SG-3011/SG-3011H
User Manual

Introduction

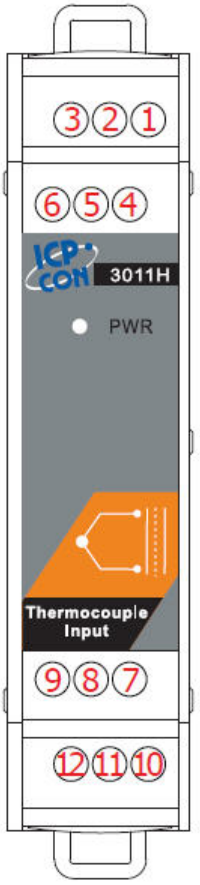
The SG-3011/SG-3011H module is a thermocouple input signal conditioner that uses a microprocessor-controlled high-resolution 24-bit integrated A/D converter to acquire the thermocouple signal and the cold junction compensation input. Temperature measurement is performed using the thermocouple linearization and cold junction compensation function. The range of thermocouple types supported by the SG-3011/SG-3011H module include J, K, T, E, R, S, B, N, C, L, M, L2 (DIN43710). The response time for the SG-3011 module is 100 ms. the response time for the SG-3011H is switch selectable and can be set to either 0.5 ms or 100 ms. The power supply that drives the input and output circuitry in the module is internally isolated, enabling the SG-3011/SG-3011H to offer true channel-to-channel isolation. The SG-3011/SG-3011H module is easily mounted on a standard DIN rail, and the module can operate in harsh environments with a wide temperature range.

Thermocouple Type:

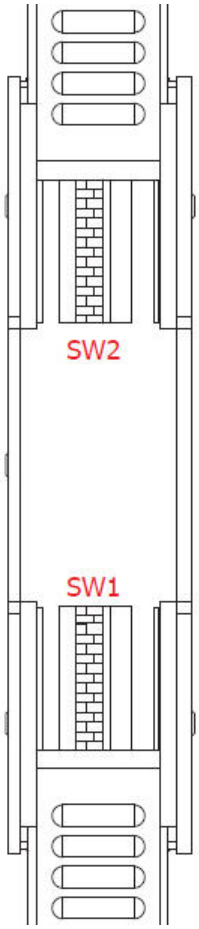
Type	Temperature Range (**°C**)	
	SG-3011	SG-3011H
J	-40 to +760	-40 to +760
		-210 to +760
K	0 to +1000	0 to +1000
		-270 to +1372
T	-100 to +400	-100 to +400
		-270 to +400
E	0 to +1000	0 to +1000
		-270 to +1000
R	+500 to +1750	
S	+500 to +1750	
B	+500 to +1800	
N	-100 to +1300	
C	0 to +2000	
L	-200 to +800	
M	-200 to +100	
L2(DIN 43710)	-200 to +900	

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PIN Assignment

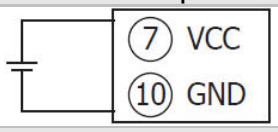


Pin	Name
1	TC+
2	TC-
3	Reserve
4	FGND
5	FGND
6	FGND
7	VCC
8	Vout+
9	Iout+
10	GND
11	Vout-
12	Iout-

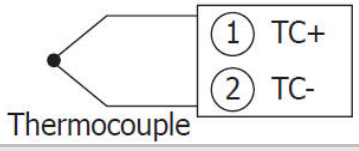


Wire Connection

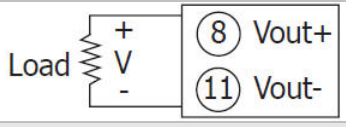
Power Input



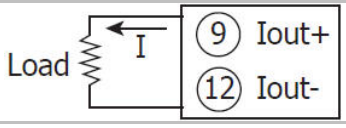
Thermocouple Input



Voltage Output



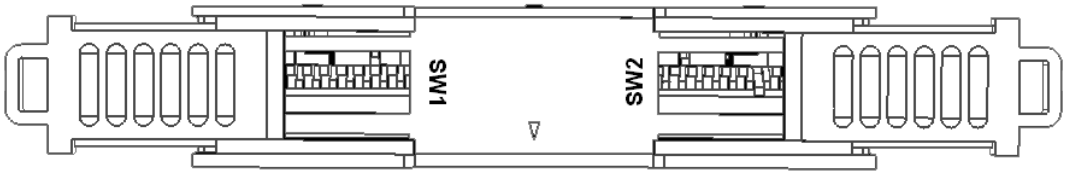
Current Output



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Switch Configuration

“Switch Configuration” shows the switch positions used to configure the input and output range. The I/O configuration switches are located inside the module and can be configured by removing the DIN-rail bracket covers.



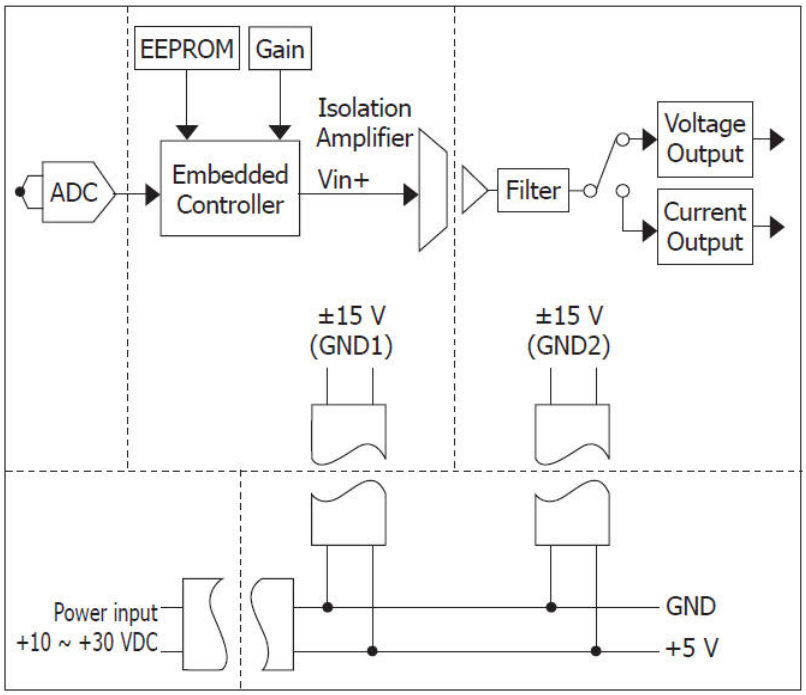
SG-3011/SG-3011H Configuration		SW1-1	■ Open TC:10V/20mA
			□ Open TC: 0V/ 0mA
		SW1-8＊	■ 10 Hz Sampling Rates
			□ 2000Hz Sampling Rates

Switch Setting: ■ON □OFF		Type Switch (SW1-)				CJC Offset Switch (SW2-)								CJC Offset(℃)
TC Type	TC Range(℃)	2	3	4	5	1	2	3	4	5	6	7	8	
J	-40~+760	□	□	□	□	■	■	■	■	■	■	■	■	25.4
K	0~+1000	■	□	□	□	■	■	■	■	■	■	■	□	25.2
T	-100~+400	□	■	□	□	•								•
E	0~+1000	■	■	□	□	•								•
R	+500~+1750	□	□	■	□	■	□	□	□	□	□	■	■	0.6
S	+500~+1750	■	□	■	□	■	□	□	□	□	□	■	□	0.4
B	+500~+1800	□	■	■	□	■	□	□	□	□	□	□	■	0.2
N	-100~+1300	■	■	■	□	■	□	□	□	□	□	□	□	0.0
C	0~+2000	□	□	□	■	□	■	■	■	■	■	■	■	-0.2
L	-200~+800	■	□	□	■	□	■	■	■	■	■	■	□	-0.4
M	-200~+100	□	■	□	■	□	■	■	■	■	■	□	■	-0.6
L2 (DIN43710)	-200~+900	■	■	□	■	□	■	■	■	■	■	□	□	-0.8
J＊	-210 ~ +760	□	□	■	■	•								•
K＊	-270 ~ +1372	■	□	■	■	•								•
T＊	-270 ~ +400	□	■	■	■	□	□	□	□	□	□	□	■	-25.4
E＊	-270 ~ +1000	■	■	■	■	□	□	□	□	□	□	□	□	-25.6

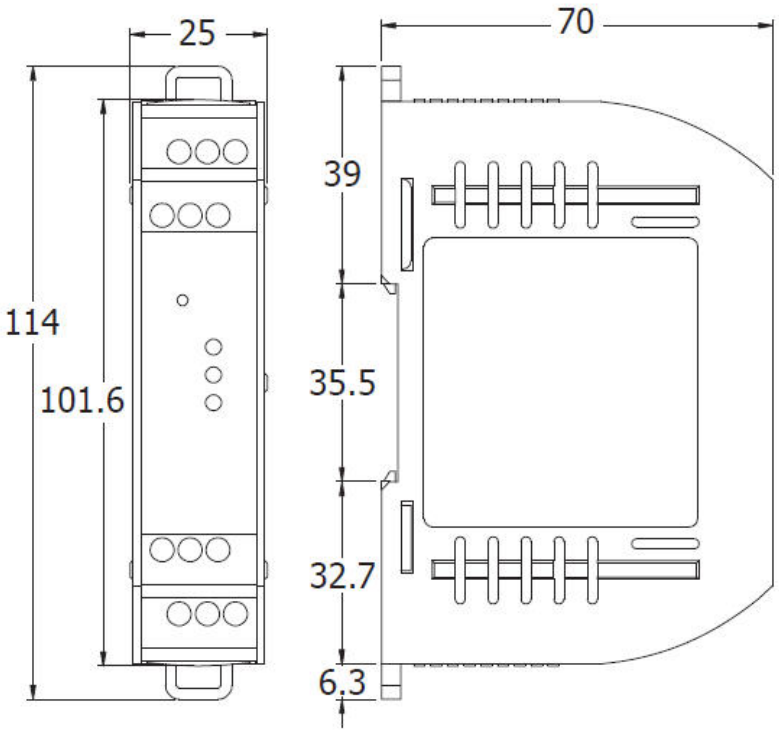
＊ Only for SG-3011H

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Block Diagram



Dimensions



Technical Service

Please E-mail your problem description to service@icpdas.com when you have any questions.
More detail information: www.icpdas.com

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