

SG-3011

Isolated thermocouple input module



Functional Description

The SG-3011 is a thermocouple input signal conditioner. SG-3011 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 handled by thermocouple linearization and cold junction compensation function. The supported thermocouple types are J, K, T, E, R, S, B, N, C, L, M, L2 (DIN 43710).

The SG-3011 features optical isolation technique providing 3000Vdc isolation. The power supply that drives the module's input and output circuitry is internally isolated, enabling SG-3011 to offer true channel - to - channel isolation.

It's easy to mount the SG-3011 on a standard DIN rail and can operate in environment with wide temperature range.

Applications

- Input/output signal conditioning
- Input, output or power isolation

Specifications

Input Type:

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

Features

- 3000Vdc isolation (three-way)
- Wide input/output range
- Stable voltage or current output
- Easy to configure input/output range
- Flexible DIN-rail mounting
- LED indicator

Voltage Output

- Unipolar: 0~10V
- Output impedance: <50 Ω

Current Output

- Current: 0~20 mA
- Current load resistance: 0~450 Ω (Source)

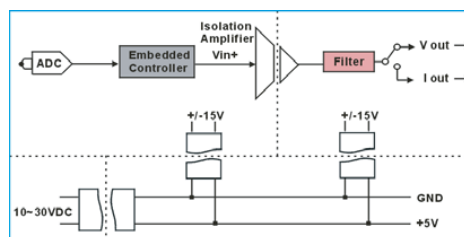
Supply Voltage

- Input Range: 10~30Vdc

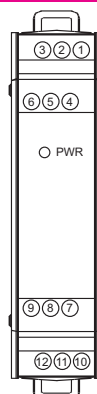
General Specifications

- Three-way isolation: 3000Vdc
- Accuracy: ±0.2% of full scale range
- Operating temperature: -25 ~ 75°C
- Storage temperature: -30 ~ 85°C
- Dimensions: 113 mm x 70.5 mm x 24.5 mm

Block Diagram



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-

Ordering Information

Standard

SG-3011: Isolated thermocouple input module