

## CONTROL ACTION SELECTION

Given below is the comparison of control features of ON-OFF Vs Proportional, to aid user in selection of mode.

CONTROL ACTION	RELAY OPERATING FREQUENCY	OVER/ UNDER SHOOT ABOUT SET POINT
ON - OFF	SLOW (as per process)	GREATER
PROPORTIONAL	FREQUENT (once per 12 sec.)	MINIMUM

## SPECIFICATION

### INPUT : (Factory set)

Thermocouple (T/C) : Type **J** - Fe/K, **K** - Cr/Al

RTD : **PT-100**

Range (in °C) : 200,400.

Inbuilt cold junction compensation for thermocouple type models.

### ACCURACY:

Setting:  $\pm 3\%$  of full scale

Control:  $\pm 0.5\%$  of full scale

### CONTROL ACTION (USER SELECTABLE):

1) TIME PROPORTIONAL:

Proportional band : 3% of full scale.

Cycle time : 12 seconds

2) ON - OFF : Dead band : 0.5% of full scale

**SENSOR BREAK CONDITION** : Relay off

**OUTPUT** : Relay : 1C/O relay contacts  
 TC52 - 7A @230V AC, resistive load  
 TC52HP - 10A @230V AC, resistive load  
 (Internal relay rated @ 30A)  
 (SSR drive available on request)

### TEMPERATURE SETTING :

By front panel knob on a calibrated dial.

**INDICATION** : 1) Relay status 2) Power ON

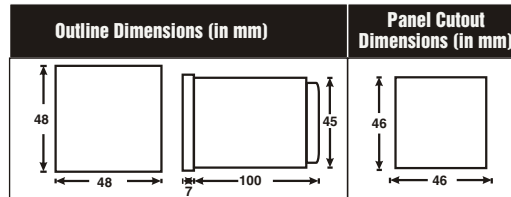
**POWER** : @50/60 Hz  
 TC52 - 230V AC  
 TC52HP - 90 to 270V AC/DC

**OPERATING TEMPERATURE** : 0 - 50°C

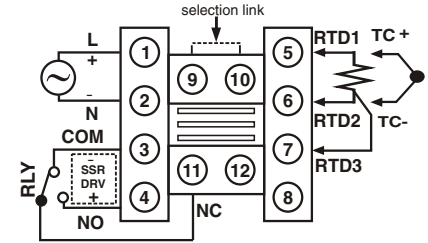
**HUMIDITY** : 95% RH

**HOUSING** : ABS plastic

**WEIGHT** : TC52 - 200gms.  
 TC52HP - 175gms.



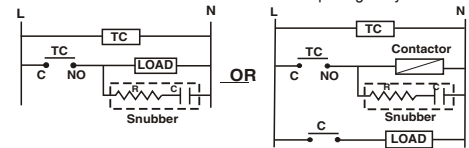
## WIRING DIAGRAM (ON-OFF/ PROPORTIONAL )



- 1 Live
- 2 Neutral
- 3 COM of relay
- 4 NO of relay
- 5 TC+ / RTD1
- 6 TC- / RTD2
- 7 RTD3
- 9 & 10 Open for ON-OFF / Short for Proportional
- 11 NC of Relay (Not applicable for TC52HP)

### TYPICAL CONNECTIONS FOR LOADS

- 1) For load current less than 0.5A
- 2) For bigger loads; use interposing relay/contactors



**NOTE:** Use snubber as shown above to increase life of internal relay of temperature controller.

(Specifications subject to change as development is a continuous process).

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