

## | SC-420I

### LOOP POWERED ISOLATOR



The SC-420i 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.

### Features

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

## SPECIFICATIONS

### General

<b>Recommended Operating Conditions</b>	
<b>Input Current</b>	0(4)-20mA
<b>Output Current</b>	0(4)-20mA
<b>Output Resistance</b>	0-600Ω
<b>Overload Capacity</b>	±50mA Input Current
<b>Environmental Conditions</b>	
<b>Storage Temperature</b>	-40°C to +100°C
<b>Operating Ambient</b>	-15°C to +70°C
<b>Relative Humidity</b>	0 - 90% RH
<b>Other Considerations</b>	The voltage drop across the device at 20mA input is: $V_d = 3.2 + (R_L \times 0.02)$

## Technical

Parameter	Min	Typ	Max	Comments
<b>Supply Voltage</b>			Loop Power	
<b>Input Current</b>	4mA		20mA	
<b>Full Scale Volt Drop*</b>		3.2V	3.5V	At 20mA Input
<b>Output Linearity Error</b>			±0.1%	
<b>Temp Coefficient</b>			90ppm/°C	
<b>Load Resistance Error</b>			-200nA/Ω	$0 < R_L < 600\Omega$
<b>Time Constant (10-90%)</b>			30mS	
<b>Operating Ambient</b>	-15°C		70°C	
<b>Relative Humidity</b>	0%		90%	
<b>Isolation Voltage</b>	1kV			
<b>Supply Voltage</b>			Loop Power	
<b>Input Current</b>		-50mA	0-20mA	+50mA
<b>Full Scale Volt Drop*</b>		3.2V	3.5V	At 20mA Input
<b>Surge Voltage</b>		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 20°C. Add volt drop due to load:  $0.02 \times R_L$  e.g. 250Ω load total volt drop =  $3.5 + (0.02 \times 250) = 8.5V$

## Installation Data

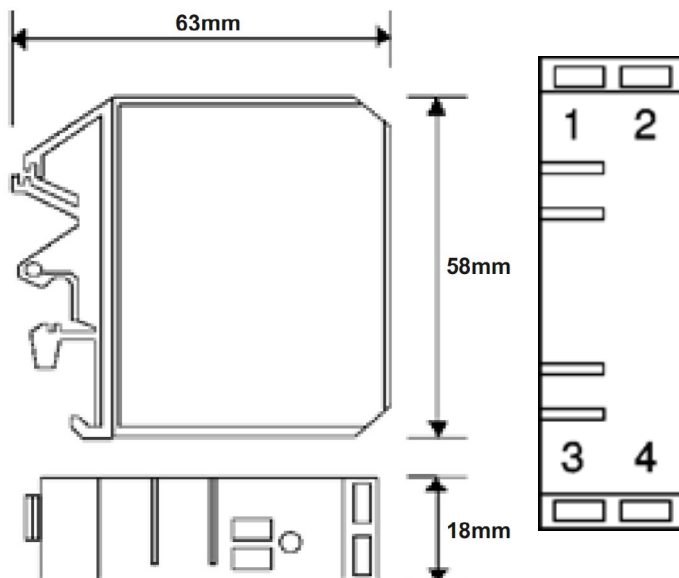
<b>Mounting</b>	DIN Rail TS35
<b>Orientation</b>	Any
<b>Connections</b>	Screw Clamp with pressure plate
<b>Conductor Size</b>	0.5-4.0mm
<b>Insulation Stripping</b>	12mm
<b>Weight</b>	Approx 50g

## Connection Details

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

## DIMENSIONS

All dimensions are in millimeters.





Please supply

**Part Number** SC-420I 4-20mA In 4-20mA Out

Made in the UK

Page 3

Sensata Technologies, Inc. ("Sensata") data sheets are solely intended to assist designers ("Buyers") who are developing systems that incorporate Sensata products (also referred to herein as "components"). Buyer understands and agrees that Buyer remains responsible for using its independent analysis, evaluation and judgment in designing Buyer's systems and products. Sensata data sheets have been created using standard laboratory conditions and engineering practices. Sensata has not conducted any testing other than that specifically described in the published documentation for a particular data sheet. Sensata may make corrections, enhancements, improvements and other changes to its data sheets or components without notice.

Buyers are authorized to use Sensata data sheets with the Sensata component(s) identified in each particular data sheet. HOWEVER, NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER SENSATA INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY THIRD PARTY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT, IS GRANTED HEREIN. SENSATA DATA SHEETS ARE PROVIDED "AS IS". SENSATA MAKES NO WARRANTIES OR REPRESENTATIONS WITH REGARD TO THE DATA SHEETS OR USE OF THE DATA SHEETS, EXPRESS, IMPLIED OR STATUTORY, INCLUDING ACCURACY OR COMPLETENESS. SENSATA DISCLAIMS ANY WARRANTY OF TITLE AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, QUIET ENJOYMENT, QUIET POSSESSION, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS WITH REGARD TO SENSATA DATA SHEETS OR USE THEREOF.

All products are sold subject to Sensata's terms and conditions of sale supplied at [www.sensata.com](http://www.sensata.com) SENSATA ASSUMES NO LIABILITY FOR APPLICATIONS ASSISTANCE OR THE DESIGN OF BUYERS' PRODUCTS. BUYER ACKNOWLEDGES AND AGREES THAT IT IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH ALL LEGAL, REGULATORY AND SAFETY-RELATED REQUIREMENTS CONCERNING ITS PRODUCTS, AND ANY USE OF SENSATA COMPONENTS IN ITS APPLICATIONS, NOTWITHSTANDING ANY APPLICATIONS-RELATED INFORMATION OR SUPPORT THAT MAY BE PROVIDED BY SENSATA.

Mailing Address: Sensata Technologies, Inc., 529 Pleasant Street, Attleboro, MA 02703, USA.

### CONTACT US

+44 (0)1202 897969  
c3w\_sales@sensata.com  
Cynergy3 Components Ltd.  
7 Cobham Road,  
Ferndown Industrial Estate,  
Wimborne, Dorset,  
BH21 7PE, United Kingdom