Sensata Technologies

SC420i

Loop Powered Isolator

- ***Powered from 4-20mA input***
- ***Low Voltage Drop***
- ***High Accuracy***
- ***1kV Isolation***
- ***High Noise Immunity***
- ***Low Cost Solution***

The SC420i loop powered isolator is a 0(4)-20mA direct current isolator. The isolator derives its power from the input signal and therefore requires no external power supply.

The output of the isolator can be connected to any potential within 1kV of the input negative terminal while transients of 2.5kV can be withstood.

The isolator is typically used to enable two control and instrumentation devices, e.g. PLC and local chart recorder, with non-isolated inputs, to monitor the same transmitter output simultaneously.

Alternatively the isolator can be used to isolate signals from non-isolated transmitters or as a noise reduction device.

The device is housed in an ultra-compact DIN rail mounted enclosure, only 18mm wide.

General Specifications

Recommended Operating Conditions

Input Current	0(4)-20mA
Output Current	0(4)-20mA
Output Resistance	0-600Ω.
Overload Capacity	±50mA Input Current

Environmental Conditions

Storage Temperature	-40 to 100 ºC
Operating Ambient	-15 to 70 ºC
Relative Humidity	0-90 % RH

Other Considerations

The voltage drop across the device at 20mA input is: Vd = 3.2 + (RL x 0.02)

Technical Specifications

Parameter	Min	Typ	Max	Comments
Supply Voltage			Loop Power	
Input Current	4mA		20mA	
Full Scale Volt Drop see note		3.2V	3.5V	At 20mA Input
Output Linearity Error			±0.1%	
Temp Coefficient			90ppm/ºC	
Load Resistance Error			-200nA/Ω	0 < RL < 600Ω
Time Constant (10-90%)			30ms	
Operating Ambient	-15ºC		70ºC	
Relative Humidity	0%		90%	
Isolation Voltage	1kV			
Supply Voltage			Loop Power	
Input Current		-50mA	0-20mA	+50mA
Full Scale Volt Drop see note		3.2V	3.5V	At 20mA Input
Surge Voltage		2.5kV for 50µS		Transient of 10kV/µS

Notes

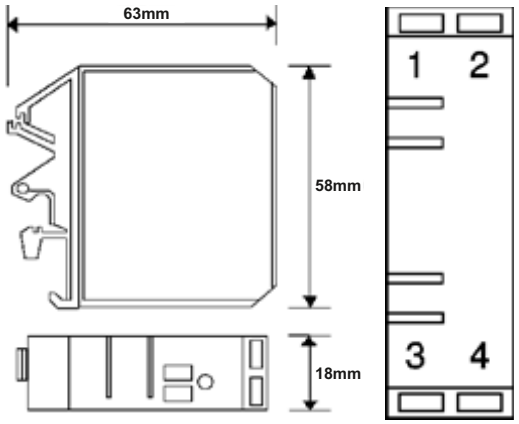
Absolute maximum ratings indicate sustained limits beyond which damage to the device may occur.
Device is protected against reverse polarity connection.
Accuracy figures based on 0-20mA input, 250Ω load resistance, and an ambient temperature of 20ºC.
Add volt drop due to load: 0.02 x RL e.g. 250Ω load total volt drop = 3.5 + (0.02 x 250) = 8.5V

Installation Data

Mounting	DIN Rail TS35
Orientation	Any
Connections	Screw Clamp with pressure plate
Conductor Size	0.5-4.0mm
Insulation Stripping	12mm
Weight	Approx 50g

Ordering Information

Part No.: Sc420i	4-20mA In 4-20mA Out



Connection Details
1. Output Channel +ve
2. Output Channel -ve
3. Input Channel +ve
4. Input Channel -ve

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