

Datasheet

Isol signal converter, 230V 4-20mA/0-10V

RS Stock number [466-2337](#)



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 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 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

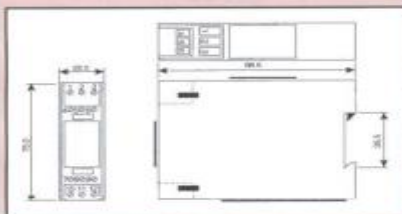
Operating/Storage

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

Weight

145 gms.

MECHANICAL DETAILS

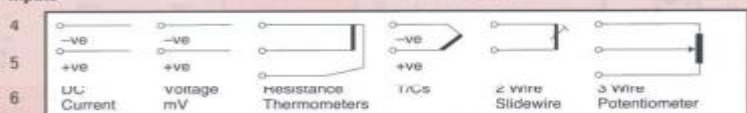


TERMINATION DETAILS

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

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

Inputs



ORDERING DETAILS

- Give identification code, i.e. BD300
- Give power supply voltage, 115 or 230 Volt AC
- Give all 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.
- Give output required, both type and range, i.e 4 to 20mA