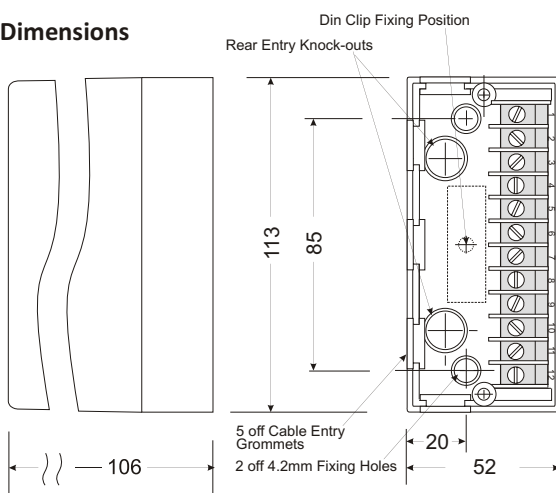


- *Wide range of input and output types*
- *High impedance output drive option*
- *Performs input / output signal level changes*
- *AC or low voltage (11-32 VDC, 12-24VAC) powered versions*
- *Wall or DIN rail mounting*
- *Module unplugs without disturbing wiring or breaking input current loops*



The B12-12A multiplier provides an analogue output signal proportional to the multiplication of two analogue input signals. Input signals may be of different types i.e. current or voltage, different spans and true or live zero. The multiplier can also be configured to function as a squarer.

### Dimensions



### Information required when ordering

- Specify type B12-12
- Input signal
- Output signal
- Engineering Units represented by each Input at FSD.
- Engineering Units represented by Output at FSD.
- Or alternatively Constants a,b,c and k.
- Supply voltage and frequency

### Options

- High output drive required (mA outputs) ?
- DIN rail mounting clip required ?

## Specifications

### Notes:

1. Inputs and outputs, other than those shown are possible - our sales team will be pleased to advise
2. Input and output ranges are factory calibrated for one type of signal and not user configurable.
3. **All inputs must be able to share a common connection.** If they cannot be connected together, a Signal Isolator e.g. type B12-3 must be used to isolate the inputs.

### Function

Output = (A + a) (B + b) x k + c, where A and B are inputs and a, b, c and k are constants.

### Inputs

Current from 0-1mA to 0-30mA and Voltage from 0-1V to 0-250V. Typical inputs: 0-10mA (100R), 0-20mA (50R), 4-20 mA (62R), 0-5V, 1-5V, 0-10V, 2-10V (>200k)  
*Input impedances shown in brackets.*

### Input Signal No-break Loop Facility

mA input signal loops are maintained when the unit is unplugged from the base section.

### Input Overrange Protection

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

### Outputs

0-10mA (2000R), 0-20 mA (1000R), 4-20 mA (1000R)  
**High impedance output drive options:** 0-10mA (5000R), 0-20 mA (2500R), 4-20 mA (2500R) *Maximum output impedances in ohms shown in brackets.*  
0-5v, 1-5V, 0-10V, 2-10V (500R minimum)  
Current sink 4-20mA @ 50 volts max.

### Isolation

The input and output are not isolated from each other but are isolated from the power supply.

### Calibrated Accuracy

Set at 100% to be within  $\pm 0.2\%$  of FSD

### Linearity Error

$\pm 0.4\%$  FSD

### Suppression / Elevation Error

$\pm 0.1\%$  FSD

### Output Ripple

0.2% RMS of FSD

### Load Resistance Effect

0.001% of span / 100 ohm change

### Stability

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

### Interference Rejection

Filtering is incorporated to attenuate R.F. and other industrial noise.

### Temperature Coefficients

Zero:  $\pm 0.02\%$  span /  $^{\circ}\text{C}$ , Span:  $\pm 0.02\%$  span /  $^{\circ}\text{C}$

### Environmental

Temperature: operating -10 to +60 $^{\circ}\text{C}$ , storage -20 to +70 $^{\circ}\text{C}$   
Humidity: 0 – 95% RH non-condensing

### Power Supply

**AC Supply:** 110, 220 or 230V  $\pm 10\%$  50/60Hz 5VA

Fuse: 100mA quick-blow (internal)

**Low voltage:** 11-32VDC 4 W / 12-24VAC

Fuse: 250mA anti-surge (internal)

### Supply Voltage Rejection

Span change:  $<0.02\%$  span / % supply change.

### 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>

### Electrical Connections



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

<b>Inputs</b>	1	Input B (+)		
	2	Input A (+)		
	3	Input common (-)		
	4	- reserved		
	5	- internal connection		
	6	- internal connection		
<b>Outputs</b>	7	mA Output (+)	Current Sink	
	8	mA Output (-)	8 (+)	
		Voltage Output (+)	9 (-)	
	9	Voltage Output (-)		
<b>Supply</b>	10	Earth	AC	Earth DC
	11	Neutral	Mains	Negative (-) Supply
	12	Line	Supply	Positive (+) Option



**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

# SIL

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