

Single Level Trip Amplifier

BD100

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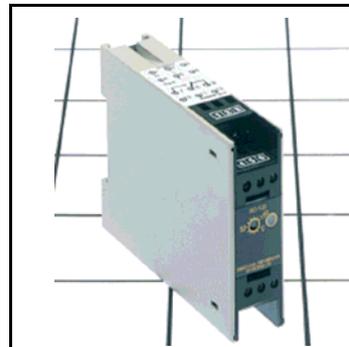
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IEC61508: Typically, SIL2. (Please contact Sales Office for details).

Function: Single Level Trip Amplifier from a single process signal input. The trip action can be arranged so that the Alarm conditions can be above (High Trip) or below (Low Trip) the set points, and that the relay can be either normally energised to de-energise in the Alarm condition (Fail-Safe), or normally de-energised to energise in the Alarm condition (Non Fail-Safe).

Input option for Adder, Subtractor or Averages on mA or Voltage inputs only. The BD100 can only accept two inputs.

Options on the BD100 include Double Pole Change Over relays, and, 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

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

A C Current

0 – 1A

A C Voltage

0 – 250 V

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:

Relay - Contacts

One SPCO relay contact
Option: Additional relay, converting output into DPCO.

Response Time

30mS or better

Contact Ratings

Max current 2A
Max voltage 220V dc / 250V ac
Maxi load 60W 62.5VA

Switching Differential

0.5% of span approx

Switching Mode

Relay energises or de-energises on rising or falling signal as required

Set Point

270° screw driver potentiometer through front panel

Relay State Indication

Bi-colour red/green LED
Green = Stable State
Red = Alarm State

POWER SUPPLY:

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

Power Required

3VA Maximum

GENERAL:

Temperature Coefficient

±0.1% of span/_ 10°C
(for inputs > 100mV)
+ Cold junction error, for thermocouple inputs

Operating / Storage Temperature Range

0 to +45°C / -20 to +60°C

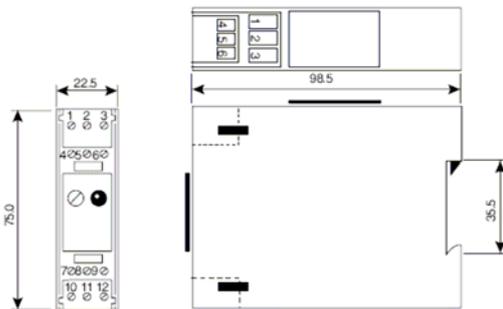
Operating / Storage Humidity Range

0 to 95% RH non-condensing

Weight

135 gms

MECHANICAL DETAILS



TERMINATION DETAILS

Terminal

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

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

Terminal

- 7 Relay N/O
- 8 Common Normal Trip
- 9 Relay N/C
- 10 Relay N/O
- 11 Common DPCO Option
- 12 Relay N/C

ORDERING DETAILS

- a) Give identification code, i.e. BD100
- b) Give power supply voltage, i.e. 230 Volt AC 50/60 Hz
- c) Give details of input signal, i.e. input type (as listed above) and range.
- d) Give details of Options required: For 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. Finally specify if DPCO relay required. 24VAC Power Supply.
- e) Give details of trip action required, i.e.

- HNF = High Non Fail Safe
- LFS = Low Fail Safe
- LNF = Low Non Fail Safe
- HFS = High Fail Safe
- H = High Trip = Alarm condition above the set point
- L = Low Trip = Alarm condition below the set point
- FS = Fail Safe = Relay normally energised to de-energise in the alarm condition
- NF = Non Fail Safe = Relay normally de-energised to energise in the alarm condition



