



DynAmp

SI-4184

Shunt Isolator



Description

The SI-4184 Signal Isolator provides an isolated voltage and current output proportional to the input voltage signal from a DynAmp High Current Measuring System. Gain and zero offsets are configured by microprocessor and the design conforms to appropriate CE standards.

The voltage input range has been set to match the voltage output from the DynAmp High Current measuring system. The unit provides a primary and secondary output that can be specified for standard or special currents and voltages within the signal range. The standard primary 20mA current output is available with a simultaneous secondary voltage output of 1V to 10V. A buffered output option is available that allows connection to low impedance loads without degrading the output accuracy. This is a voltage only output without simultaneous current output.

Application

The SI-4184 Signal Isolator provides a separately scaled output for the current measurement system that has galvanic separation of the analog signals. This eliminates signal ground loops and provides a low current loop signal path for transmission to remote locations through electrically noisy environments.

Specifications

Input from current measurement system:

LKP Systems Voltage from shunt
LKCO Systems Voltage from LKCO shunt

Generic Current Input Range : $\pm 100\text{mA}$ (0.5mA Min.)
Generic Voltage input Range : $\pm 300\text{Vdc}$ (25mV Min.)

Current Output:

Signal range 0 ... $\pm 20\text{mA}$
Minimum signal span 4mA
Load (max) 20 mA / 1000 Ω
Load stability $< \pm 0.001\%$ FS/100 Ω
Current limit 23 mA

Voltage output (via isolator internal shunt):

Signal range (with 0-20mA) 0...1V or 0...10V
(with 4-20mA) 0.2...1V or 2...10V
Minimum Signal Span 800mV
Load (min) 1M Ω

Voltage output (buffered):

Signal range 0 ... $\pm 23\text{V}$
Load (min) 2000 Ω

Current output option is not available with buffered output.

General Specifications:

Isolation, test 2.3 kVAC / 250 VAC
Working voltage 250vac (reinforced) / 500 VAC (basic)
Accuracy (of selected range) $\pm 0.1\%*$
Temperature Range -20 to +60 $^{\circ}\text{C}$ (-4 to +140 $^{\circ}\text{F}$)
Temperature coefficient $< \pm 0.01\%$ FS/ $^{\circ}\text{C}$
Signal/noise ratio min. 60 dB
EMC-immunity influence $< \pm 0.5\%$ FS
Response time (0 ...90%) $< 20\text{ms}$
Bandwidth $> 40\text{Hz}$
Relative humidity 0 ... 90% RH (non-condensing)
Supply voltage, universal 21.6 to 253 VAC, 50 ... 60 Hz or 19.2...300VDC
Max. power consumption 2.5 W

Physical:

Dimensions 4.3 x 0.93 x 4.1 Inches
109 x 23.5 x 104 mm
Mounting DIN Rail
Enclosure rating IP 20
Weight 5.5 oz. / 155 g
Storage Temperature: -20 to 85 $^{\circ}\text{C}$ / -4 to 185 $^{\circ}\text{F}$
Storage Humidity 0... 95% RH, (non-condensing)

Observed authority requirements – Standard:

LVD 2014/35/EU
EMC 2014/30/EU
RoHS 2011/65/EU

Approvals

c UL us, UL 508 / C22.2 No.14 E248256

* At calibration point, under reference conditions
Specifications subject to change without notice

Ordering Information

Please specify:

1. Standard Model SI-4184, item number 47765
2. Replacement kit for SI-2284, item number 47761
3. Requires completed Isolator Worksheet BEN061
Input voltage range.

Replacement of SI2284 requires retrofit kit. Item number 47761