



SG-3011H

Isolated Thermocouple Input Module

Introduction

The SG-3011H is a thermocouple input signal conditioner. SG-3011H uses microprocessor-controlled high-resolution 24-bit dual-slope, integrating A/D converter to acquire thermocouple signal and cold junction compensation input. Temperature measurement is performed using the thermocouple linearization and cold junction compensation function. Thermocouple types J, K, T, E, R, S, B, N, C, L, M, L2 (DIN43710) are supported, and a 2 kHz sampling rate is provided for thermocouple input. The power supply that drives the module's input and output circuitry is internally isolated, enabling SG-3011H to offer true channel - to - channel isolation. It is easy to mount the SG-3011H on a standard DIN rail and can operate in environment with wide temperature range.

Features

- High-Speed Sampling Rate: 2 kHz
- Configurable for a Wide Range of Thermocouple Types
- CJC Offset Adjustable
- Open Thermocouple Detection
- Three-way Isolation: 1000 VDC
- Operating Temperature Range: -25 ~ +75°C



Applications

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

System Specifications

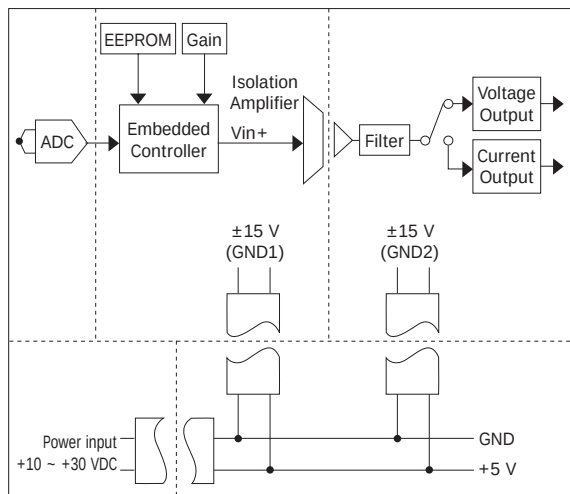
LED Indicator/Display	
System LED Indicator	Yes, 1 LED as Power/Communication Indicator
Isolation	
Three-way isolation	1000 VDC
EMS Protection	
ESD (IEC 61000-4-2)	±4 kV Contact for each Terminal
EFT (IEC 61000-4-4)	±4 kV for Power Line
Surge (IEC 61000-4-5)	-
Power	
Reverse Polarity Protection	Yes
Input Range	+10 ~ +30 VDC
Consumption	1.44 W
Mechanical	
Dimensions (W x L x H)	24.5 mm x 74.5 mm x 113.0 mm
Environment	
Operating Temperature	-25 ~ +75°C
Storage Temperature	-40 ~ +85°C
Humidity	10 ~ 95% RH, Non-condensing

I/O Specifications

Thermocouple Input	
Channels	1
Type	J, K, T, E, R, S, B, N, C, L, M, LDIN43710
Resolution	24-bit
Accuracy	±0.1% of FSR
Bandwidth	2 kHz
Temperature Drift	2°C
Open Thermocouple detection	Yes
Analog Output	
Channels	1
Range	0 ~ 10 V, 0 ~ 20 mA
Resolution	12-bit
Accuracy	±0.1% of FSR
Voltage Output Capability	10 V @ 20 mA
Current Load Resistance	500 Ω

Fiche technique

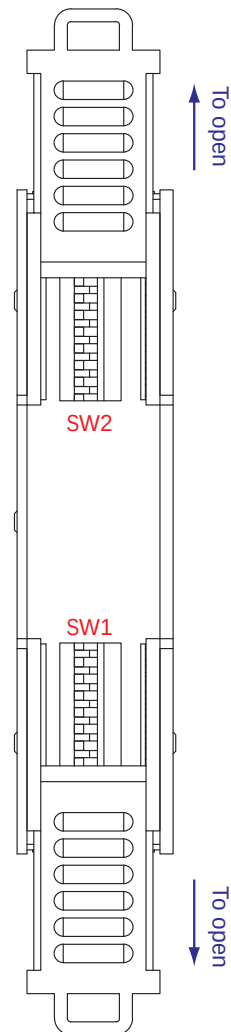
Internal I/O Structure



PIN Assignment

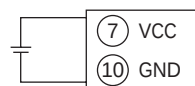


Pin	Name
1	TC+
2	TC-
3	Reserve
4	FGND
5	FGND
6	FGND
7	VCC
8	Vout+
9	Iout+
10	GND
11	Vout-
12	Iout-

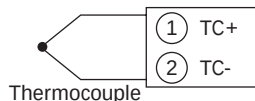


Wire Connections

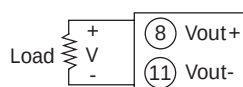
Power Input



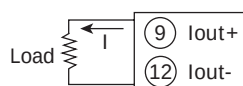
Thermocouple Input



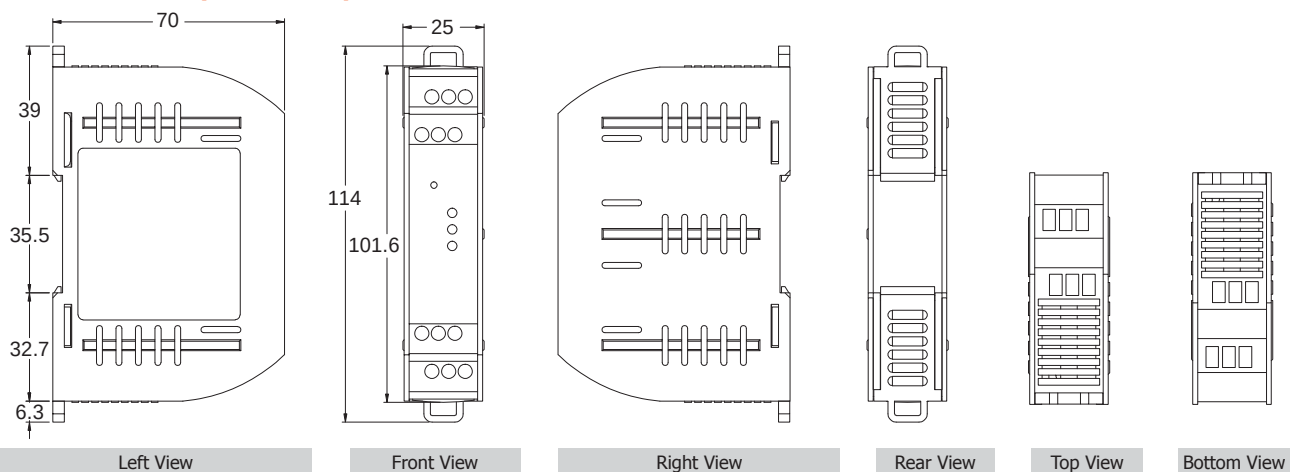
Voltage Output



Current Output



Dimensions (Units: mm)



Ordering Information

SG-3011H CR

Isolated Thermocouple Input Module (Gary Cover) (RoHS)