

Signal Conditioning Modules

SG-3013

Isolated RTD input module



Functional Description

The SG-3013 is a RTD input signal conditioning module to transform RTD input to voltage or current output. SG-3013 uses a microprocessor-based transducer, which integrating two high resolution ADCs and an MCU, to acquire the RTD signal. The supported RTD types are Pt100, Pt1000, Ni 120, Cu100, and Cu1000.

The SG-3013 supports 3000Vdc isolation. The power supply that drives the module's input and output circuitry is internally isolated, enabling SG-3013 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

Signal Input

- Input Type: Pt100 $\alpha=0.00385$ / Pt100 $\alpha=0.003916$ / Pt1000 $\alpha=0.00385$ / Ni 120 / Cu 100 at 0°C, $\alpha=0.00421$ / Cu 100 at 25°C, $\alpha=0.00427$ / Cu 1000 at 0°C, $\alpha=0.00421$
- Temperature Range:
 - Pt100 $\alpha=0.00385$, -200°C~+600°C
 - Pt100 $\alpha=0.003916$, -200°C~+600°C
 - Pt1000 $\alpha=0.00385$, -200°C~+600°C
 - Ni 120, -80°C~+300°C
 - Cu 100 at 0°C, $\alpha=0.00421$, -20°C~+150°C
 - Cu 100 at 25°C, $\alpha=0.00427$, 0°C~+200°C
 - Cu 1000 at 0°C, $\alpha=0.00421$, -20°C~+150°C
- Input Connection: 2/3/4 wires

Voltage Output

- Unipolar: 0~5V, 0~10V
- Output impedance: <50Ω

Current Output

- Current: 0~20 mA, 4~20 mA
- Current load resistance: 0~500Ω (Source)

Supply Voltage

- Input Range: 10~30Vdc
- Consumption: 1.2W

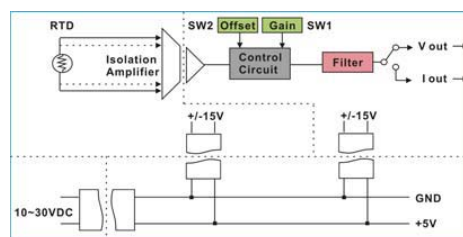
Features

- 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

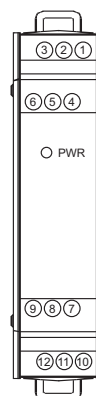
General Specifications

- Three-way isolation: 3000Vdc
- Accuracy: $\pm 0.1\%$ of full scale range
- Operation bandwidth: 5.24KHz
- Operating temperature: -25 ~ 75°C
- Storage temperature: -30 ~ 85°C
- Weight: 95 grams
- Dimensions: 113 mm x 70.5 mm x 24.5 mm

Block Diagram



Pin Assignment



Pin	Name
1	EXC-
2	SENSE-
3	FGND
4	EXC+
5	SENSE+
6	FGND
7	VCC.
8	VOUT+
9	IOUT+
10	GND
11	VOUT-
12	IOUT-

Ordering Information

Standard

SG-3013: Isolated RTD input module