

10.3. Signal Conditioning Modules (SG-3000 Series)

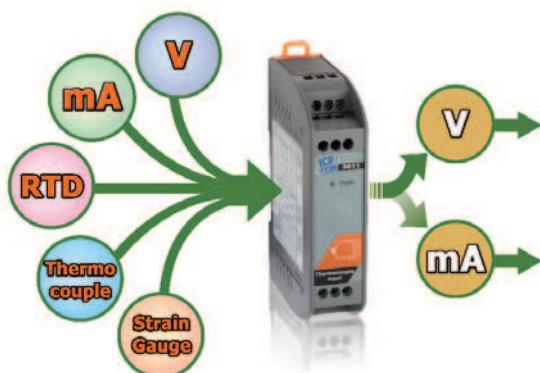
■ Introduction

SG-3000 series signal conditioning modules are used to accept wide range of input signals, such as voltage, current, temperature (thermocouple and RTD) and provide 0 ~ 10 Vdc , 0 ~ 20 mA, 4 ~ 20 mA output signals.

It gives following good features for industrial applications

- 3-way (power/input/output) isolation (1000 Vdc)
- Wide operating temperature (-25 ~ +75°C)
- DIN-Rail mounting
- Input and output connectors on the opposite side
- Signal range configurable by switch

■ Applications



■ Description

Analog Conditioning Modules					
Models	SG-3011	SG-3013	SG-3016	SG-3071	SG-3081
Pictures					
Analog Input					
Channel	1	1	1	1	1
Wiring	Differential	2/3/4 wires	Differential	Differential	Differential
Signal	Thermocouple	RTD	Strain Gauge	Voltage	Current
Type	Type J, K, T, E, R, S, B, N, C, L, M, L2	Pt100 $\alpha=0.00385$, Pt100 $\alpha=0.003916$, Ni 120, Pt100 $\alpha=0.00385$	$\pm 10 \text{ mV}$, $\pm 20 \text{ mV}$, $\pm 30 \text{ mV}$, $\pm 50 \text{ mV}$, $\pm 100 \text{ mV}$	$\pm 5 \text{ V}$, $\pm 10 \text{ V}$	$0 \sim 20 \text{ mA}$, $4 \sim 20 \text{ mA}$
Resolution	12-bit	12-bit	-	-	-
Accuracy	$\pm 0.2\%$ of FSR	$\pm 0.1\%$ of FSR	$\pm 0.1\%$ of FSR	$\pm 0.1\%$ of FSR	$\pm 0.1\%$ of FSR
Input Impedance	$1.8 \text{ M}\Omega$	-	-	$1.6 \text{ M}\Omega$	250Ω
Excitation Voltage	-	-	$0 \sim 10 \text{ V}$	-	-
Analog Output					
Channel	1	1	1	1	1
Type	$0 \sim 10 \text{ V}$ (Drive 10 mA Max.)	$0 \sim 20 \text{ mA}$, $4 \sim 20 \text{ mA}$	$0 \sim 20 \text{ mA}$	$0 \sim 20 \text{ mA}$, $4 \sim 20 \text{ mA}$	$0 \sim 20 \text{ mA}$, $4 \sim 20 \text{ mA}$
Output Capacity	$<50 \Omega$	$<50 \Omega$	$<50 \Omega$	$<50 \Omega$ (10 mA Max.)	$<50 \Omega$ (10 mA Max.)
System					
3-way Isolation	1000 Vdc				
Power Input	$10 \sim 30 \text{ Vdc}$				
Power Consumption	1.44 W	1.2 W	1.44 W	1.8 W	1.61 W
Operating Temperature	$-25 \sim +75^\circ\text{C}$				
Dimensions (W x H x D)	25 mm x 114 mm x 71 mm				

Power Conditioning Modules				
Models	PW-3090-24S	PW-3090-12S	PW-3090-5S	PW-3090-4824S-12
Pictures				
Input	$18 \sim 30 \text{ V}$ (non-regulated)	$18 \sim 30 \text{ V}$ (non-regulated)	$18 \sim 30 \text{ V}$ (non-regulated)	48 V (non-regulated)
Output	24 V @ 0.4 A (Max.)	12 V @ 0.8 A (Max.)	5 V @ 2 A (Max.)	24V @ 0.5 A (Max.)
Isolation	1000 Vdc			
Efficiency	83% Typical			
Operating Temperature	$-25 \sim +75^\circ\text{C}$			
Dimensions (W x H x D)	25 mm x 114 mm x 71 mm			