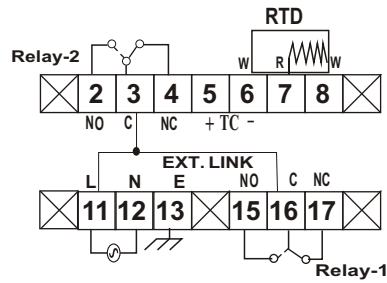


**Model : MULTI**

Sr. No.: \_\_\_\_\_

**Note: for 2 wire RTD short 6 and 8****Terminal Connections**

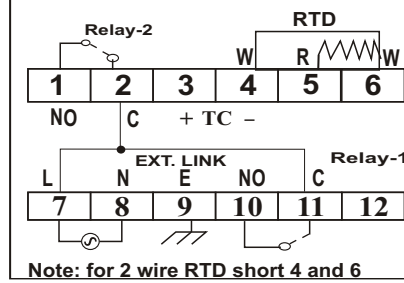
- 2 - Normally open contact of relay 2
- 3 - Common contact of relay 2
- 4 - Normally close contact of relay 2
- 5 - Positive of TC
- 6 - Negative of TC / White or Black of 3 wire RTD (Short Wire)
- 7 - RED of 3 wire RTD
- 8 - White or Black of 3 wire RTD (Short Wire)
- 11 - Live (supply)
- 12 - Neutral (supply)
- 13 - Earth
- 15 - Normally open contact of relay1
- 16 - Common contact of relay1
- 17 - Normally closed contact of relay1

**Trouble Shooting :**

- 1) Sensor open indication : Display shows "Err"
- 2) Sensor reverse : if thermocouple not connected according to polarity temp goes on decreasing while heating
- 3) Not show proper temp. : Loose connection on terminal or calibration problem.
- 4) No Display - Main connection problem.

**Model : MULTI**

Sr. No.: \_\_\_\_\_

**Note: for 2 wire RTD short 4 and 6****Terminal Connections**

- 1 - Normally open contact of relay2
- 2 - Common contact of relay2
- 3 - Positive of TC
- 4 - Negative of TC / White or Black of 3 wire RTD (Short Wire)
- 5 - RED of 3 wire RTD
- 6 - White or Black of 3 wire RTD (Short Wire)
- 7 - Live (supply)
- 8 - Neutral (supply)
- 9 - Earth
- 10 - Normally open contact of relay1
- 11 - Common contact of relay1

**If load is inductive,  
connect snubber across load**

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**ION ELECTRICALS**  
PRIVATE LIMITED  
आयन् इलेक्ट्रिकल्स प्रा. लि.



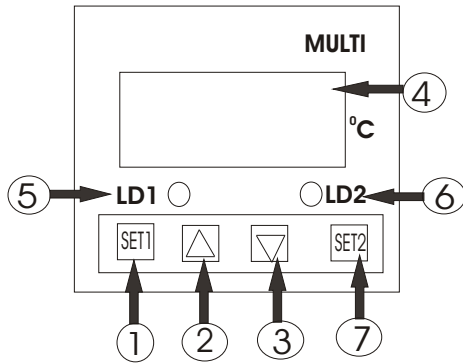
# MULTI DIGITAL TEMP. CONTROLLER

**Features**

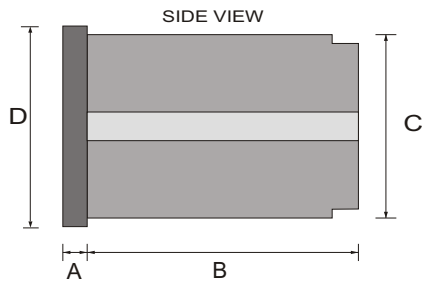
- 1) On/Off control & proportional action for set point 1.
- 2) Proportional band adjustment by front keys.
- 3) Cycle time adjustment for proportional action by front keys.
- 4) Offset adjustment for proportional action by front keys.
- 5) Independent logic selection, heating/ cooling (user selectable).
- 6) Input sensor selection by front keys.
- 7) Independent differential adjustment for both set points & that is user selectable.
- 8) Independent time delay for both set points & that is user selectable.
- 9) Range lock is provided.
- 10) 5 amp relay contacts for set-1 & set - 2 for resistive load.
- 11) Flush panel mounting in 72 x72 /96 x 96.

**Specifications**

- 1) Input sensor :- PT 100 (RTD ), J-type, K-type Thermocouple
- 2) Differential :- 1 to 100 deg, independent for both set points.
- 3) Proportional band:- 0 to 100%.
- 4) Time Delay :- 1 to 255 seconds, independent for both set points.
- 5) Cycle time :- 1 to 50sec.
- 6) Offset adjustment :- 0 to 50.
- 7) Range:- -100 to 400 for RTD, 0 to 750 for J, 0 to 1200 / 999°C for 'K' type thermocouple
- 8) Cut-out :- 70 x 70 mm / 92 x 92 mm.
- 9) Power consumption :- 10 VA max.
- 10) Display : 3 digit / 4 digit, 7-seg, red led display.



- 1:- SET1 KEY
- 2:- INCREMENT KEY
- 3:- DECREMENT KEY
- 4:- DISPLAY
- 5:- RLY1 ON INDICATION
- 6:- RLY2 ON INDICATION
- 7:- SET2 KEY



MODEL	A	B	C	D
MULTI 72	10	120	68	72
MULTI 96	12	118	88	96

Model DTC	Control Range	Input Sensor
MULTI-2	-100°C to 400°C	Pt 100
MULTI-2	0°C to 750°C	J Type
MULTI-2	0°C to 1200°C 0 to 999 C	K Type

## Operating manual MULTI

Check all the connections & Switch on the mains supply.

Display will show process temperature.

### Setting:

Push "SET 1" key, display will start flashing with previous set no. Set it using up & down key to desired value. After setting new value push set1 key again to store it.

**Note:** If no key is pressed in set mode then display will go to normal mode after 4 seconds (in which it shows process temperature). So to store new value push set1 key otherwise it will go to normal mode by saving current value.

Push "SET 2" key, display will start flashing with previous set no. Set it using up & down key to desired value after setting new value push set2 key again to store it.

**Note:** If no key is pressed in set mode then display will go to normal mode after 4 seconds (in which it shows process temperature). So to store new value push set2 key otherwise it will go to normal mode by saving current value.

### How to set logic?

Push down arrow key, hold it then push set-1 key. Hold both the keys for 5 seconds. "SEn" along with selected type of sensor will flash simultaneously. Here one can set type of sensor by pushing up & down arrow keys. (rtd : PT100 (RTD) ,J :- J-type thermocouple, :- K-type thermocouple).

Push SET-1 key,

**SET & 0002/0001** will flash simultaneously. Here one can select number of set points. Set it using up & down arrow keys. If we set "001" then controller will work as 1-set point controller & "002" is for 2-set point controller.

### Push SET-1 key.

"Pi" along with On/OFF will flash simultaneously. Here one can set control action for set point 1. Set "On" to enable proportional action or "OFF" for simple on/off action for set-1. Set it by up & down arrow keys. (control action for set point 2 is always on/off)

### Push SET-1 key,

"Prb" with some number will flash simultaneously. This is proportional band. Set it using up & down arrow keys. (settable from 1 to 100 % & applicable for set-1 only). If one has set set-1 in on/off action then "hy1" will appear instead of "Prb". ("Hy1" is differential for set-1)

### Push SET-1 key,

"ht1" with some number will flash simultaneously. This is time delay in seconds for set-1. set it using up & down arrow keys. (settable upto 255 seconds).

### Push SET-1 keys,

"Cyl" will flash with some number. This is cycle time in seconds for proportional logic for set-1. set it by up & down arrow keys. (settable from 1 to 50).

### Push set-1 key.

"LG1" will flash with "hE1/CO1" simultaneously. Here one can set logic for set point 1. ( hE1:- Heating logic & CO1 :- cooling logic ). set it using up & down arrow keys.

### Push set-1 key,

"mG" will flash with some number simultaneously. here one can lock maximum limit of Range. Set it using up & down arrow keys.

Push set-1 key, Display will go to normal mode if one has set "0001" in "set" mode. But if "set" is "0002" then following Parameters of set point 2 will appear after this stage.

"hy2" will flash with some number. This is differential for set-2. Set it using up & Down arrow keys from 1 to 9.

### Push set-1 key,

"ht2" with some number will flash simultaneously. This is time delay in seconds for Relay 2. Set it using up & down arrow keys. (Settable upto 255 seconds)

### Push set-1 key.

"LG2" with "hy2 / CO2" will flash simultaneously. this is logic selection for set point 2.

"hy2 :- heating logic for set point 2 & "CO2":- cooling logic for set point 2.

Push set-1 key to go to normal mode where display will show process temperature.

To set offset. Push " up" & "down" arrow key at a time. "ofs" will flash along with "0000". set it using up & down arrow keys & push set-1 key again to go to normal mode. This is offset for proportional band.