ENGLISH

Datasheet

3 Port Isolating Signal Converter **BM303**

Iss 8

July 09

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

Function: Isolating signal converter, which will convert a range of process signals into standard active and passive transmission current or voltage signals. The BM303 first conditions the signal before feeding it through an opto-isolating circuit. Both the input and the output stages of the instrument are powered from separate secondaries of the inverter maintaining 3 port isolation. Options on the BM303 include a Signal Inverter, a Subtractor and an Adder or Averager. In these cases the inputs are restricted to mA or Voltage and the BM303 can only accept two inputs.

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

SPECIFICATIONS

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

INPUTS:

D C 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
1M ohm or greater

A C Current
0 to 1 Amp

A C Voltage
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
Minimum temperature span 10°C
Measurable range, -200°C to +800°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 2000 ohms
4 to 20mA into 10 to 1000 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

SUPPLY:

Power Supply Voltage
8 to 30 Volt DC, with converter to maintain signal to power supply isolation

Power Required
1.5 Watts Maximum

Pilot Light
Red LED shows Power ON

GENERAL:

Linearity Error
Proportional to input ±0.1% of span

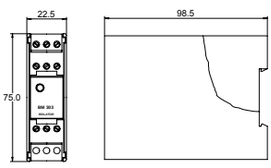
Response Time
<50µS - Step 0 to 65%
-3dB at 4.5KHz

Temperature Coefficient
±0.1% of span/ Δ 10°C

Operating / Storage Temperature Range
0 to +45°C / -20 to +60°C

Weight
106 gms

MECHANICAL DETAILS



TERMINATION DETAILS

Terminal
1 Power Supply –ve
2 Power Supply +ve
3 Power Supply Screen

Terminal
7 Output Active –ve / Passive I +ve
8 Output Active +ve
9 Output Passive I -ve
10 Unused
11 Unused
12 Unused

Inputs	AC Current	AC Volts	DC mA	DC mV/V	T/Cs	2 Wire Slidewire	3 Wire Pot	Resistance Thermometer	Dual Inputs
4	~	~	-ve	-ve	-ve	0%	0%		B+
5	~	~	+ve	+ve	+ve	100%	Wiper		A+
6							100%		Common