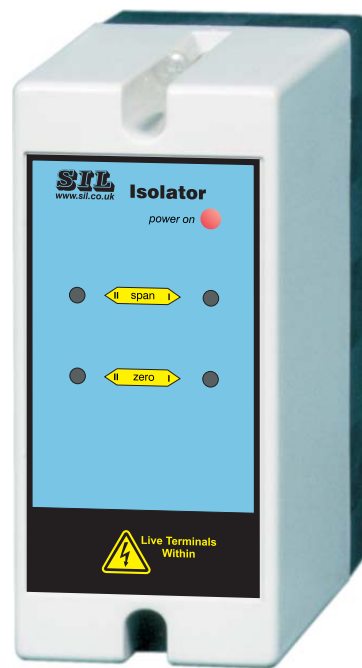




# SIGNAL ISOLATORS

Single output - B12-Si2  
Dual output / Signal splitter - B12-Di2

- *Single or dual isolated outputs with span and zero adjustment*
- *Performs signal converter / signal splitter functions*
- *User selectable input ranges*
- *Independently configurable output ranges: V, mA sink or source*
- *Maintains loop on mA inputs when module unplugged*
- *Universal AC/DC powered (85 - 260 VAC, 24 - 200 VDC)*
- *Wall or DIN rail mounting*
- *Five year warranty*



This range of instruments provide cost-effective isolating signal booster, signal converter or signal splitter functions. The input, outputs and power supply are electrically isolated from each other making these units ideal for preventing or solving erratic measurements due to earth loops. Outputs on dual version may be of different types.

## Typical Applications

- Overcoming problems where a common mode voltage exists between the input and output.
- Solving current loop loading problems.
- Isolating and converting dangerous voltages to safe levels.
- Converting voltage signals to current or current signals to voltage.
- Interfacing field sensors, transducers and transmitters with indicators, PLCs, and other process control instrumentation.
- The dual output version enables one measurement to be sent to two independent systems.

## Information required when ordering

### Single output

- Specify order code **B12-Si2** followed by:-
- Input signal
- Output signal

### Dual output

- Specify order code **B12-Di2** followed by:-
- Input signal
- Output signal 1
- Output signal 2

## Specifications

### Inputs

0-10 mA / 2-10mA (100R), 0-20 mA / 4-20mA ( 50R)  
 0-1V, 0-5v / 1-5V, 0-10V / 2-10V (>200k)  
*Input impedances shown in brackets.*

### Outputs

0-10 mA / 2-10mA (1200R), 0-20 mA / 4-20mA (600R)  
*Maximum output impedances in ohms shown in brackets.*  
 0-1V, 0-5V, 1-5V, 0-10V, 2-10V (500R minimum)  
 Current sink 4-20mA @ 50 volts max.

### Isolation

The input and output(s) are isolated from each other and from the power supply.

Maximum Voltage 250V RMS or 400V DC  
 Resistance between input, output(s) or power supply  
 $\geq 50 \times 10^6$  ohms measured at 1000V DC.

### Calibrated accuracy

Error  $\leq \pm 0.2\%$  FSD at 100% when factory calibrated.  
 NB Error introduced by user range changes, typically 1% but may be corrected by span & zero controls.

### Linearity error

$\leq \pm 0.1\%$  FSD

### Output ripple

$\leq 0.2\%$  RMS of FSD

### Load resistance effect

$\leq 0.001\%$  of span / 100 ohm change

### Stability

Over 24 hours  $\pm 0.1\%$  FSD, Over 1 year  $\pm 0.25\%$  FSD

### Response time

Typically 1 second.

### Input overrange protection

Voltage Inputs: 250 volts RMS or DC  
 Current Inputs: 50mA

### Temperature coefficients

Zero:  $\pm 0.02\%$  span / °C, Span:  $\pm 0.02\%$  span / °C

### Temperature range

Operating: -10°C to +60°C; Storage: -20°C to +70°C

### Power supply

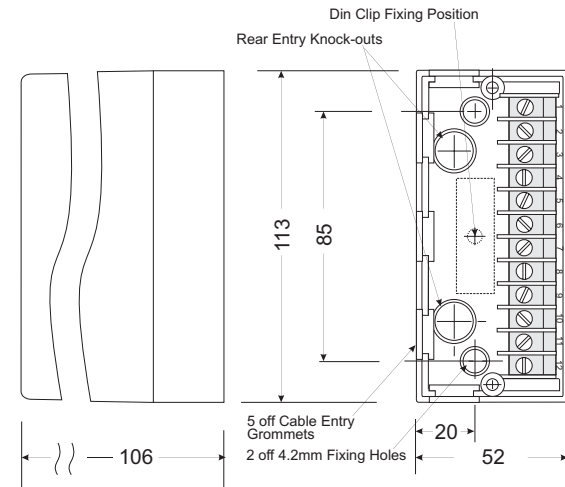
85 - 260 VAC 50/60Hz; 24 - 200 VDC (3W nominal)

### Safety & emc

Safety: EN61010-1, Immunity: EN50082-1  
 Emissions: EN50081-1, CE certified

## Mechanical

Weight: approx. 0.5kg Enclosure: Fire retardent materials  
 - PPO base, ABS cover;  
 Screw terminal wire capacity: 2 x 1.5mm<sup>2</sup>  
 Dimensions:



## Electrical connections



**WARNING:** these details are provided for pre-sales information only. Installation must be carried out in accordance with the User Guide

### Inputs

- |   |                        |
|---|------------------------|
| 1 | no internal connection |
| 2 | Input Signal (+)       |
| 3 | Input Signal (-)       |

### Output 2

*(Available on B12-Di2 dual output version only)*

- |   |                    |              |
|---|--------------------|--------------|
| 4 | Output (+)         | Current Sink |
| 5 | Current Output (-) | 5 (+)        |
| 6 | Voltage Output (-) | 6 (-)        |

### Output 1

- |   |                    |              |
|---|--------------------|--------------|
| 7 | Output (+)         | Current Sink |
| 8 | Current Output (-) | 8 (+)        |
| 9 | Voltage Output (-) | 9 (-)        |

### Supply

- |    | AC      | DC           |
|----|---------|--------------|
| 10 | Earth   | Earth        |
| 11 | Neutral | Negative (-) |
| 12 | Line    | Positive (+) |



**THIS UNIT CAN BE MAINS POWERED, AND ALL INPUTS TO IT MUST BE ISOLATED FROM DANGEROUS VOLTAGES BEFORE THE FRONT COVER IS REMOVED. LIVE TERMINALS WILL BE EXPOSED.**

Continuous development may necessitate changes in these details without notice

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