

## **SG-3081 Isolated Current Input / Output Module User's Manual**

### **Introduction**

The SG-3081 is a current input to voltage or current output signal conditioning module. It has 1000 VDC three-way isolation for input, output and power. And it also can change the input/output range via internal configuration switches.

The SG-3081 has an LED display to show whether the SG-3081 is functioning correctly and has two VRs (Zero, Span) to calibrate the input/output range accuracy.

The bandwidth of the SG-3081 is typically 1 kHz. It's easy to mount the SG-3081 on a standard DIN rail and can operate in environments with wide temperature range.

### **Specifications**

#### **Current input:**

- Unipolar: 0 ~ 20 mA, 4 ~ 20 mA
- Input impedance: 250  $\Omega$
- Input bandwidth: 1 kHz

#### **Voltage output:**

- Unipolar: 0 ~ 5 VDC, 0 ~ 10 VDC
- Output impedance: < 50  $\Omega$
- Drive: 10 mA (max.)

#### **Current Output:**

- Current: 0 ~ 20 mA, 4 ~ 20 mA
- Current load resistor: 0 ~ 500  $\Omega$  (Source)

#### **General**

- Three-way isolation: 1500 VAC
- Accuracy:  $\pm 0.1$  % of full range (typical)
- Operation temperature range: -25  $^{\circ}$ C ~ 75  $^{\circ}$ C
- Storage temperature range: -30  $^{\circ}$ C ~ 85  $^{\circ}$ C
- Weight: 95.5 gram

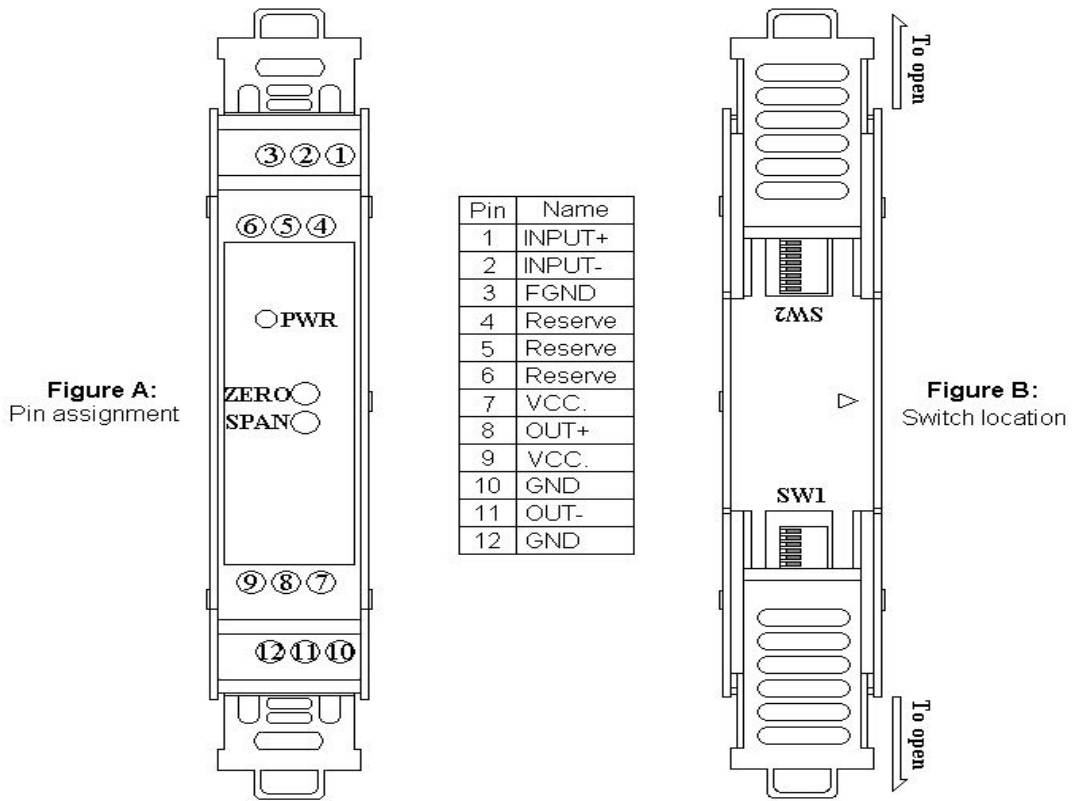
#### **Supply Voltage**

- Input Range: 10 ~ 30 VDC
- Consumption: 1.61 W (Voltage Output)  
2.10 W (Current Output)

**Configuration**

The terminal wiring for the SG-3081 is shown in Figure A. Positive power terminals pins 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-3081 uses a power input range of 10 ~ 30 Vdc.

Table 1 shows 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.



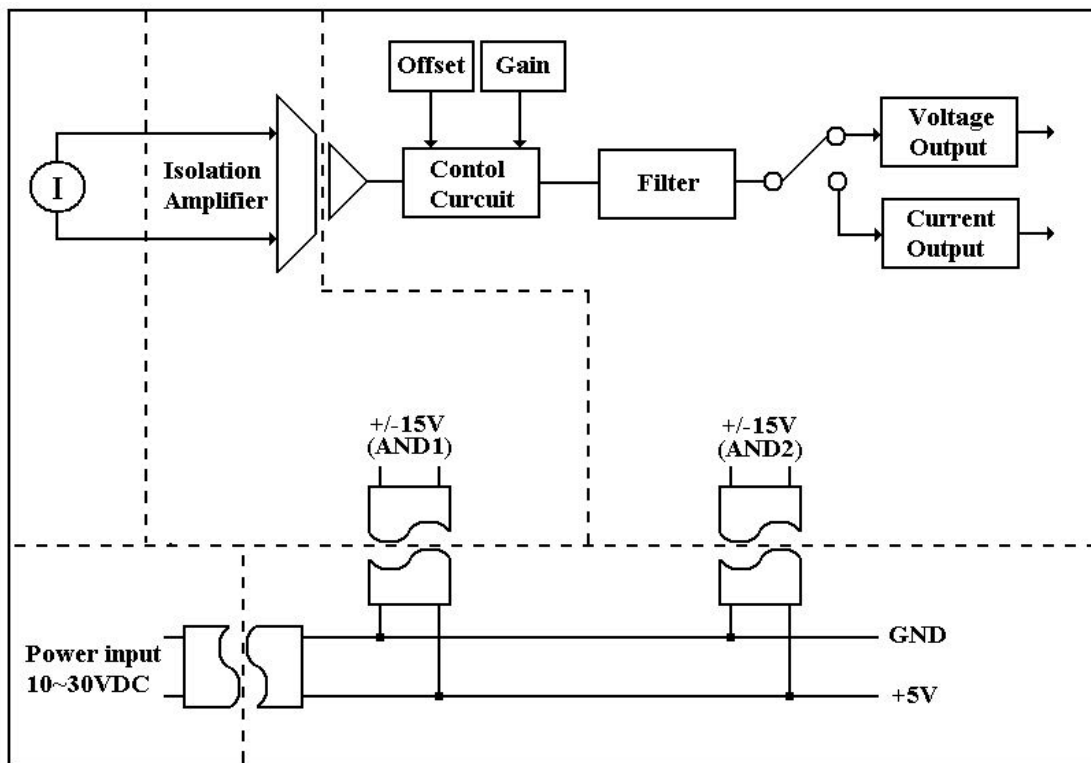
Switch setting : <input checked="" type="checkbox"/> ON <input type="checkbox"/> OFF																	
SG3081		(SW1)						(SW2)						Jumper			
Configuration		1	2	3	4	5	6	1	2	3	4	5	6	7	8	1	2
(INPUT)	(OUTPUT)																
4~20mA	4~20mA	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4~20mA	0~20mA	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4~20mA	0~10V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4~20mA	0~5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0~20mA	0~20mA	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0~20mA	4~20mA	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
0~20mA	0~10V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
* 0~20mA	0~5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

\*

\* Factory default setting

Table 1: Input to output range (SW1, 2, Jumper1, 2)

## Block Diagram



## Dimensions

Units:mm

