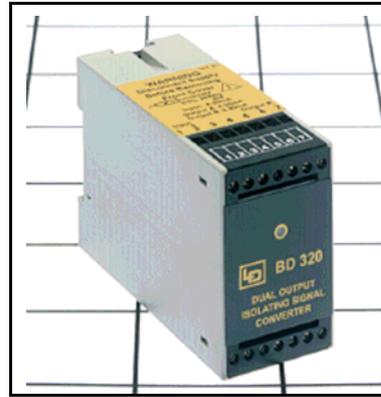


# Dual Output Isolating Signal Converter

**BD320**



Iss 5  
Oct 09

**IEC61508: Typically, SIL2.** (Please contact Sales Office for details).

Function: Conversion of a single mA or Voltage input into two independently isolated current or voltage outputs. The BD320 is ideally suited to providing signals for both local indication/control and remote monitoring and control from the one input signal. The BD320 still maintains 3 port isolation with the input and both output circuits powered from separate secondaries of the transformer. Options on the BD320 include a Subtractor and an Adder or Averages. With these inputs are restricted to mA or Voltage and the BD320 can only accept two inputs.

Options on 4 to 20mA input versions, Upscale Drive on loss of input signal.

## SPECIFICATIONS

### INPUTS:

Please note that the following are typical ranges. Other ranges available, please contact sales office.

#### DC Current

Standard Ranges  
0 to 10mA into 100 ohms  
4 to 20mA into 62 ohms  
Optional Ranges  
0 to 1mA into 100 ohms  
0 to 10mA into 10 ohms  
4 to 20mA into 10 ohms

**Option: Upscale drive on loss of 4 to 20mA input signal**

Other current inputs as required  
Minimum current 10µA,  
Maximum current 100mA

#### D C Voltage

Between -250 and +250 Volts DC  
Minimum voltage span 5mV  
Maximum voltage span 500V  
Input Impedance: 1MΩ greater

#### A C Current

0 – 1A

#### A C Voltage

0 – 250 V

#### Resistance (2 wire)

Between 0 and 20K ohms  
Minimum span 5 ohms  
Maximum span 20K ohms

#### Potentiometers (3 wire)

Between 0 and 10K ohms  
Minimum span 10 ohms  
Maximum span 10K ohms

#### Resistance Thermometers (RTDs, PT100s)

2 or 3 wire  
100 or 130 ohms at 0°C  
Measurable range, -200°C to +800°C  
Minimum temperature span 10°C  
Maximum temperature span 600°C  
Input is linearised

#### Thermocouples

Type B, E, J, K, N, R, S & T  
Temperature covered:  
Type Range MinTemp Change  
B 600 to 1800°C 400°C  
E -260 to 1000°C 65°C  
J -200 to 1200°C 80°C  
K -260 to 1370°C 100°C  
N 0 to 1300°C 150°C  
R 50 to 1760°C 400°C  
S 80 to 1760°C 400°C  
T -260 to 400°C 100°C  
Automatic cold junction compensation  
Open circuit thermocouple monitoring  
upscale or downscale drive

### OUTPUTS:

#### DC Current

0 to 10mA into 10 to 1500 ohms  
4 to 20mA into 10 to 750 ohms  
Other ranges as required  
Minimum span 1mA  
Maximum span 20mA

#### DC Voltage

The voltage output is derived from passing a mA signal through an internal resistor

0 to 1 Volt DC thru 51 ohms  
0 to 10 Volt DC thru 510 ohms  
1 to 5 Volt DC thru 240 ohms  
Other ranges as required  
Minimum span 1 Volt DC  
Maximum span 10 Volt DC

**Input/Output/Supply Isolation**  
600 Volts > 20M ohms

**N.B. Each output can be of a different type and range i.e.**  
**1 x 4 to 20mA and**  
**1 x 1 to 5 Volts**

### SUPPLY:

#### Power Supplies

115 Volt AC ±15% 50/60 Hz  
230 Volt AC ±15% 50/60 Hz

#### Power Required

3VA Maximum

#### Pilot Light

Red LED shows Power ON

### GENERAL:

#### Linearity Error

Proportional to input ±0.1% of span

#### Response Time

<50mS - Step 0 to 65%  
-3dB at 4.5KHz

#### Temperature Coefficient

±0.1% of span/\_ 10°C

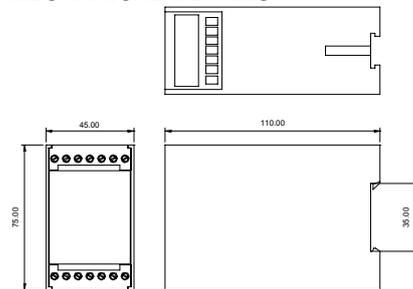
#### Operating Storage / Temperature Range

0 to +45°C / -20 to +60°C

#### Weight

345 gms

## MECHANICAL DETAILS



## TERMINATION DETAILS

Terminal	Terminal
1	8 Output B Active -ve / Passive +ve
2 Inputs - See below	9 Output B Active +ve
3	10 Output B Passive -ve
4 Unused	11 Unused
5 Output A Passive -ve	12 230 Volt ±15% 50/60 Hz
6 Output A Active +ve	13 115 Volt ±15% 50/60 Hz
7 Output A Active -ve / Output A Passive +ve	14 Neutral

Inputs	AC Current	AC Volts	DC mA	DC mV/V	T/Cs	2 Wire Slidewire	3 Wire Pot	Resistance Thermometer	Dual Inputs
1	~	~	-ve	-ve	-ve	0%	0%		B+
2	~	~	+ve	+ve	+ve	100%	Wiper		A+
3						100%			Common

## ORDERING DETAILS

- Give identification code, i.e. BD320
- Give details of input signal, i.e. input type (as listed above) and range. If thermocouple input please specify upscale or downscale drive for open circuit protection. For 4 to 20mA input, please specify if upscale drive required on loss of input signal.
- Give outputs required, both type and range, i.e. 2 x 4 to 20mA

