

Dual Level Trip Amplifier T120

Dual Channel Single Level Trip Amp. T130

Function: The T120 is a Dual Level Trip Amplifier from a single process signal input. The T130 is a Dual Channel Single Level Trip Amplifier, i.e. two Single Level Trip Amplifiers on the one board. 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 T120/T130 include: ten-turn set-point potentiometers. Options on the T120 only include: a mA retransmitting output; variable hysteresis on the trip relays; a difference between two RTDs input; and DPDT relays instead of the SPCO relays.



QC SERIES
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:

T120 and T130

DC Current

0 to 1mA into 1K ohms
0 to 10mA into 100 ohms
4 to 20mA into 62.5 ohms
10 to 50mA into 25 ohms
Other current inputs as required
Minimum current 10µA
Maximum current 100mA

DC Voltage

Between 0 and 250 Volts DC
Minimum voltage span 5mV
Maximum voltage span 250V

Input Impedance

1M ohms or greater

T120 only

Resistance (2 wire)

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

Potentiometers (3 wire)

Between 0 and 20K ohms
Minimum span 10 ohms
Maximum span 20K ohms

Resistance Thermometers (RTDs, PT100s)

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 per trip

Contact Ratings

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

Switching Differential

0.5% of span approx, adjustable if required

Switching Mode

Relays energise or de-energise on rising or falling signal as specified

Set Point Dial

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

Options:

- 1) Ten turn locking potentiometer
- 2) Remote potentiometer

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
or 24 Volt DC with converter to maintain signal to power supply isolation

Power Required

3 Watts Maximum

GENERAL:

Temperature Coefficient

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

Operating Temperature Range

0 to +50°C

Storage Temperature Range

-20 to +85°C

Operating Humidity Range

0 to 95% RH non-condensing

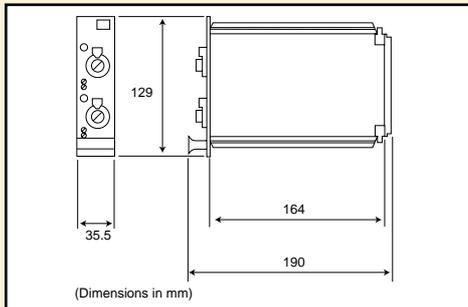
Storage Humidity Range

0 to 95% RH non-condensing

Weight

T120 345 gms
T130 345 gms

MECHANICAL DETAILS



TERMINATION DETAILS

Termination details are dependent upon input type and upon type of housing chosen (19" rack or DIN rail mounting enclosure) and, if 19" rack, screw terminals or solder terminals. Further details upon request from our internal sales department.

ORDERING DETAILS

- (a) Give identification code, i.e. T120
- (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 250°C. (If thermocouple input please specify upscale or downscale burnout drive)
- (d) Give details of trip action required: i.e.
 - HHNF = High High Non Fail Safe
 - HLNF = High Low Non Fail Safe
 - HHFS = High High Fail Safe
 - LLFS = Low Low Fail Safe
 - HLFS = High Low Fail Safe
 - LLNF = Low 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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