Flowmetrics, Inc.
"Where Quality is Measureable"
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SC-II SERIES

2-Wire Current to Current Loop Powered Isolator

Features

- 4-20 mA Input (10-50 mA optional)
- 2-Wire, 4-20 mA Output (10-50 mA optional)
- Two Year Warranty
- Loop Powered
- Input & Output LED Indicators
- Various Mounting Styles
- 0 to 10 kHz Pulse Output Option (SC-IF only)

Description:
The SC-II loop powered isolator is a signal conditioner whose function is to provide a retransmitted, galvanically isolated 4-20 mA output signal in response to isolated 4-20 analog input.

The loop powered isolator may be applied in a similar manner as a conventional two wire transmitter.

The SC-II appears to the input loop as a series shunt resistor. A small sense resistor is used to measure the input current. The input loop derives it's power from the input current loop.

This input current signal is then scaled and converted to a 0 to 10,000 Hz frequency signal by a Current to Frequency Converter. This frequency signal is then transmitted across an opto-isolator to the output stage.

The output stage derives it's power from the output current loop. The output stage converts the 0-10000 Hz frequency signal into a current flowing in the output loop equal to that flowing in the input current loop.

The 0 to 10 kHz output and the 10-50 mA range options are provided to enable the unit to perform range conversions as well as signal isolation.

Specifications:

Analog Input
Available Ranges: 4-20 mA (10-50 mA optional)
Input Type: Two Wire, Loop Powered
Equivalent Input Impedance: 525 Ω on 4-20 mA range
210 Ω on 10-50 mA range
Operational Range: 3.5-33 mA
Over Current Protection: 2.5 times rated span
Reverse Polarity Protection
Isolation Voltage: 500 V
Input Loop Indicator: LED illuminates when loop is powered by proper polarity

Analog Output (SC-II)
Accuracy: ± 0.10% Span
Output Type: Two Wire, Loop Powered
Range: 4-20 mA (10 - 50 mA optional)
Compliance Voltage: 10 to 40 VDC
Loop Burden: < 10 VDC
Trim Controls: Zero & Span
Linearity: < ±0.10% Span
Output Voltage Effect: < ± 0.002% Span/Volt
Temperature Effect: < 200 PPM/C°
Reverse Polarity Protected
Noise Content: < 0.2% Span
Overcurrent Limiting: 35 mA
Output Loop Indicator: LED illuminates when output loop is powered by proper polarity

Pulse Output Option (SC-IF)
Output Type: Open Collector Transistor
Low Cutoff: 1% of full scale
Range: 0 to 10,000 Hz
Duty Cycle: 50/50 Duty Cycle (nominal)
Maximum Off Voltage: 30 VDC
Minimum On Current: 10 mA
Maximum On Voltage: 1 VDC
Temperature Effect: Less than 200 ppm/degree C
Reverse Polarity Protection

Mounting Styles
DIN Rail Mount: Plastic enclosure with a snap fastener for fitting to DIN 46 277 and DIN EN 50 022 assembly rails.

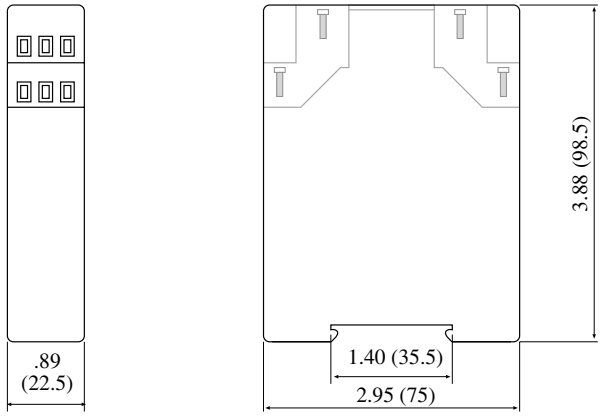
NEMA 4: 4.92" x 4.92" NEMA 4 Enclosure for wall mounting.

Explosion Proof: Aluminum enclosure for:
Class I, Division 1, Groups B, C & D
Class II, Division I, Groups E, F & G.

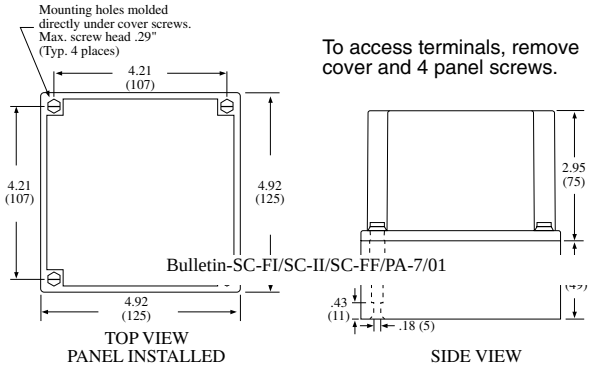
Listing: CE Approved, UL/CSA Pending

Dimensions

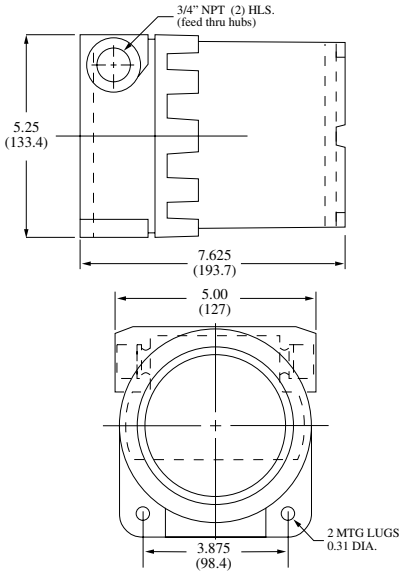
DIN Rail Mount



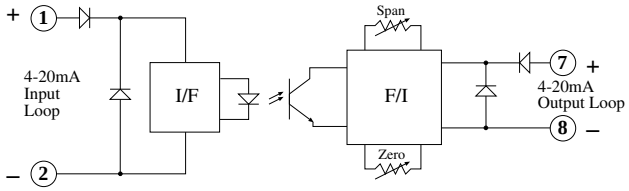
NEMA4



Explosion Proof Enclosure

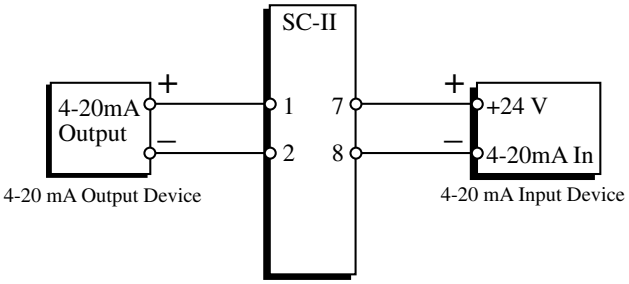


Simplified Block Diagram

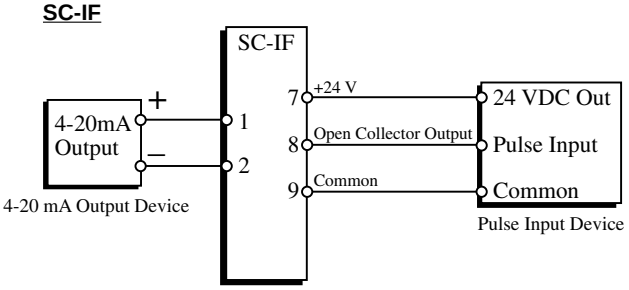


Typical Wiring Hookup

SC-II



SC-IF



Ordering Information

SC-II D ET

Series
- II= Current to Current
- IF= Current to Frequency

Mounting:
- B= Nema 4X
- C= Explosion Proof
- D= DIN Rail

Options:
- ET= Extended Temp: -4° to 185°F (-20° to 85° C)

Accessories: (add to end of part number)
- DR-4= 4" DIN Rail