

Dual Output Isolating Signal Converter

BM320

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

Function: Conversion of a single process signal input into two independently isolated active and passive current or voltage outputs. The BM320 is ideally suited to providing signals for both local indication/control and remote monitoring and control from the one input signal. The BM320 still maintains 3 port isolation with the input and both output circuits powered from separate secondaries of the transformer. Options on the BM320 include a Variable Gain, a Subtractor and an Adder or Averager. With these options, inputs are restricted to mA or Voltage and the BM320 can only accept two inputs for the Add/Av or Subtractor function. Options for a 4 to 20mA input: Upscale Drive on loss of input signal.



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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

DC Voltage

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

AC Current (True RMS)

0 to 1 Amp

AC Voltage (True RMS)

0 to 250 Volt

Resistance (2 wire)

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

Potentiometer (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

Variable Gain Option

Using a front panel mounted potentiometer the output signals can be varied from 50% to 150% of "normal" unit gain

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

9 to 30 Volt DC with converter to maintain signal to power supply isolation

Power Required

3 Watts 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 / Δ10°C

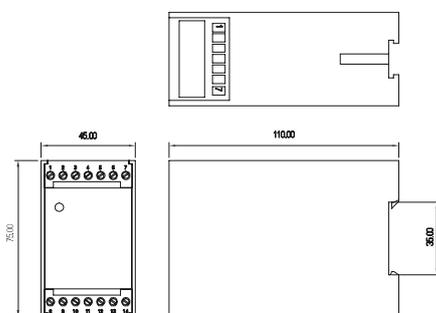
Operating Storage / Temperature Range

0 to +45°C / -20 to +60°C

Weight

195 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 Power Supply +ve
6 Output A Active +ve	13 Unused
7 Output A Active -ve / Output A Passive +ve	14 Power Supply -ve

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. BM320
- 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

