ALPHABET BLOCK CONVERTERS

Single Level Trip Amplifier A Block

Function: Single Level Trip Amplifier from a single process signal input. The trip action can be arranged so that the Alarm condition can be above (High Trip) or below (Low Trip) the set point, 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). Options on the A Block include: a remote set-point potentiometer; a variable trip differential; a ten-turn set-point potentiometer; and an AC Current or Voltage input.

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 Current
Between 0 and 5 Amp AC

AC Voltage
Between 0 and 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 0ºC or 130 ohms at 0ºC
Minimum temperature span 10ºC
Maximum temperature span 600ºC

Thermocouples
Type B, E, J, K, N, R, S & T
Temperatures covered:

Type	Range	Min Temp Change
B	600 to 1800ºC	400ºC
E	–260 to 1000ºC	65ºC
J	–200 to 1200ºC	80ºC
K	–260 to 1600ºC	100ºC
N	0 to 1300ºC	150ºC
R	0 to 2000ºC	400ºC
S	0 to 1800ºC	400ºC
T	–260 to 800ºC	100ºC

Automatic cold junction compensation
Open circuit thermocouple monitoring upscale or downscale drive

OUTPUTS:

Relay – Contacts
One SPCO relay contact

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

Switching Differential
0.5% of span approx

Option: Variable trip differential

Switching Mode
Relay energises or de-energises on rising or falling signal as specified

Set Point Dial
270º pot calibrated 0 to 100, fitted with locking cursor

Options:
1) Ten turn locking potentiometer
2) Remote potentiometer

Relay State Indication
100,000 hour red LED that operates when relay is energised

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 /△10ºC
(for inputs > 100mV)
+ Cold junction error, for thermocouple inputs

Operating Temperature Range
0 to +50ºC

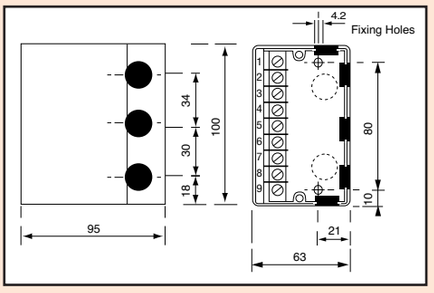
Storage Temperature Range
–20 to +60ºC

Operating Humidity Range
0 to 95% RH non-condensing

Storage Humidity Range
0 to 95% RH non-condensing

Weight
494 gms

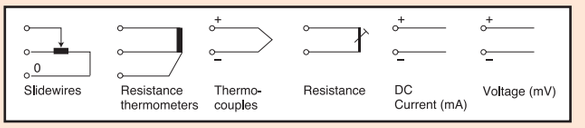
MECHANICAL DETAILS



TERMINATION DETAILS

Terminal
1 Power Supply Neutral (–ve)
2 Power Supply Live (+ve)
3 Power Supply Earth (Screen)
4 Trip Relay N/O
5 Trip Relay N/C
6 Trip Relay Common

Inputs
7
8
9



ORDERING DETAILS

(a) Give identification code, i.e. A Block
(b) Give power supply voltage, i.e. 240 Volt 60 Hz
(c) Give details of input signal, i.e. Chromel/Alumel thermocouple, span 0 to 250ºC. (If thermocouple input please specify upscale or downscale burnout drive)
(d) Give all details of trip action required, i.e.
– HNF = High Non Fail Safe
– HFS = High Fail Safe
– LFS = Low Fail Safe
– LNF = 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.

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