

SIA07A SPECIAL FUNCTION ANALOG SIGNAL INTERFACE

FEATURES

- ❖ Second power supply for sensors, etc.
- ❖ 6 simultaneous signal inputs
- ❖ EMI noise filtering on outputs
- ❖ ZERO and SPAN adjustments

APPLICATIONS

- ❖ High/Low signal selection
- ❖ Signal summing
- ❖ Sensor averaging
- ❖ Custom signal scaling

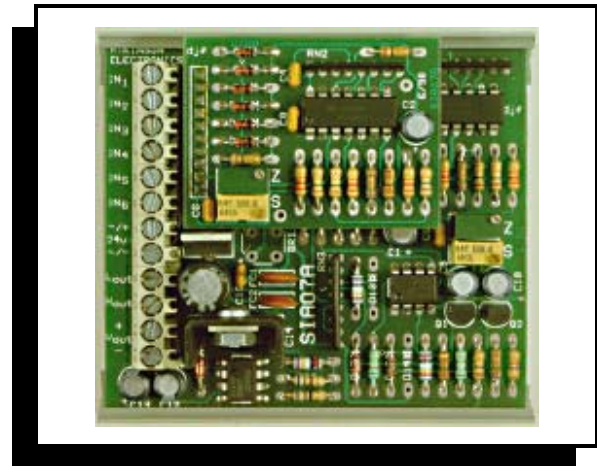
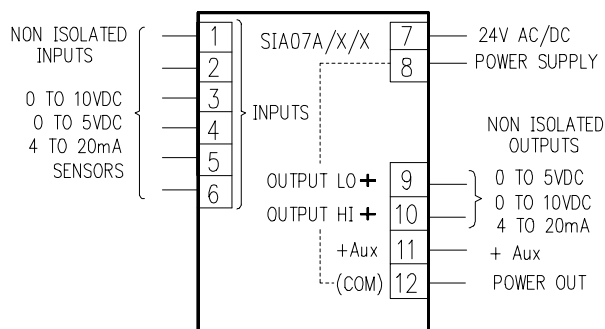
DESCRIPTION

The SIA07A is a multiple input, special function interface module. It is designed to perform high or low signal selection, averaging, summing, or signal scaling. The SIA07A can be configured to accept up to six like analog signals. It will provide a standard or custom voltage signal or 4-20mA signal output. It has an AUX 24V DC @ 150mA power supply option for powering six current loops.

OPERATION

The SIA07A is configured to be powered by either 24VAC (full-wave bridge rectifier) or 24V AC/DC (half-wave rectifier) on terminals 7 & 8. The 24V AC is rectified, filtered, and fed to two regulators one for internal use and the other for external use. The input signal connections are made on terminals 1 through 6 with terminal 12 representing the input common. These signals pass through diodes or resistors which perform either high or low select, averaging, or summing of up to six (6) like signals, the result is fed into the amplifier section where it is scaled to the desired output. ZERO and SPAN potentiometers provide field calibration of the output signal.

WIRING CONFIGURATION

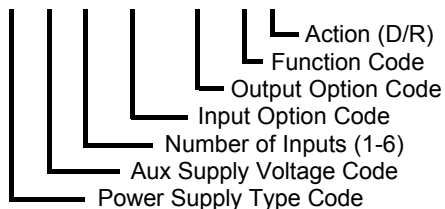


SPECIFICATIONS

SIZE:	3.4" L x 3" W x 1.5" H
MOUNTING:	3" RDI snap-track (supplied).
POWER:	24V AC, $\pm 10\%$, 50/60Hz, 2VA 24V DC, $\pm 15\%$, @ 85 mA
AUX VOLTAGE REF:	+5-24V DC @ 150 mA maximum
INPUT SIGNALS:	Sensor signals, 0-1V through 0-10V DC, 4-20 mA Six (6) non-isolated inputs.
INPUT IMPEDANCE:	>100k Ω for voltage inputs 250 Ω for 4 to 20mA inputs
FUNCTION:	High select, Low select, High & low select Average, Summing, or Scaling of one to five input signals.
OUTPUT SIGNALS:	0-5V DC or 0-10V DC Custom DC voltages 4-20 mA output
ACTION:	Direct./Reverse factory set.
ADJUSTMENT:	ZERO & SPAN $\pm 20\%$
AMBIENT TEMP:	0 to 50°C

ORDERING INFORMATION

SIA07A/X/XX/X/XXX/XXX/X/X



POWER SUPPLY TYPE CODE OPTIONS

- F - Full-wave bridge rectifier,
Terminal 12 floating in reference to 24V AC.
- H - Half-wave rectifier,
Terminal 12 common to 24V AC (terminal 8).

AUX VOLTAGE SUPPLY CODE OPTIONS

Terminal Block # 11 output voltage options:

- 05 - 5V DC output, max. Load 100 mA.
- 15 - 15V DC output, max. Load 100 mA.
- 24 - 24V DC output, max. Load 150 mA.

INPUT CODE OPTIONS

- 1-5V - 1 to 5V DC inputs.
- 5V - 0 to 5V DC inputs.
- 10V - 0 to 10V DC inputs.
- mA - 4 to 20 mA With 249Ω load.
- VDC - Custom voltage input.

Custom sensor inputs specify type and temp range.

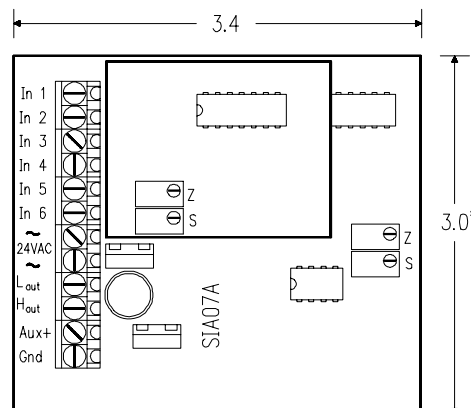
- RTD-1K - RTD 1000 ohm sensor inputs.
- AD590 - AD590 sensor inputs.
- SCS-XX - Staefa sensor inputs.

ORDERING CODE EXAMPLES

- SIA07A/F//4/10V/10V/S - SIA07A with full-wave bridge rectifier, no Aux supply, Four (4) 0 to 10V DC input signals, Summing with a direct acting 0 to 10V DC output signal.
- SIA07A/F//6/MA/MA/H - SIA07A with full-wave bridge rectifier, no Aux supply, Six (6) 4 to 20mA input signals, High select with a direct acting 4 to 20mA output signal.
- SIA07A/H//2/1-5V/5V/HL - SIA07A with half wave rectifier, no Aux pwr. supply, Two (2) 1 to 5V DC input signals, High & Low select with direct acting 0 to 5V DC output signals.
- SIA07A/H/5V/3/RTD-1K/5V/A - SIA07A with half-wave rectifier, 5V Aux supply, Three (3) stand-alone 1000Ω RTD sensor inputs with pull-ups, Average with a direct acting 0 to 5V DC output signal.
- SIA07A/H//2/SCS-T30/5V/A/R - SIA07A with half-wave rectifier, no Aux supply, Two (2) Staefa T-30 sensors voltages, Average with a Reverse acting 0 to 5V DC output signal.
- SIA07A/F//5/CV/CVO/H - SIA07A with full-wave bridge rectifier, no Aux supply, Five (5) custom voltage input signals, High select with a direct acting custom DC voltage output signal.

Call for other calibration ranges and versions.

PHYSICAL CONFIGURATION



OUTPUT CODE OPTIONS

- 5V - 0 to 5V DC, 2KΩ min.
- 10V - 0 to 10V DC, 2KΩ min.
- VDC - Custom voltage output, specify voltage.
- mA - 4 to 20 mA, 600Ω max.

FUNCTION CODE OPERATION

- H - High select of 2 to 6 input signals.
- L - Low select of 2 to 6 input signals.
- HL - High & Low select of 2 to 6 input signals.
- A - Average of 2 to 6 input signals.
- S - Summing of 2 to 6 input signals.
- C - Custom signal scaling to 1 input.

OPERATION ACTION CODE OPTIONS

- R - Reverse action.
Leave blank for Direct action operation.