

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

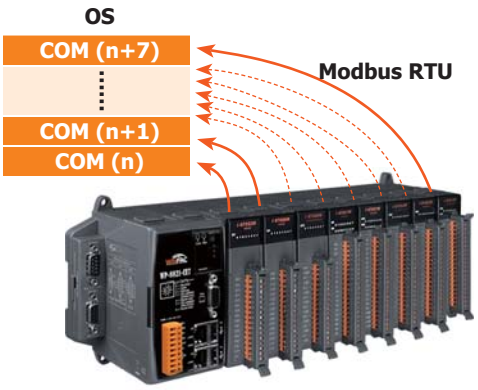
8/16-Channel High Speed Thermocouple Input Module

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	

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I/O Specifications

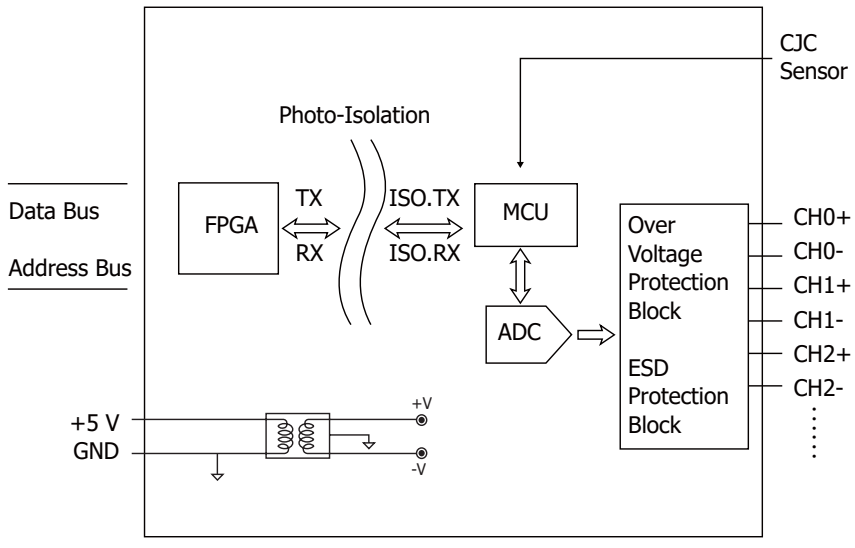
Model	I-8018W/S1	I-8018W-16/S1
Analog Input		
Channels	8	16
Sensor Type	Thermocouple (J, K, T, E, R, S, B, N, C, L, M, LDIN43710)	
Resolution	16-bit	
Accuracy	±0.1 % of FSR	
Sampling Rate	100 Hz (per channel)	
Input Impedance	> 400 MΩ	
Individual Channel Configuration	Yes	
Open Wire Detection	Yes	
Overvoltage Protection	30 V	
CN-1825/CN-1826M		
Wire Strip Length	4 ~ 5 mm	
Wire Range	16 ~ 24 AWG	

Thermocouple Type

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

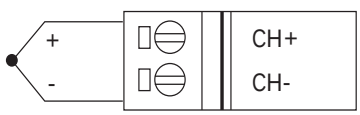
Type Code	Temperature Range
B	0 ~ + 1820 °C
N	-270 ~ + 1300 °C
C	0 ~ + 2320 °C
L	-200 ~ + 800 °C
M	-200 ~ + 100 °C
LDIN43710	-200 ~ + 900 °C

Internal I/O Structure



Wire Connections

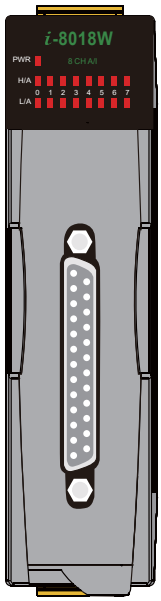
Thermocouple Input



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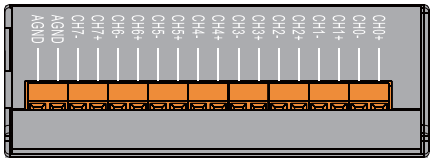
Pin Assignments

I-8018W



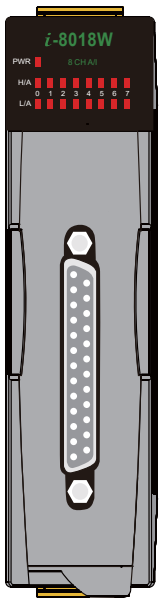
Pin Assignment	Terminal No.	No.	Pin Assignment
+3.3 V	01		
N.C.	02	14	GND
CH 0-	03	15	CH 0+
CH 1-	04	16	CH 1+
CH 2-	05	17	CH 2+
CH 3-	06	18	CH 3+
CH 4-	07	19	CH 4+
CH 5-	08	20	CH 5+
CH 6-	09	21	CH 6+
CH 7-	10	22	CH 7+
N.C.	11	23	N.C.
SCL	12	24	SDA
AGND	13	25	AGND

CN-1825



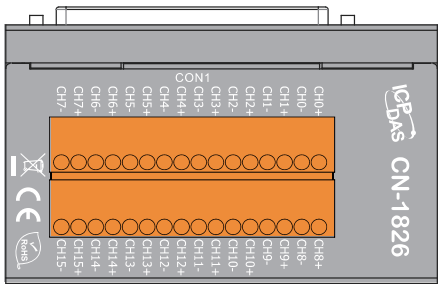
Terminal No.	Pin Assignment
01	CH 0+
02	CH 0-
03	CH 1+
04	CH 1-
05	CH 2+
06	CH 2-
07	CH 3+
08	CH 3-
09	CH 4+
10	CH 4-
11	CH 5+
12	CH 5-
13	CH 6+
14	CH 6-
15	CH 7+
16	CH 7-
17	AGND
18	AGND

I-8018W-16



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

CN-1826M

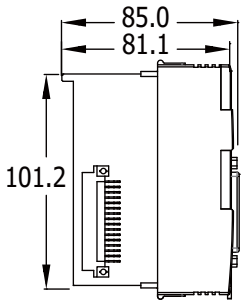


Pin Assignment	Terminal No.		Pin Assignment
CH 0+	01	17	CH 8+
CH 0-	02	18	CH 8-
CH 1+	03	19	CH 9+
CH 1-	04	20	CH 9-
CH 2+	05	21	CH 10+
CH 2-	06	22	CH 10-
CH 3+	07	23	CH 11+
CH 3-	08	24	CH 11-
CH 4+	09	25	CH 12+
CH 4-	10	26	CH 12-
CH 5+	11	27	CH 13+
CH 5-	12	28	CH 13-
CH 6+	13	29	CH 14+
CH 6-	14	30	CH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

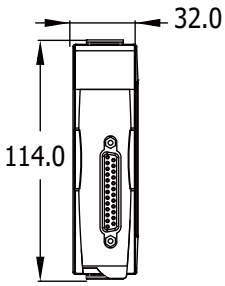
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Dimensions (Unit: mm)

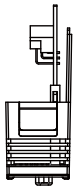
I-8018W



Left View

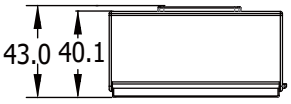


Front View

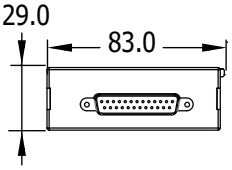


Top Veiw

CN-1825

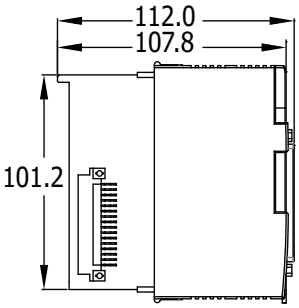


Left View

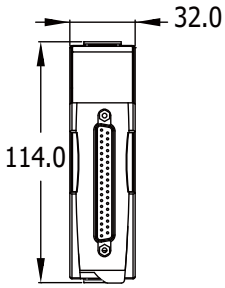


Front View

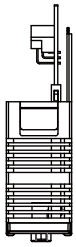
I-8018W-16



Left View

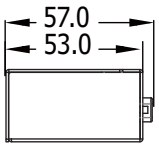


Front View

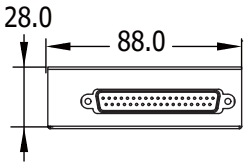


Top Veiw

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**