Isolating Signal Converter **BD300**

Data Sheet Issue	Iss 9.0
	Jan 11

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 BD300 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 mains transformer thus maintaining 3 port isolation. Options on the BD300 include a Subtractor and an Adder or Averager. With these inputs are restricted to mA or Voltage and the BD300 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:1MΩ greater

A C Current
0 to 1A max span

A C Voltage
0 to 250 V max span

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

SUPPLY:

Power Supply
115 Volt AC ±15% 50/60 Hz **or**
230 Volt AC ±15% 50/60 Hz
Optional
24 Volt AC ± 15% 50/60 Hz

Power Required
3VA Maximum

GENERAL:

Pilot Light
Red LED shows Power ON

Linearity Error
Proportional to input ±0.1% of span

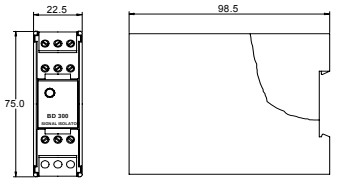
Response Time
<=30mS - Step 0 to 65%
-3dB at 4.5KHz

Temperature Coefficient
±0.1% of span/Δ10°C

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

Weight
130 gms

MECHANICAL DETAILS



TERMINATION DETAILS

Terminal		Terminal	
1	Power Supply Neutral	7	Output Active –ve / Passive I +ve
2	Power Supply Live	8	Output Active +ve
3	Power Supply Earth	9	Output Passive -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

ORDERING DETAILS

a) Give identification code, i.e. BD300
b) Give power supply voltage, 115 or 230 Volt AC (optional 24VAC)
c) 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.
d) Give details of output required, both type and range, i.e. 4 to 20mA

LEE-DICKENS LTD, Rushton Road, Desborough, Kettering, Northants, NN14 2QW Tel: 01536-760156