

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: $< 5 \Omega$

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

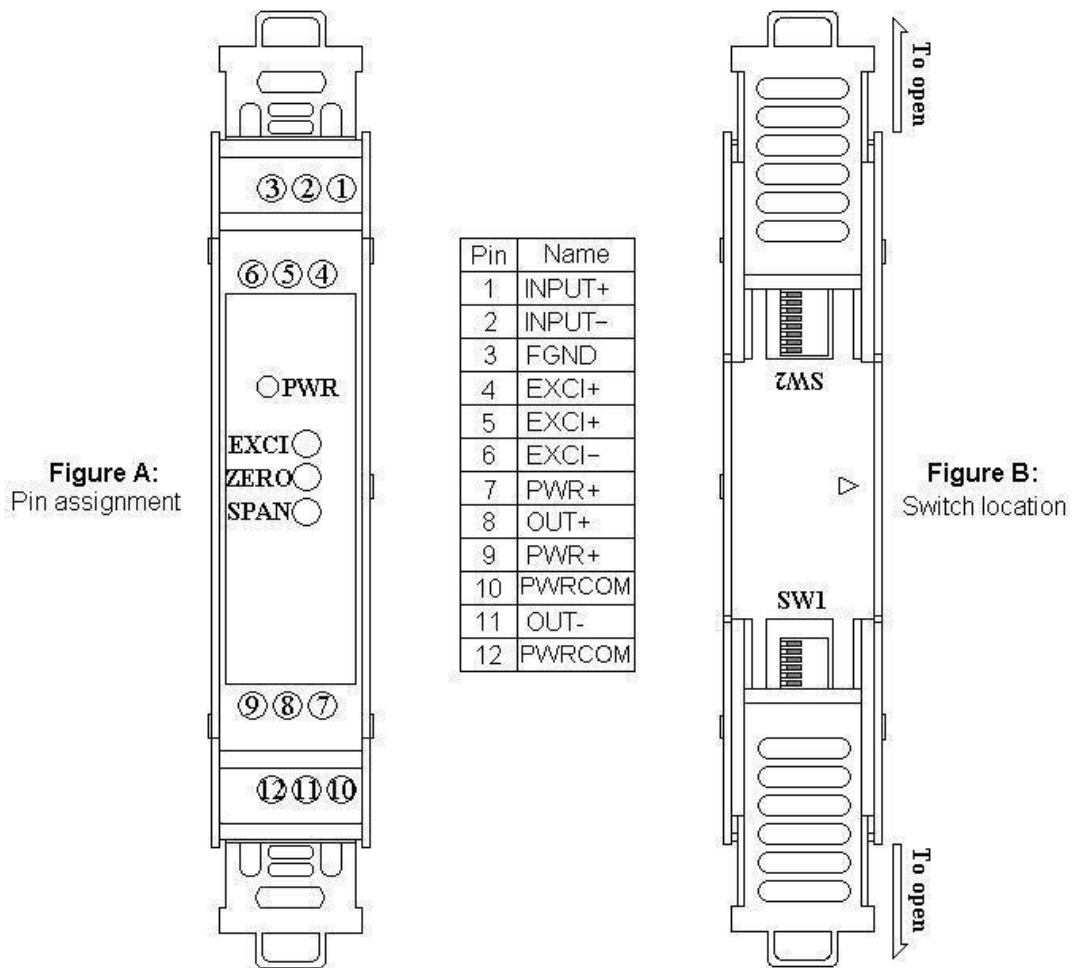
Supply Voltage

- 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 ~ 30 V_{DC}.

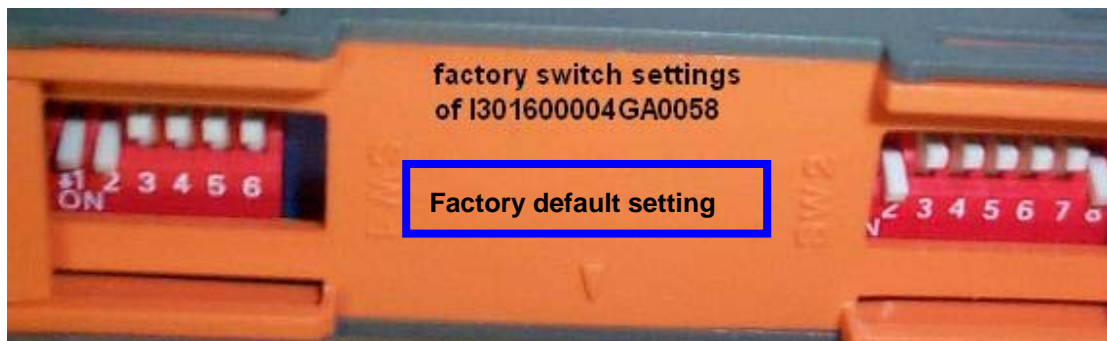
Table 1 and table 2 show the switch positions used to configure the input and output range. The I/O configuration switches are located inside the module. And can be accessed by removing the DIN-rail bracket covers by sliding them in the direction shown in Figure B.



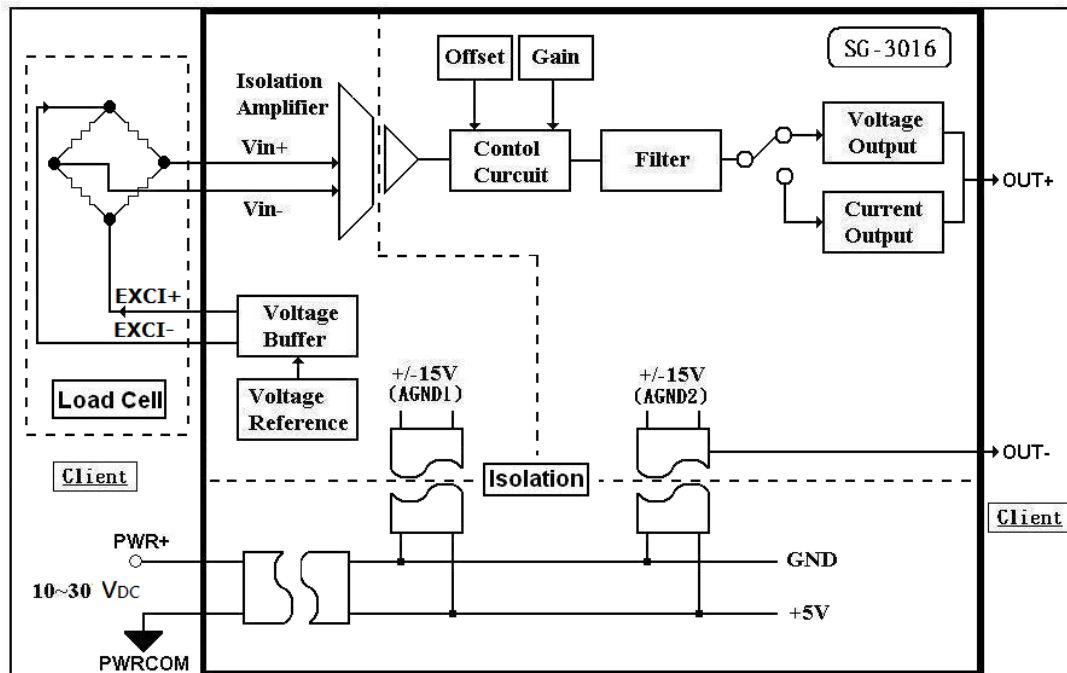
Factory default setting and label

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

* Factory default setting

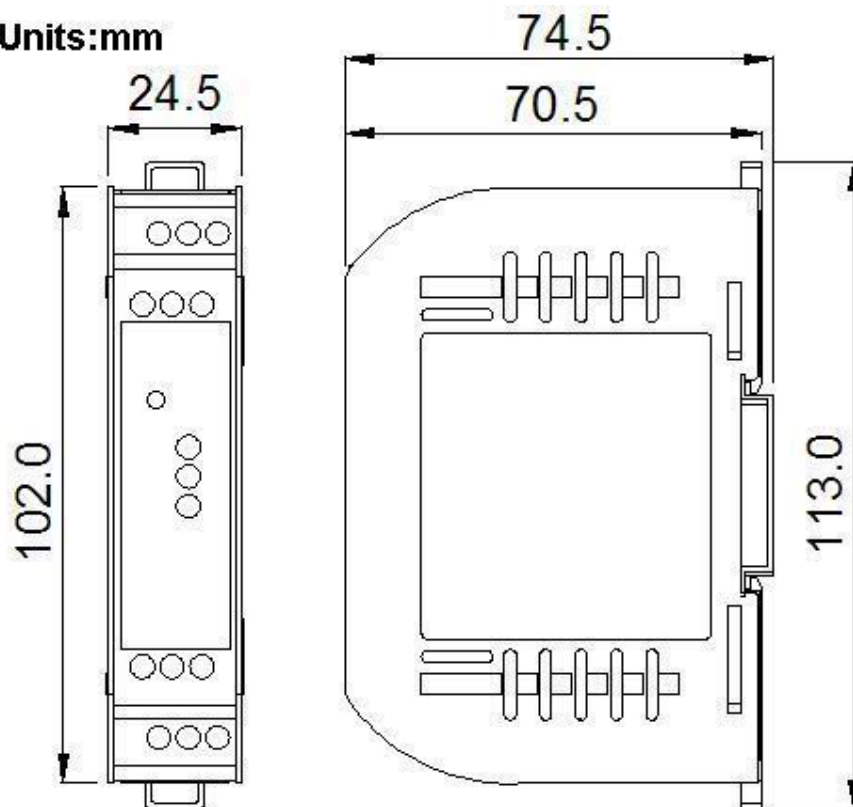


Block Diagram



Dimensions

Units:mm



Technical Service:

Please E-mail your problem description to service@icpdas.com if you have any questions.

More detail information: www.icpdas.com