



# BRIDGE AMPLIFIER

Type B12-1B

- *User configurable input range*
- *High impedance output drive option*
- *Isolated sensor/transducer supply*
- *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*
- *Analogue circuitry used throughout*

The B12-1B Bridge Amplifier is a versatile unit for converting signals from milli-volt and bridge type transducers (e.g. strain gauge, load and pressure transducers) into standard process signals.



As standard, the Bridge Amplifier provides user configurable ranges from 0-10mV to 0-100mV. The unit can be manufactured for other ranges to order e.g. 0-10V. The output signal is factory configured to order, the ranges available cover most of the common process signal types including current sink. A high impedance mA output drive option is also available. An isolated and stabilised power supply for excitation of bridge type circuits and other transducers requiring a constant voltage is provided.

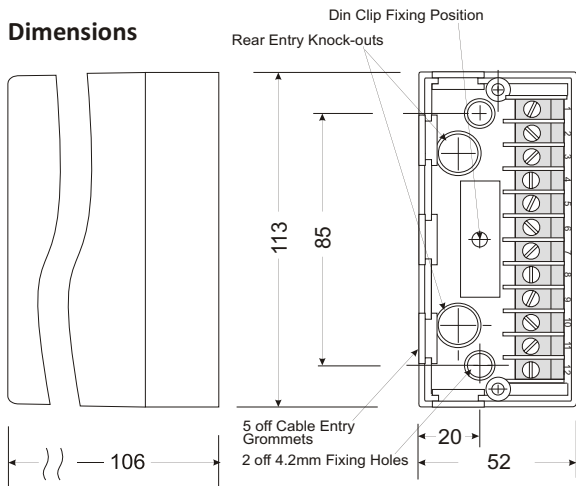
## Information required when ordering

- Specify type 'B12-1/B'
- Input signal
- Output signal
- Transducer supply requirements
- Supply voltage and frequency

## Options

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

## Dimensions



## Specifications

Notes:.

1. Output ranges are factory calibrated for one type of signal and not user configurable
2. Outputs, other than those shown are possible - our sales team will be pleased to advise

### Inputs

User adjustable within the range 0-10mV up to 0-100mV as standard. *Other ranges can be provided e.g. 0-10V - our sales team will be pleased to advise.*

### 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.

### Transducer Excitation Supply

#### Constant Current:

Typically 5mA

Set during manufacture to suit transducer.

#### Constant Voltage

Output	Typically 10V at 6mA max.
Accuracy	0.01%
Load Regulation	0.005% / mA
Temp. Coefficient	0.002% / °C

#### Response Time

1 sec as standard.

#### Isolation

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

#### Calibrated Accuracy

± 0.1% FSD at 100% when factory calibrated.  
NB Error introduced by User output range changes, typically 1% but may be corrected by span control.

#### Linearity Error

± 0.1% FSD

#### Output Ripple

0.2% RMS of FSD

#### Load Resistance Effect

0.001% of span / 100 ohm change

#### Stability

Over 24 hours ± 0.1% FSD, Over 1 year ± 0.25% FSD

### Temperature Coefficients

Zero: ± 0.02% span / °C, Span: ± 0.02% span / °C

### Environmental

Temperature: operating -10 to +60°C, storage -20 to +70°C  
Humidity: 0 – 95% RH non-condensing

### Power Supply

**AC Supply:** 110, 220 or 230V ±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 retardant 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	Constant I or V (+)	
	2	Input Signal (+)	
	3	Input (-)	
	4	Constant I or V (-)	
	5	-no internal connection	
	6	-no 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

**Please Note:** constant current or voltage transducer supply outputs and DC auxiliary supply versions are options which must be specified at time of order.



**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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