

# Datasheet



BD RANGE CONVERTERS

## Isolating Signal Converter BD300

Function: Isolating signal converter which will convert a range of process signals into standard transmission voltage or current 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 true 4 wire RTD converter, a Subtractor and an Adder or Averager. In the last three cases the inputs are restricted to mA or Voltage and the BD300 can only accept two inputs.

### SPECIFICATIONS

Please note that the following are typical standard ranges. We will manufacture instruments to cater for other ranges too, within certain limitations. Please contact our internal sales department for further clarification.

#### INPUTS:

##### DC Current

0-1mA into 100 ohms  
0-10mA into 10 ohms  
4-20mA into 10 ohms  
Other current inputs as required  
Minimum current 10µA  
Maximum current 100mA

##### DC Voltage

Between -250 and +250 Volts DC  
Minimum span 5mV  
Maximum span 500V

##### Input Impedance

1M ohm or greater

##### 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 (RTD's, PT100s)

2 or 3 wire  
100 or 130 ohms at 0°C  
Minimum Temperature span 10°C  
Maximum Temperature span 600°C  
Input is linearised

##### Thermocouples

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 Volts DC

##### Input/Output/Supply Isolation

600 Volts > 20m ohms

#### SUPPLY:

##### Power Supplies

115 Volt AC ±15% 50/60 Hz  
or  
230 Volt AC ±15% 50/60 Hz  
(to be specified at time of order)

##### Power Required

2VA Maximum

##### Pilot Light

Red LED shows Power ON

#### GENERAL:

##### Linearity Error

Proportional to input ±0.1% of span

##### Response Time

<50µSecs - Step 0 to 65%  
-3db at 4.5 KHz

##### Temperature Coefficient

±0.1% of span / Δ10°C

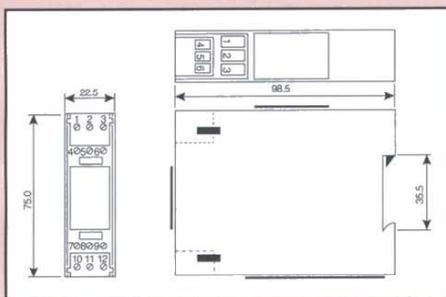
##### Operating/Storage

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

##### Weight

145 gms

### MECHANICAL DETAILS



### TERMINATION DETAILS

Terminal	Description
1	Power Supply Neutral
2	Power Supply Live
3	Power Supply Earth

Terminal	Description
7	Output -ve
8	Output +ve
9	Unused
10	Unused
11	Unused
12	Unused

#### Inputs

