

DC Input Socket Mount Field Configurable Signal Conditioners



SMSC Series



- ✓ **Single Channel Model (SMSC-1)**
Provides Isolated DC Output in Proportion to a DC Input
- ✓ **Dual Channel Model (SMSC-2)** Provides Two Independent Isolated DC Outputs in Proportion to Two DC Inputs
- ✓ **Eliminates Ground Loops**
- ✓ **50% Adjustable Field Configurable Input Ranges:** 10 mV to 100V, 1 to 100 mA
- ✓ **Four Field Configurable Output Ranges:** 0 to 5V, 0 to 10V, 0 to 1 mA, 4 to 20 mA
- ✓ **Plug-In Installation**
- ✓ **Selectable 120/240 Vac Power**
- ✓ **ASIC Technology for Enhanced Reliability**

The field configurable SMSC Series isolators offer wide ranging input and output capability for scaling and transmitting analog DC signals. The SMSC Series will accept input voltage spans from 10 mV up to 100V, as well as input current spans from 1 mA to 100 mA. The input zero and span potentiometers enable 50% input zero and span adjustability. For example, the 0 to 10V input range can be elevated to 5 to 10V, compressed to 0 to 5V or set to 2.5 to 7.5V.

The SMSC Series offers four (4) popular output ranges: 0 to 5V, 0 to 10V, 0 to 1 mA and 4 to 20 mA. The 4 to 20 mA compliance is a powerful 20 Vdc. The SMSC Series can be configured to accept bipolar input ranges and offers selectable normal or reverse acting operation.

The SMSC series is a 3-port industrial isolator—the output(s) are optically isolated from the input(s) up to 1500 Vdc. The ASIC-based I/O channel(s) are independently transformer isolated from the selectable 120/240 Vac power supply.

The SMSC Series field configurable isolators are useful in eliminating ground loops, converting signal levels and providing signal drive and redundancy. The wide ranging capability of the SMSC Series provides quick universal spare part coverage.

The SMSC Series is equipped with a dual function LED signal monitor. The green, top-mounted LED indicates line power and input signal status. Active line power is indicated by an illuminated LED. If the input signal is 10% more than full scale range, the LED will flash at 8 Hz. Below 0%, the flash rate is 4 Hz.

The factory presets the SMSC Series input(s) and output(s) to 4 to 20 mA. The supply power is configured for 120 Vac operation.



SMSC-2 shown smaller than actual size.

Specifications

INPUT

SMSC-1: 1 channel

SMSC-2: 2 channels (each channel can be independently set for I/O range)

Voltage Input:

Range: 20 mV, 50 mV, 100 mV, 200 mV, 500 mV, 1V, 2V, 5V, 10V, 25V, 50V, 100V (dip-switch selectable)

Impedance: >100 k Ω

Overvoltage: Intermittent, 400 Vrms; continuous, 264 Vrms

Current Input:

Full Scale Range: 2 mA, 5 mA, 10 mA, 20 mA, 50 mA, 100 mA (dip-switch selectable)

Impedance: 20 Ω , typical

Overcurrent: 170 mA RMS, max

Overvoltage: 60 Vdc

Common Mode (Input to Ground): 1500 Vdc, max

Zero Turn-Up: 50% of full scale range

Span Turn-Down: 50% of full scale range

OUTPUT

SMSC-1: 1 channel

SMSC-2: 2 channels (each channel can be independently set for I/O range)

Voltage Output:

Range: 0 to 5V, 0 to 10V

Drive: 10 mA, max (1 k Ω min @ 10V)

Current Output:

Range: 0 to 1 mA, 4 to 20 mA

Compliance:

0 to 1 mA: 10V, max (10 k Ω , max)

4 to 20 mA: 20V, max (1 k Ω , max)



LED Indication (Green):

Input Range: >110% input: 8 Hz flash; <0% input: 4 Hz flash

Accuracy (Including Linearity and Hysteresis):

<20 mV/2 mA: $\pm 0.35\%$ of full scale, typical, 0.5%, max

>20 mV/2 mA: $\pm 0.1\%$ of full scale, typical, 0.2%, max

Response Time (10 to 90%): 200 msec, typical

Stability (Temp): $\pm 0.025\%$ of full scale/ $^{\circ}\text{C}$, typical; $\pm 0.05\%$ / $^{\circ}\text{C}$, max

Common Mode Rejection: DC to 60 Hz: 120 dB

Isolation: 1500 Vdc between input, output and power

ESD Susceptibility: Meets IEC 801-2, Level 2 (4 KV)

Humidity (Non-Condensing):

Operating: 15 to 95% RH @ 45°C (113°F)

Soak: 90% RH for 24 hours @ 45°C (113°F)

Temperature Range:

Operating: -15 to 60°C (5 to 140°F)

Storage: -25 to 70°C (-13 to 158°F)

Power:

Consumption: 3 W typical, 5 W max

Standard: Selectable 120/240 Vac, $\pm 10\%$, 50 to 60 Hz

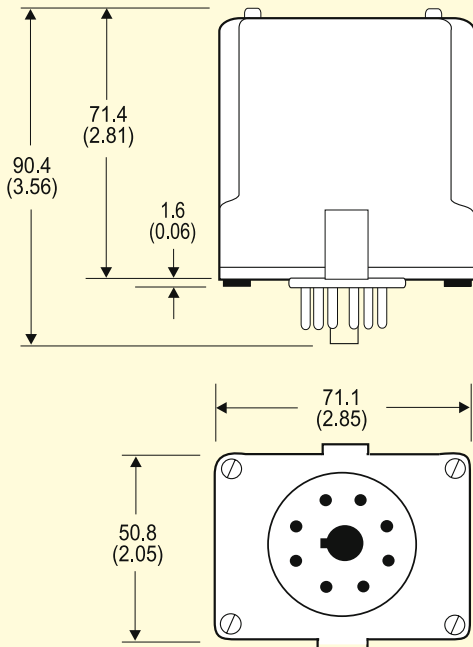
Weight:

SMSC-1: 272 g (0.60 lb)

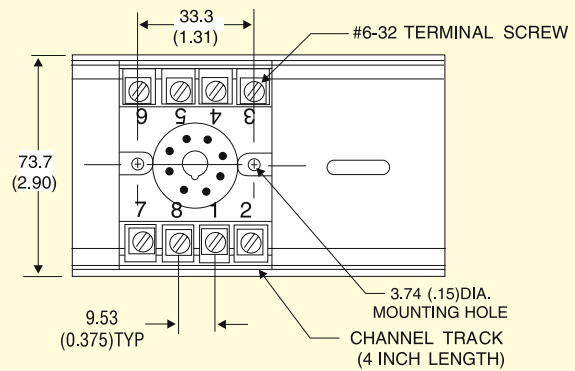
SMSC-2: 300 g (0.66 lb)

Dimensions: mm (inches)

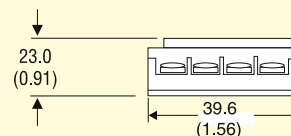
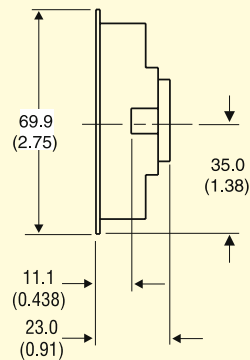
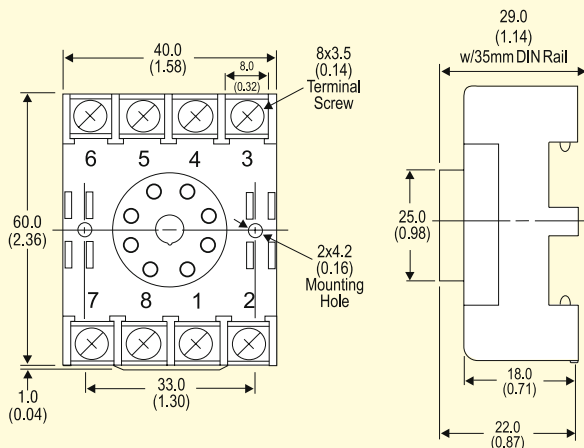
SMSC-1



**SKT-SM-8P
(track/surface)
for SMSC-1**

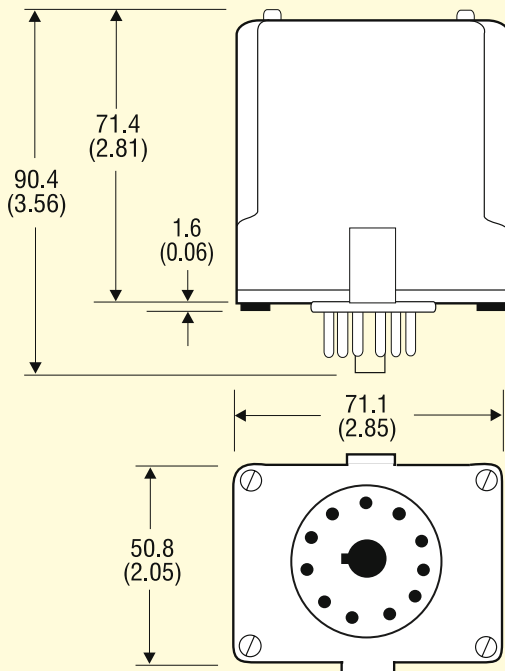


SKT-DR-8P (DIN rail) for SMSC-1

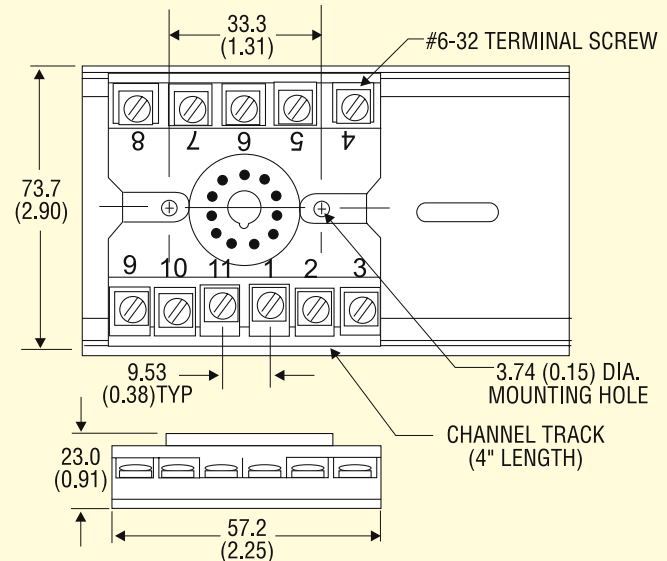


Dimensions: mm (inches)

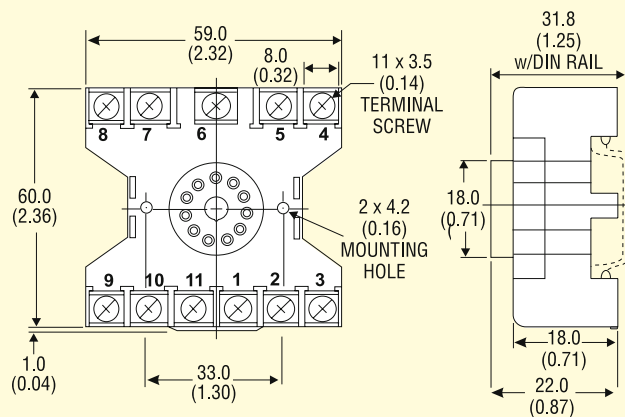
SMSC-2



SKT-SM-11P
(track/surface)
for SMSC-2



SKT-DR-11P (DIN rail) for SMSC-2



OMEGACARESM extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARESM covers parts, labor and equivalent loaners.

To Order

Model No.	Description
SMSC-1	Single channel DC input socket mount field configurable signal conditioner
SMSC-2	Dual channel DC input socket mount field configurable signal conditioner
SKT-DR-8P	8-pin socket, DIN rail mount, for SMSC-1
SKT-DR-11P	11-pin socket, DIN rail mount, for SMSC-2
SKT-SM-8P	8-pin socket, surface mount, for SMSC-1
SKT-SM-11P	11-pin socket, surface mount, for SMSC-2
SM-RAIL-2	35 mm DIN rail, 2 m (6.6') length
SMRS	Retaining spring (secures signal conditioner module into DIN rail or surface mount socket)

Comes with complete operator's manual.

Ordering Example: **SMSC-1** single channel DC input socket mount field configurable signal conditioner, **SKT-SM-8P** 8-pin socket, surface mount and **OCW-1** OMEGACARE extends standard 1 year warranty to a total of 2 years.