SG-3016 Isolated Strain Gauge Input Module User's Manual

Introduction

The SG-3016 is a voltage input to voltage or current output signal conditioning module. It has 1000 VDc three-way isolation for input, output and power. And can change the input/output range via internal configuration switches.

The SG-3016 has an LED display to show whether the SG-3016 is functioning correctly and has three VRs (Zero, Span, Exci) to calibrate the input/output range accuracy.

The bandwidth of the SG-3016 is typically 600 Hz. It's easy to mount the SG-3016 on a standard DIN rail and can operate in environments with wide temperature range.

Specifications

Voltage Specifications:

- Electrical input: ±10 mV, ±20 mV, ±30 mV, ±50 mV, ±100 mV
- Excitation voltage: 1 ~10 VDC (20 mA max.)

Voltage output:

- Bipolar: ±5 VDC, ±10 VDC
- Unipolar: 0 ~ 5 VDC, 0 ~ 10 VDC
- Output impedance: < 5 0Ω

Current output:

- Current: 0 ~ 20 mA
- Current load resistor:0~500 Ω (Source)

General

- Three-way isolation: 1000 VDC
- Accuracy: ±0.1 % of full range
- Bandwidth: 600 Hz (typical)@-3 dB
- Operation temperature range:-25 °C ~ 75 °C
- Storage temperature range:-30 °C ~ 85 °C

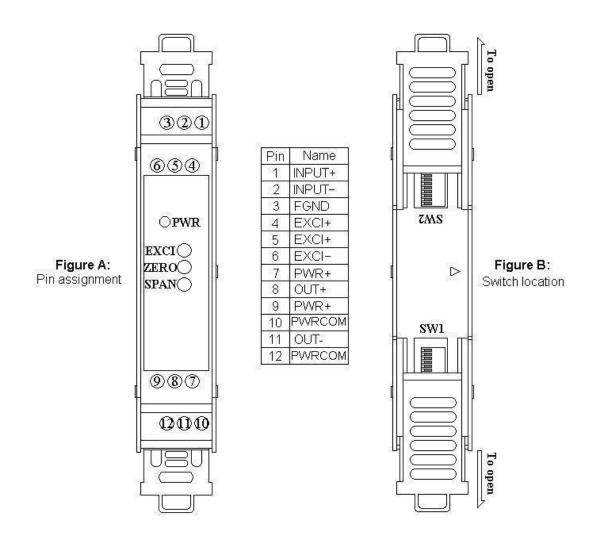
Supply Voltage

- Input Range: 10 ~ 30 VDC
- Consumption: 1.44 W (voltage output)
 - 1.74 W (current output)

Configure

The terminal wiring for the SG-3016 is shown in Figure A. Positive power terminals pin's 7 and 9 are internally connected, as are negative pins 10 and 12. Power can be connected through the adjacent modules, making wiring much easier. The SG-3016 uses a power input range of $10 \sim 30$ VDC.

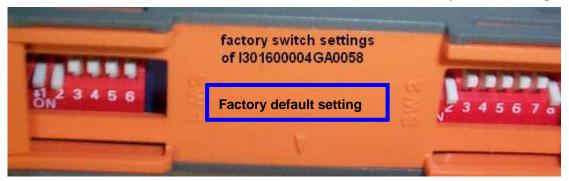
Table 1 and table 2 show the switch positions used to configure the input and output range. The I/O configuration switches are located inside the module. And can be accessed by removing the DIN-rail bracket covers by sliding them in the direction shown in Figure B.



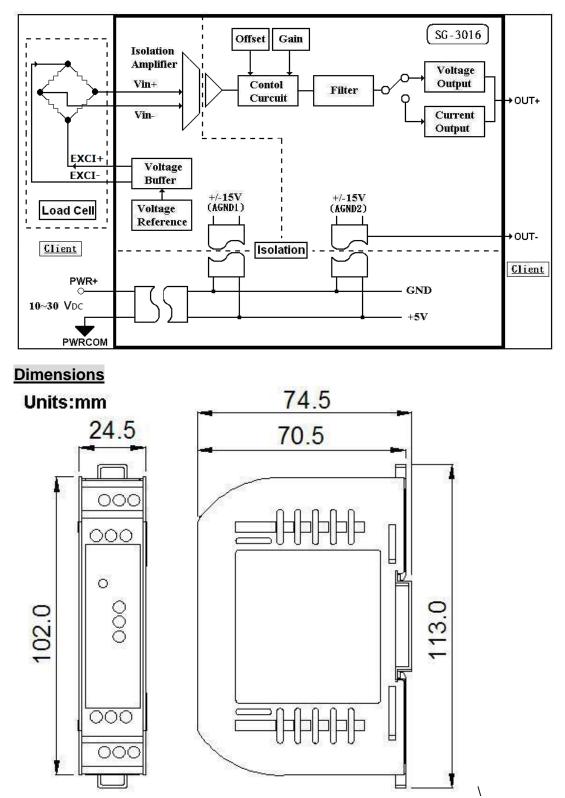
Factory default setting and label

Switch setting : ON OFF														
SG3016	(SW1)						(SW2)							
Configuration	1	2	3	4	5	6	1	2	3	4	5	6	7	8
(INPUT) ±10mV	0													
* ±20mV														
±30mV														
±50mV														
±100mV														
(OUTPUT) * ±0~10V							0							
±0~5V														
0~10V														
0~5V														
0~20mA														

* Factory default setting



Block Diagram



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