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 Ω
- Input bandwidth: 1 kHz

Voltage output:
- Unipolar: 0 ~ 5 VDC, 0 ~ 10 VDC
- Output impedance: < 50 Ω
- Drive: 10 mA (max.)

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

General
- Three-way isolation: 1500 VAC
- Accuracy: ±0.1 % of full range (typical)
- Operation temperature range:-25 °C ~ 75 °C
- Storage temperature range:-30 °C ~ 85 °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.

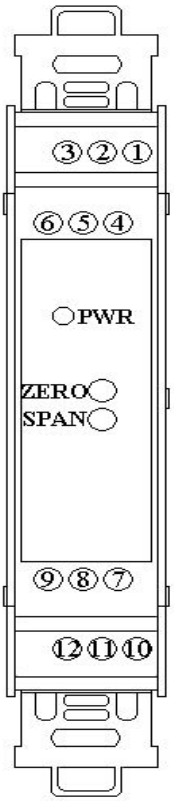


Figure A:
Pin assignment

Pin	Name
1	INPUT+
2	INPUT-
3	FGND
4	Reserve
5	Reserve
6	Reserve
7	VCC.
8	OUT+
9	VCC.
10	GND
11	OUT-
12	GND

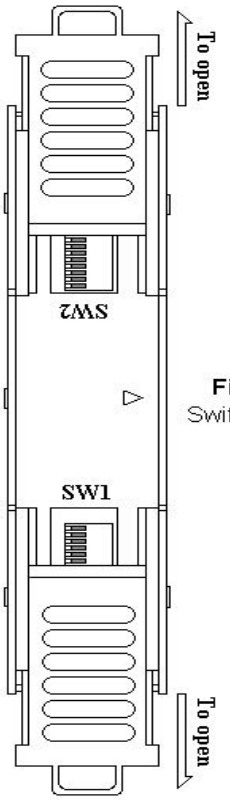


Figure B:
Switch location

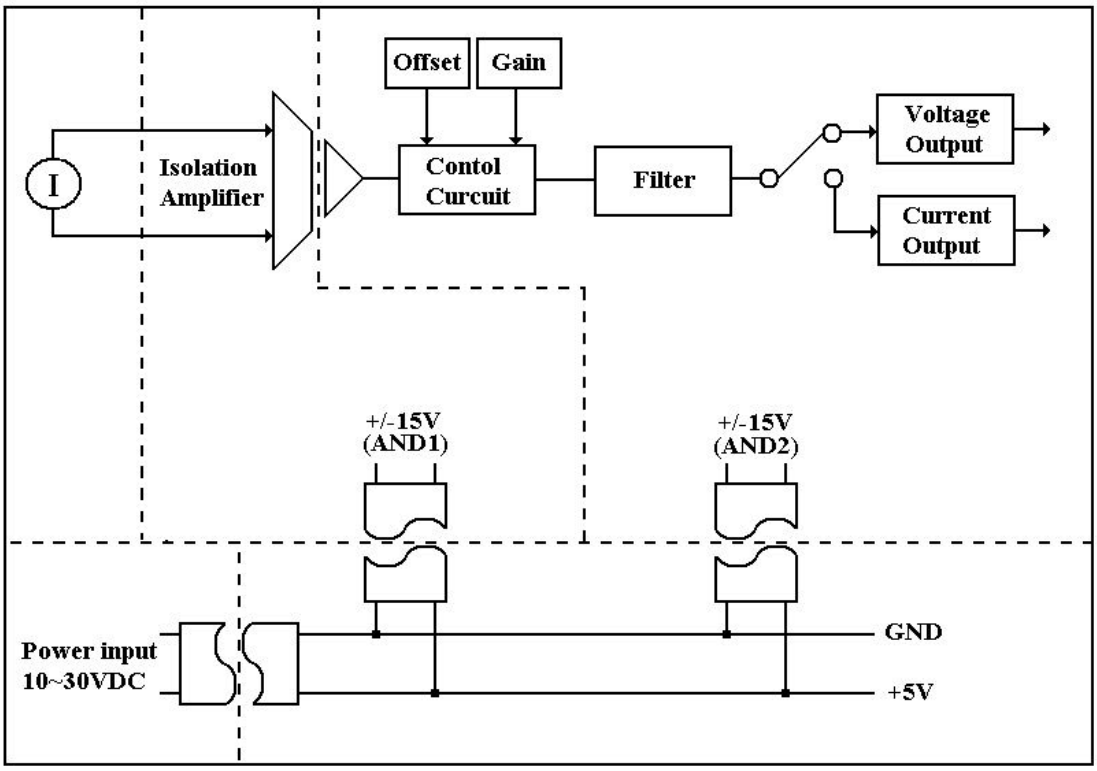
Switch setting : ■ ON □ OFF

SG3081 Configuration		(SW1)						(SW2)								Jumper	
		1	2	3	4	5	6	1	2	3	4	5	6	7	8	1	2
(INPUT)	(OUTPUT)																
4~20mA	4~20mA	□	■	□	■	□	■	■	□	□	□	□	□	□	□	□	□
4~20mA	0~20mA	□	■	□	■	□	■	□	■	□	■	□	■	□	■	□	□
4~20mA	0~10V	■	□	■	□	■	□	□	■	■	□	□	■	□	■	□	□
4~20mA	0~5V	■	□	■	□	■	□	□	■	□	■	□	■	□	■	□	□
0~20mA	0~20mA	□	■	□	■	□	■	■	□	□	□	□	□	□	□	□	□
0~20mA	4~20mA	□	■	□	■	□	■	□	■	□	□	■	□	■	■	■	■
0~20mA	0~10V	■	□	■	□	■	□	■	□	□	□	□	□	■	□	□	□
* 0~20mA	0~5V	■	□	■	□	■	□	■	□	□	□	□	□	□	□	□	□

* Factory default setting

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

Block Diagram



Dimensions