



I-8018W/S1 | I-8018W-16/S1

8/16-Channel High Speed Thermocouple Input Module

Features

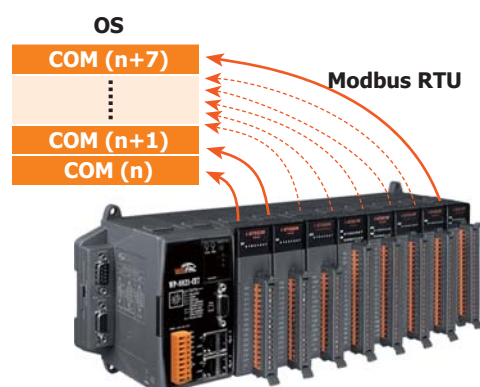
- 8/16-channel thermocouple input
- Open wire detection
- Individual channel configuration
- 100 Hz high-speed sampling rate for each channel
- Modbus RTU protocol
- 921k bps UART communication
- Each module occupies one COM port
- COM port driver available on PACs with Windows 10 IoT, WES7, WinCE 6.0,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



Introduction

The I-8018W/S1, I-8018W-16/S1 is an 8, 16-channel thermocouple input module. Each channel provides 100Hz 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-8018W/S1		I-8018W-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 Max.		0.4 W Max.	
Mechanical				
Dimensions (W x L x H, unit: mm)	I-8018W: 32 x 85 x 114, CN-1825: 43 x 84 x 30		I-8018W-16: 32 x 112 x 114, CN-1826M: 57 x 88 x 28	
Environment				
Operating Temperature	-25 ~ +75 °C			
Storage Temperature	-40 ~ +85 °C			
Humidity	10 ~ 95 % RH, Non-condensing			

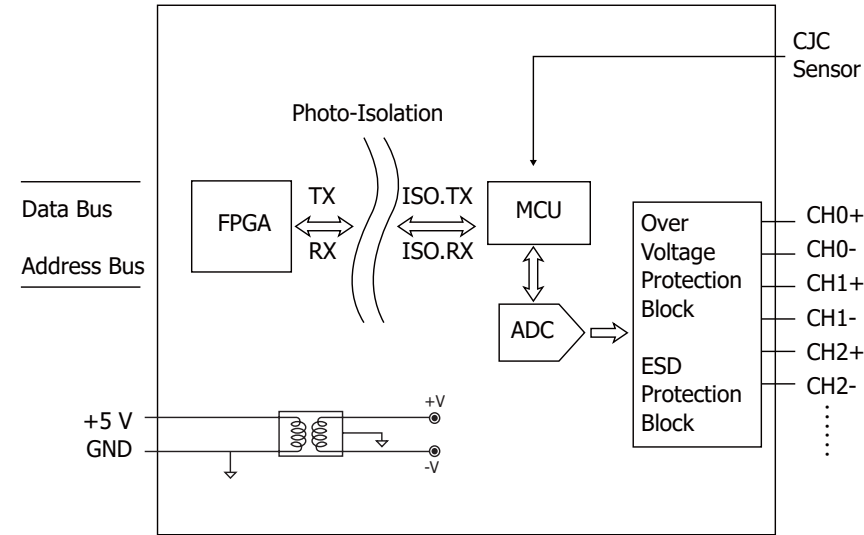
I/O Specifications

Model	I-8018W/S1		I-8018W-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-1825/CN-1826M				
Wire Strip Length	4 ~ 5 mm			
Wire Range	16 ~ 24 AWG			

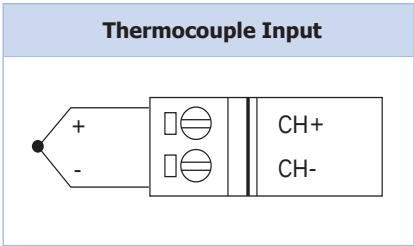
Thermocouple Type

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

Internal I/O Structure

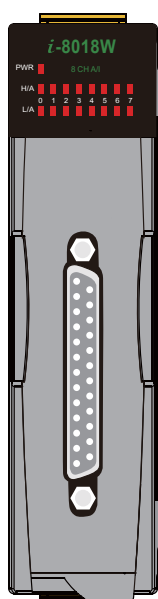


Wire Connections



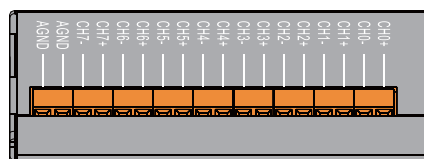
Pin Assignments

I-8018W



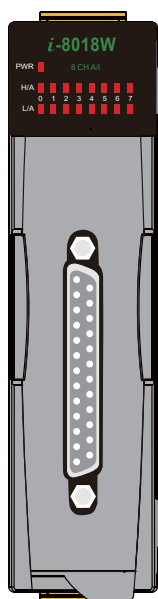
Pin Assignment	Terminal	No.	Pin Assignment
+3.3 V	01	14	GND
N.C.	02	15	CH 0+
CH 0-	03	16	CH 1+
CH 1-	04	17	CH 2+
CH 2-	05	18	CH 3+
CH 3-	06	19	CH 4+
CH 4-	07	20	CH 5+
CH 5-	08	21	CH 6+
CH 6-	09	22	CH 7+
CH 7-	10	23	N.C.
N.C.	11	24	SDA
SCL	12	25	AGND
AGND	13		

CN-1825



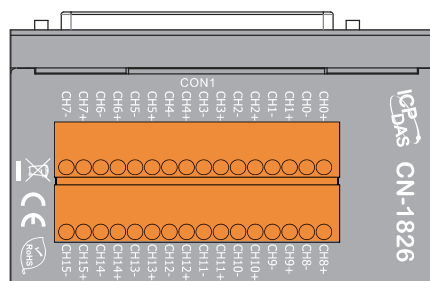
Terminal No.	Pin Assignment
01	CH 0+
02	CH 0-
03	CH 1+
04	CH 1-
05	CH 2+
06	CH 2-
07	CH 3+
08	CH 3-
09	CH 4+
10	CH 4-
11	CH 5+
12	CH 5-
13	CH 6+
14	CH 6-
15	CH 7+
16	CH 7-
17	AGND
18	AGND

I-8018W-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		

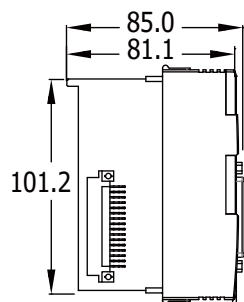
CN-1826M



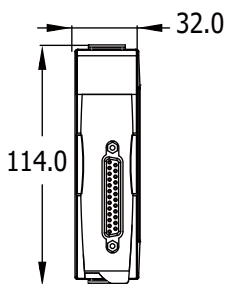
Pin Assignment	Terminal No.	Pin Assignment
CH 0+	01	CH 8+
CH 0-	02	CH 8-
CH 1+	03	CH 9+
CH 1-	04	CH 9-
CH 2+	05	CH 10+
CH 2-	06	CH 10-
CH 3+	07	CH 11+
CH 3-	08	CH 11-
CH 4+	09	CH 12+
CH 4-	10	CH 12-
CH 5+	11	CH 13+
CH 5-	12	CH 13-
CH 6+	13	CH 14+
CH 6-	14	CH 14-
CH 7+	15	CH 15+
CH 7-	16	CH 15-

Dimensions (Unit: mm)

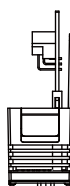
I-8018W



Left View

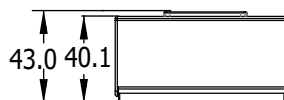


Front View

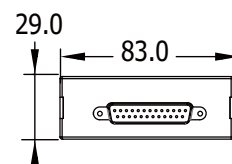


Top View

CN-1825

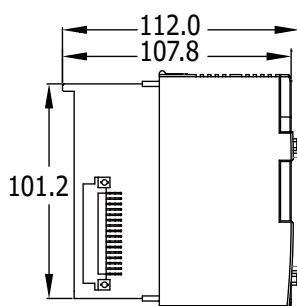


Left View

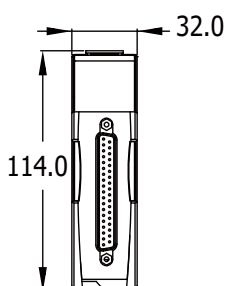


Front View

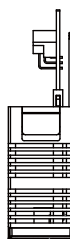
I-8018W-16



Left View

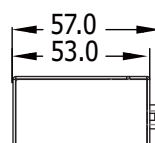


Front View

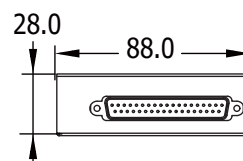


Top View

CN-1826M



Left View



Front View

Ordering Information

I-8018W/S1-G CR

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

I-8018W/S1 CR = I-8018W Connects CN-1825 Directly



I-8018W/S1

=



I-8018W

+



CN-1825

I-8018W-16/S1-G CR

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

I-8018W-16/S1 CR = I-8018W-16 Connects CN-1826M Directly



I-8018W-16/S1

=



I-8018W-16

+



CN-1826M