV Air for Random Poin	
Power		
Consumption	0.3 W	0.4 W
Mechanical		
Dimensions (W x L x H, unit: mm)	I-9018W: 31 x 134 x 134, CN-1825M: 35 x 80 x 28	I-9018W-16: 31 x 134 x 134, CN-1826: 57 x 88 x 28
Environment		
Operating Temperature	-25 ~ +75 °C	
Storage Temperature	-40 ~ +85 °C	
Humidity	10 ~ 95 % RH, Non-condensing	

I/O Specifications

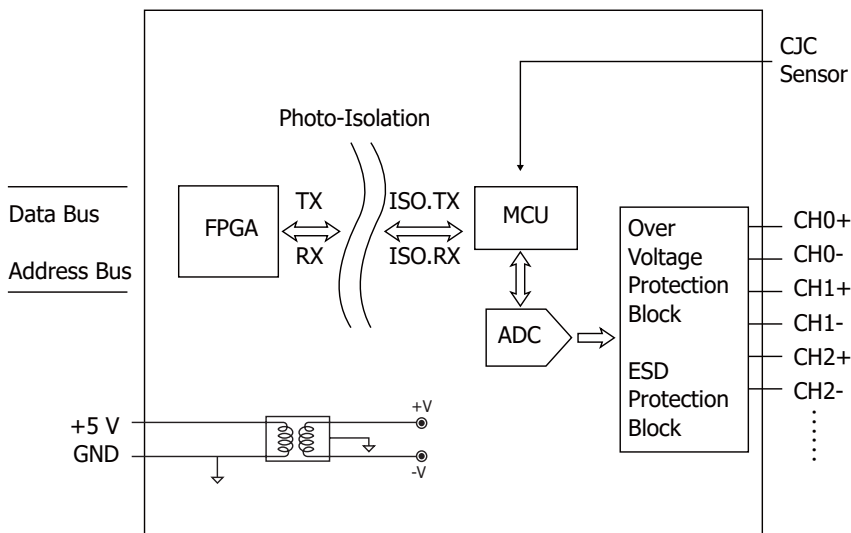
Model	I-9018/S1	I-9018-16/S1
Analog Input		
Channels	8	16
Sensor Type	Thermocouple (J, K, T, E, R, S, B, N, C, L, M, LDIN43710)	
Resolution	16-bit	
Accuracy	±0.1 % of FSR	
Sampling Rate	100 Hz (per channel)	
Input Impedance	> 400 MΩ	
Individual Channel Configuration	Yes	
Open Wire Detection	Yes	
Overvoltage Protection	30 V	
CN-1825M/CN-1826		
Wire Strip Length	4 ~ 5 mm	
Wire Range	15 ~ 24 AWG	

Thermocouple Type

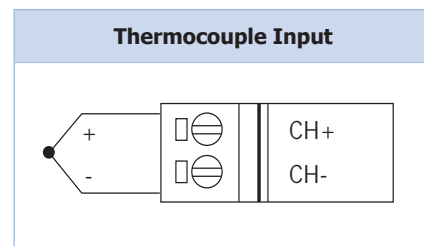
Type Code	Temperature Range
J	-210 ~ + 760 °C
K	-270 ~ + 1372 °C
T	-270 ~ + 400 °C
E	-270 ~ + 1000 °C
R	0 ~ + 1768 °C
S	0 ~ + 1768 °C

Type Code	Temperature Range
B	0 ~ + 1820 °C
N	-270 ~ + 1300 °C
C	0 ~ + 2320 °C
L	-200 ~ + 800 °C
M	-200 ~ + 100 °C
LDIN43710	-200 ~ + 900 °C

Internal I/O Structure

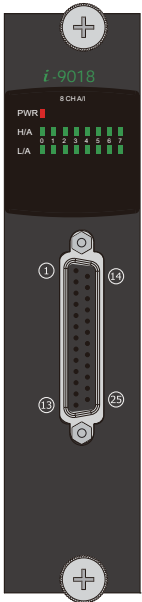


Wire Connections

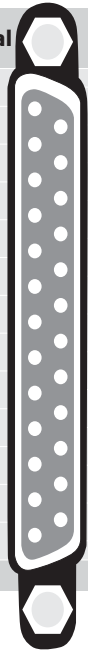


Pin Assignments

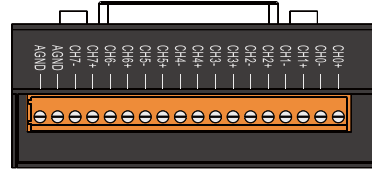
I-9018



Pin Assignment	Terminal	No.	Pin Assignment
+3.3 V	01	14	GND
N.C.	02	15	CH 0+
CH 0-	03	16	CH 1+
CH 1-	04	17	CH 2+
CH 2-	05	18	CH 3+
CH 3-	06	19	CH 4+
CH 4-	07	20	CH 5+
CH 5-	08	21	CH 6+
CH 6-	09	22	CH 7+
CH 7-	10	23	N.C.
N.C.	11	24	SDA
SCL	12	25	AGND
AGND	13		

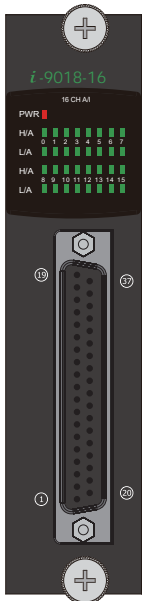


CN-1825M

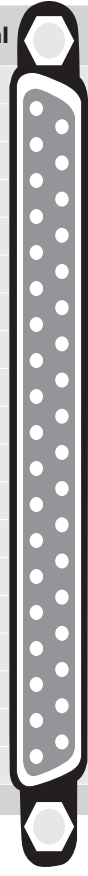


Terminal No.	Pin Assignment
01	CH 0+
02	CH 0-
03	CH 1+
04	CH 1-
05	CH 2+
06	CH 2-
07	CH 3+
08	CH 3-
09	CH 4+
10	CH 4-
11	CH 5+
12	CH 5-
13	CH 6+
14	CH 6-
15	CH 7+
16	CH 7-
17	AGND
18	AGND

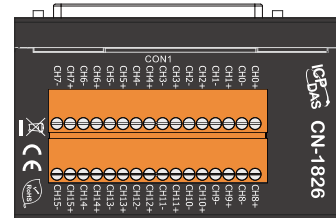
I-9018-16



Pin Assignment	Terminal	No.	Pin Assignment
+3.3 V	01	20	GND
N.C.	02	21	CH 0+
CH 0-	03	22	CH 1+
CH 1-	04	23	CH 2+
CH 2-	05	24	CH 3+
CH 3-	06	25	CH 4+
CH 4-	07	26	CH 5+
CH 5-	08	27	CH 6+
CH 6-	09	28	CH 7+
CH 7-	10	29	SDA
SCL	11	30	CH 8+
CH 8-	12	31	CH 9+
CH 9-	13	32	CH 10+
CH 10-	14	33	CH 11+
CH 11-	15	34	CH 12+
CH 12-	16	35	CH 13+
CH 13-	17	36	CH 14+
CH 14-	18	37	CH 15+
CH 15-	19		



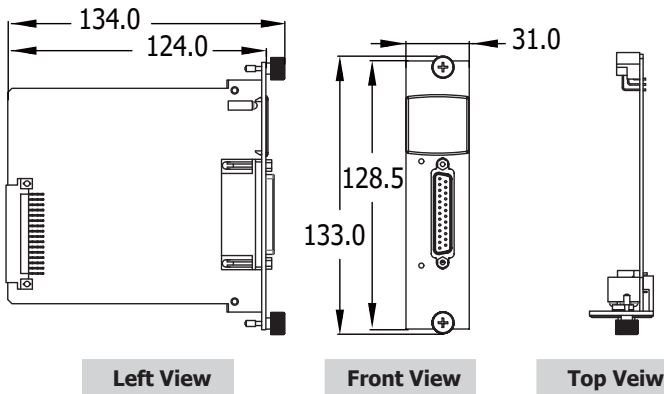
CN-1826



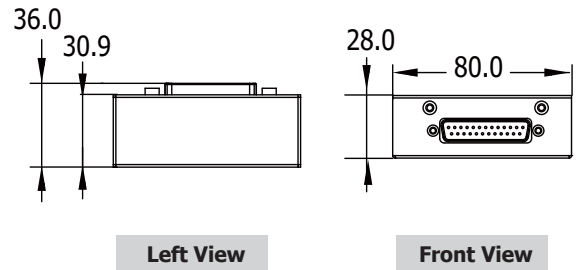
Pin Assignment	Terminal No.	Pin Assignment
CH 0+	01	17 CH 8+
CH 0-	02	18 CH 8-
CH 1+	03	19 CH 9+
CH 1-	04	20 CH 9-
CH 2+	05	21 CH 10+
CH 2-	06	22 CH 10-
CH 3+	07	23 CH 11+
CH 3-	08	24 CH 11-
CH 4+	09	25 CH 12+
CH 4-	10	26 CH 12-
CH 5+	11	27 CH 13+
CH 5-	12	28 CH 13-
CH 6+	13	29 CH 14+
CH 6-	14	30 CH 14-
CH 7+	15	31 CH 15+
CH 7-	16	32 CH 15-

■ Dimensions (Unit: mm)

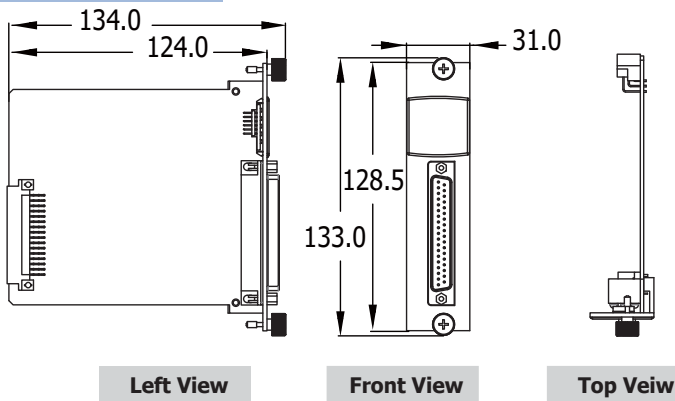
I-9018



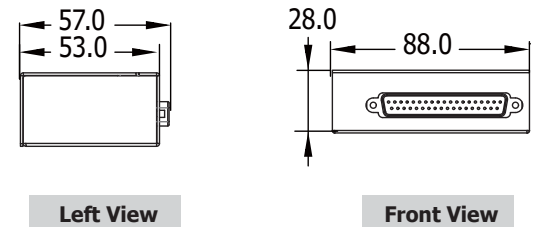
CN-1825M



I-9018-16



CN-1826

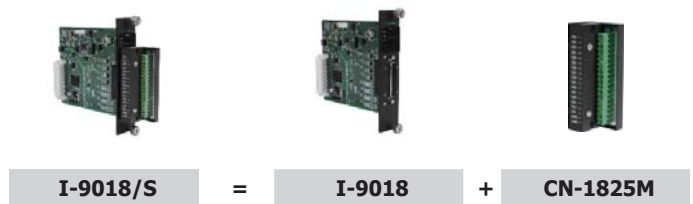


■ Ordering Information

I-9018/S1 CR

8-channel High Speed Thermocouple Input Module (RoHS)
Includes CN-1825M Daughter Board

I-9018/S1 CR = I-9018 Connects CN-1825M Directly



I-9018/S-16 CR

16-channel High Speed Thermocouple Input Module (RoHS)
Includes CN-1826 Daughter Board

I-9018-16/S1 CR = I-9018-16 Connects CN-1826 Directly

