

## MULTI

### MULTI 72 / 96 WITH 1 SET

#### Features

- 1) On/Off control & proportional action
- 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) logic selection, heating / cooling (user selectable).
- 6) Input sensor selection by front keys.
- 7) Differential adjustment by front keys
- 8) Time delay adjustment by front keys
- 9) Range lock is provided.
- 10) 5 Amp relay contact 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,
- 3) Proportional band: 0 to 100%.
- 4) Time Delay : 1 to 255 seconds,
- 5) Cycle time : 1 to 50 seconds.
- 6) Offset adjustment : 0 to 50.
- 7) Range: - 99 to 400°C for RTD, 0 to 750°C for J, 0 to 1200°C / 0 to 999°C for K
- 8) Mounting : panel mounting.
- 9) Cut-out : 70 x 70 mm / 91 x 91 mm.
- 10) Power consumption : 10 VA max.
- 11) Display : 3 digit / 4 digit 7-seg, red led display.
- 12) Supply : 220 V AC +/- 15% 50 Hz

#### Terminal Connections

- 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 relay
- 16 - Common contact of relay
- 17 - Normally close contact of relay

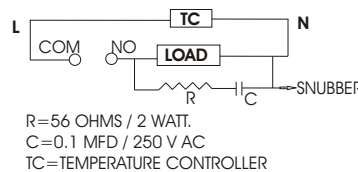
#### Trouble Shooting :

- 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) Problem in relay operation - check **ht1** time delay for relay operation. It should not be more than 4 sec. for heating logic.

#### Terminal Connections

- 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 relay
- 11 - Common contact of relay
- 12 - Normally close contact of realy

#### CONNECTION FOR LOAD

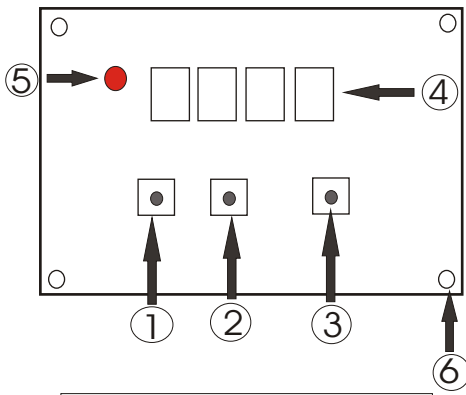


**If load is inductive,  
connect snubber across load**

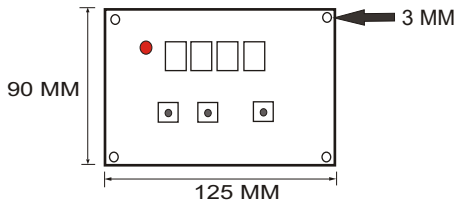
**ION ELECTRICALS**  
PRIVATE LIMITED  
आयन् इलेक्ट्रिकल्स प्रा. लि.



## FRONT VIEW



- 1:- SET1 KEY
- 2:- INCREMENT KEY
- 3:- DECREMENT KEY
- 4:- DISPLAY
- 5:- RELAY ON INDICATION
- 6:- MOUNTING HOLE



| Model | Control Range                   | Input Sensor |
|-------|---------------------------------|--------------|
| MULTI | -100°C to 400°C                 | Pt 100       |
| MULTI | 0°C to 750°C                    | J Type       |
| MULTI | 0°C to 1200°C /<br>0°C 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"** key, display will start flashing with previous set no. Set it using up or down key to desired value. After setting new value push set 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 set 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 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 or down arrow keys. (rtd : PT100 (RTD) ,J :- J-type thermocouple, :- K-type thermocouple).

Push SET key,

**SEt 0001** will flash simultaneously. Here one can select number of set points. Set it using up or down arrow keys. Set "0001".

### Push SET key.

**"Pi"** along with On/OFF will flash simultaneously. Here one can set control action. Set **"On"** to enable proportional action or **"OFF"** for simple on/off action. Set it by up or down arrow keys.

### Push SET key,

**"Prb"** with some number will flash simultaneously. This is proportional band. Set it using up or down arrow keys. (settable from 1 to 100 %). In on/off action "hy1" will appear instead of "Prb". ("Hy1" is differential)

### Push SET key,

**"ht1"** with some number will flash simultaneously. This is time delay in seconds

.set it using up or down arrow keys. (settable upto 255 seconds).

### Push SET keys,

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

### Push set key.

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

### Push set key,

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

Push set 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 or down arrow keys & push set key again to go to normal mode. This is offset for proportional band.