

# SG-3071 Isolated Voltage Input/Output Module

## User's Manual

### **Introduction**

The SG-3071 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-3071 has an LED display to show whether the SG-3071 is functioning correctly and has two VRs (Zero, Span) to calibrate the input/output range accuracy.

The bandwidth of the SG-3071 is typically 1 kHz. It's easy to mount the SG-3071 on a standard DIN rail and can operate in environments with wide temperature range.

### **Specifications**

#### **Voltage input:**

- Bipolar:  $\pm 5$  VDC,  $\pm 10$  VDC
- Unipolar: 0 ~ 5 VDC, 0 ~ 10 VDC
- Input impedance: 2 M $\Omega$
- Input bandwidth: 1 kHz (typical) @ -3 dB

#### **Voltage output:**

- Bipolar:  $\pm 5$  VDC,  $\pm 10$  VDC
- Drive: 10 mA (max.)
- Output impedance: < 50  $\Omega$

#### **Current Output:**

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

#### **General**

- Three-way isolation: 1000 VDC
- 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
- Operation bandwidth: 1 kHz
- Weight: 94 gram

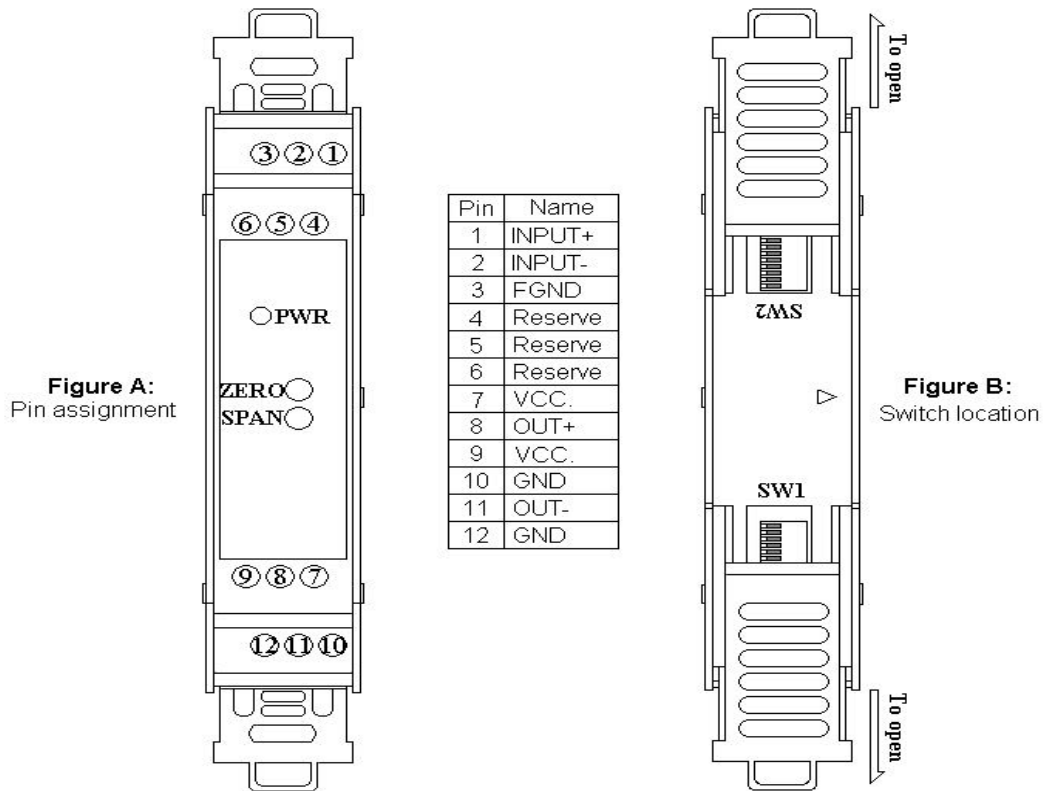
#### **Supply Voltage**

- Input Range: 10 ~ 30 VDC @ 24 VDC (Typical)
- Consumption: 1.80 W (voltage output)  
2.30 W (current output)

**Configuration**

The terminal wiring for the SG-3071 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-3071 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.



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

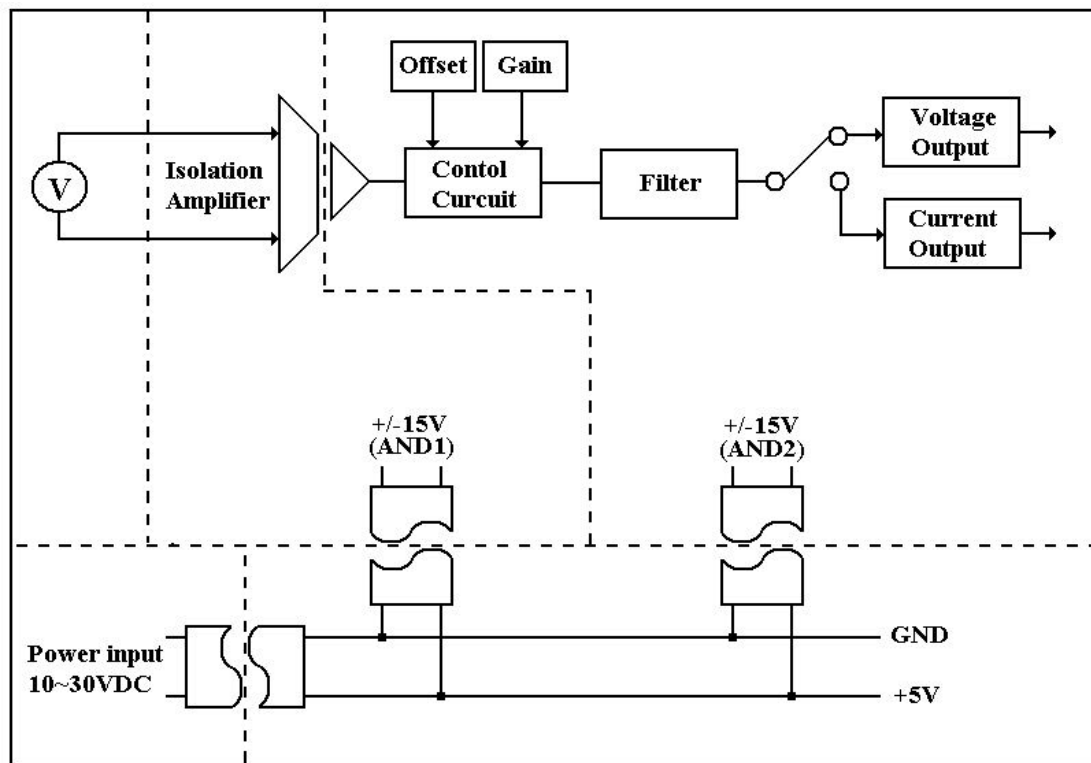
Switch setting :  ON  OFF

SG3071		(SW1)					(SW2)				
Configuration		1	2	3	4	5	1	2	3	4	5
(INPUT)	(OUTPUT)										
±10V	±10V	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
±10V	±5V	<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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
±5V	±5V	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
±5V	±10V	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0~10V	4~20mA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
0~10V	0~20mA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0~5V	4~20mA	<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 checked="" type="checkbox"/>	<input type="checkbox"/>
0~5V	0~20mA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Table 1: Input to output range (SW1、2)**

**\* Factory default setting**

## Block Diagram



## Dimensions

Units:mm

