

Dual Level Trip Amplifier AA Block

Function: Dual 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) each of the set points, and that the relays 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). Options on the AA Block include: remote set point potentiometers; ten-turn set-point potentiometers; and an AC Voltage input.



ALPHABET BLOCK CONVERTERS

SPECIFICATIONS

Please note that the following are typical ranges. We also manufacture instruments to cater for other ranges, within limitations detailed below. All instruments come with span and zero potentiometers for fine tuning on site.

INPUTS:

DC Current

0 to 1mA into 100 ohms
0 to 10mA into 10 ohms
4 to 20mA into 10 ohms
10 to 50mA into 10 ohms
Other current inputs as required
Minimum current 10µA
Maximum current 100mA

DC Voltage

Between 0 and 250 Volts DC
Minimum voltage span 4mV
Maximum voltage span 250V

Input Impedance

100K ohms or greater

Options:

AC Voltage

Between 0 and 250 Volt AC
Minimum span 0.5 Volt AC
Maximum span 250 Volt AC

Resistance (2 wire)

Between 0 and 10K ohms
Minimum span 5 ohms
Maximum span 10K ohms

Potentiometers (3 wire)

Between 0 and 10K ohms
Minimum span 10 ohms
Maximum span 10K ohms

Resistance Thermometers

2 or 3 wire, 100 ohms at 0°C or 130 ohms at 0°C
Minimum temperature span 10°C
Maximum temperature span 600°C

Thermocouples

Type B, E, J, K, N, R, S & T
Temperatures covered:
Type Range Min Temp 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 1600°C 100°C
N 0 to 1300°C 150°C
R 0 to 2000°C 400°C
S 0 to 1800°C 400°C
T -260 to 800°C 100°C
Automatic cold junction compensation
Open circuit thermocouple monitoring upscale or downscale drive

OUTPUTS:

Relay – Contacts

One SPCO relay contact for each trip level

Contact Ratings

Maximum Current 2A
Maximum Voltage 250 Volt
Maximum Load 60W 500VA

Switching Differential

0.5% of span approx

Switching Mode

Relays energise or de-energise on rising or falling signal

Set Point Dials

270° pot, calibrated 0 to 100, fitted with locking cursor

Options:

- 1) Ten turn locking pots
- 2) Remote potentiometers

Relay State Indication

Bi-colour red/green LED
1 per trip level
Green = Stable State
Red = Alarm State

SUPPLY:

Power Supplies

100 to 120 Volt 50/60 Hz
200 to 240 Volt 50/60 Hz

Power Required

3 Watts Maximum

GENERAL:

Temperature Coefficient

±0.2% of span /Δ10°C
(for inputs > 100mV)
+ Cold junction error, for thermocouple inputs

Operating Temperature Range

0 to +50°C

Storage Temperature Range

-20 to +60°C

Operating Humidity Range

0 to 95% RH non-condensing

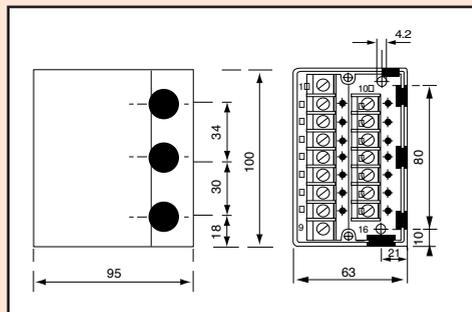
Storage Humidity Range

0 to 95% RH non-condensing

Weight

496 gms

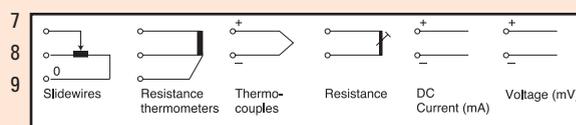
MECHANICAL DETAILS



TERMINATION DETAILS

- Terminal
- 1 Power Supply Neutral (-ve)
 - 2 Power Supply Live (+ve)
 - 3 Power Supply Earth (Screen)
 - 4, 5 & 6 Unused

Inputs



- Terminal
- Sub-Board in the base**
- | | |
|-----------------|------------------------|
| 10 Relay N/C | Lower Trip (Lower Pot) |
| 11 Relay Common | |
| 12 Relay N/O | Higher Trip (Top Pot) |
| 13 Unused | |
| 14 Relay N/C | Higher Trip (Top Pot) |
| 15 Relay Common | |
| 16 Relay N/O | |

ORDERING DETAILS

- (a) Give identification code, i.e. AA Block
- (b) Give power supply voltage, i.e. 240 Volt 60 Hz
- (c) Give all details of input signal, i.e. Chromel/Alumel thermocouple, span 0 to 250°C. (If thermocouple input please specify upscale or downscale burnout drive)
- (d) Give all details of trip action required, i.e.

- | | |
|--|----------------------------------|
| - LLFS = Low Low Fail Safe | - HHNF = High High Non Fail Safe |
| - HHFS = High High Fail Safe | - LLNF = Low Low Non Fail Safe |
| - HLFS = High Low Fail Safe | - HLNf = High Low Non 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. | |



LEE-DICKENS LTD
Desborough, Kettering, Northants NN14 2QW U.K.
Tel: (01536) 760156 Fax (01536) 762552

