



PV = Process value
SV = Set Value

Display Color:
Upper : Red/White
Lower : Green

TECHNICAL SPECIFICATION

INPUT SPECIFICATION:

Input Type	Input	Range
Thermocouple	J	0 to 400 °C
	K	0 to 500 °C
Resolution	1 °C	
Indication Accuracy	±1% of FSD ± 1 °C (FSD:- Full Scale Deflection)	

DISPLAY AND KEYS:

Display	Upper: 3 digit, 7 segment, 0.63" Lower: 3 digit, 7 segment, 0.30"
Keys	SET, INC, DEC, ENT

DIMENSION:

Size	48 (H) x 48 (W) x 70 (D) mm
Panel Cutout	45 (H) x 45 (W) mm

CONTROL METHOD:

Heating	1) PID control with Auto-Tuning 2) ON-OFF control
Cooling	1) BL.TP (Blower Time Proportional) 2) ON-OFF control
Alarm	High, Absolute Low, Inband, Absolute Outband

POWER SUPPLY:

Supply voltage	100 to 270V AC, 50-60Hz
Power consumption (VA RATING)	Approx 4VA @ 230V AC MAX

ENVIRONMENT CONDITION:

Operating Temp.	0 °C to 55 °C
Relative Humidity	UP to 95% RH (non-condensing)
Protection Level (As Per request)	IP-65 (Front side) As per IS/IEC 60529 : 2001

ERROR DISPLAY

When an error has occurred the display indicates error codes as given below.

ERROR	MEANING
OPn	Sensor is not connected or Over range condition or sensor break
SrE	Sensor connection is reversed

FACTORY SETTING

Diagram showing the process of entering factory settings: 123 → Press (▲)+(▼) key for 3 sec → F5E / no → YES: Press (ENT) key to apply factory set values as shown in table. no: Press (ENT) key to escape from factory setting.

SR.	PARAMETER	VALUES	SR.	PARAMETER	VALUES
1	PB	20.0 °C	7	HYSTERISIS-1	3 °C
2	IT	300	8	HYSTERISIS-2	2 °C
3	DT	75	9	C-PB	4.0 °C
4	CT	15 sec	10	C-ON	1 Sec
5	MR	0 °C	11	C-OFF	48 Sec
6	OFFSET	0 °C			

RANGE FOR CONTROL PARAMETER

Parameter	Range for J,K
PB	0.0 to 99.9 °C
IT	0 to 999
DT	0 to 999
CT	4 to 99 sec
MR	-9 to 9 °C
OFFSET	-50 to 50 °C
HYS1	1 to 100 °C
HYS2	1 to 100 °C
C-PB	2.0 to 25.0 °C
C-ON	1 to 20 sec
C-OFF	5 to 200 sec
R1DL	0.0 to 9.59 (mm.ss)
R2DL	0.0 to 9.59 (mm.ss)

PARAMETER MESSAGE DESCRIPTION

SP1	Set Point 1 For O/P 1	HYS1	Hysteresis 1
SP2	Set Point 2 For O/P 2	HYS2	Hysteresis 2
LO2	Low Set Point 2	OUT1	Output 1 Mode
HI2	High Set Point 2	CR1	Control Action 1
PAS	Password	OUT2	Output 2 Mode
INP	Input (Sensor)	CR2	Control Action 2
SLL	Set Low Limit	RL2	Alarm 2
SHL	Set High Limit	ABO	Absolute Out Band Alarm
OFF5	Offset	SET2	Set 2 Mode
Pb	Proportional Band For PID Action	rid	Relay 1 Delay Time
		r2d	Relay 2 Delay Time

OUTPUT SPECIFICATION:

Output 1: Relay OR SSR (Selectable)	
Relay Type	1C/O (NO-C-NC)
Rating	10A, 230V AC / 28V DC
SSR Drive Output	
Output signal	12V DC, 30 mA
Output 2: Relay Output	
Relay Type	(NO-C-NC)
Rating	10A, 230V AC / 28V DC

KEY OPERATION

FUNCTION	PRESS KEY
OPERATOR MODE	
To enter in parameter setting	
For start/stop PID auto tuning	Press 6 sec
To go in factory setting mode	+ Press 3 sec
PARAMETER SETTING MODE	
To set parameter value and move to the next parameter	
To increment parameter value.	
To decrement parameter value	
Set parameter to be save & exit.	

<i>i t</i>	Integral Time Constant
<i>d t</i>	Derivative Time Constant
<i>c t</i>	Cycle Time For PID Action
<i>r</i>	Manual Reset
<i>CPb</i>	Cooling PB
<i>CO n</i>	Cooling On Time
<i>CO F</i>	Cooling Off Time
<i>HE t</i>	Heating Mode
<i>CO L</i>	Cooling Mode
<i>AL n</i>	Alarming Mode
<i>OFF</i>	OFF Mode
<i>YES</i>	Yes
<i>NO</i>	No
<i>Ind</i>	Set 2 Individual to Set 1
<i>rLt</i>	Set 2 Relative to Set 1
<i>FLS</i>	Factory Setting

<i>Pi d</i>	PID Action
<i>ON F</i>	ON-OFF Action
<i>bl P</i>	Blower TP Action
<i>Hi L</i>	High Alarm
<i>Ab L</i>	Absolute Low Alarm
<i>in b</i>	In Band Alarm



SAFETY PRECAUTION

All safety related codifications, symbols and instructions that appear in this operating manual or on the equipment must be strictly followed to ensure the safety of the operating personnel as well as the instrument.

If all the equipment is not handled in a manner specified by the manufacturer, it might impair the protection provided by the equipment.



Read complete instructions prior to installation and operation of the unit.



WARNING : Risk of electric shock.

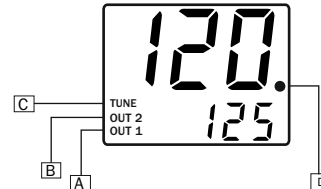
MAINTENANCE

- The equipment should be cleaned regularly to avoid blockage of ventilating parts.
- Clean the equipment with a clean soft cloth. Do not use isopropyl alcohol or any other cleaning agent.
- Fusible resistor must not be replaced by operator.

MECHANICAL INSTALLATION

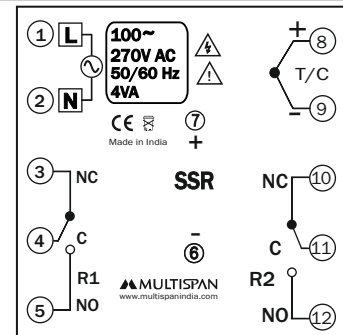
Outline Dimension (mm)	Panel Cutout Dimension (mm)

STATUS LED DESCRIPTION



- A - Control output 1 indication
- B - Control output 2 indication
- C - Auto tuning "ON" indication
- D - Blinking DP Will Indicate Delay time Count

TERMINAL CONNECTION



WARNING GUIDELINES



WARNING : Risk of electric shock.

- To prevent the risk of electric shock, power supply to the equipment must be kept OFF while doing the wiring arrangement. Do not touch the terminals while power is being supplied.
- To reduce electro magnetic interference, use wire with adequate rating and twists of the same of equal size shall be made with shortest connection.
- Cable used for connection to power source, must have a cross section of 1mm or greater. These wires should have insulations capacity made of at least 1.5kV.
- When extending the thermocouple lead wires, always use thermocouple compensation wires for wiring for the RTD type, use a wiring material with a small lead resistance (5Ω max per line) and no resistance differentials among three wires should be present.
- A better anti-noise effect can be expected by using standard power supply cable for the instrument.

INSTALLATION GUIDELINES

- This equipment, being built-in-type, normally becomes a part of main control panel and in such case the terminals do not remain accessible to the end user after installation and internal wiring.
- Do not allow pieces of metal, wire clippings, or fine metallic fillings from installation to enter the product or else it may lead to a safety hazard that may in turn endanger life or cause electrical shock to the operator.
- Circuit breaker or mains switch must be installed between power source and supply terminal to facilitate power 'ON' or 'OFF' function. However this mains switch or circuit breaker must be installed at convenient place normally accessible to the operator.
- Use and store the instrument within the specified ambient temperature and humidity ranges as mentioned in this manual.

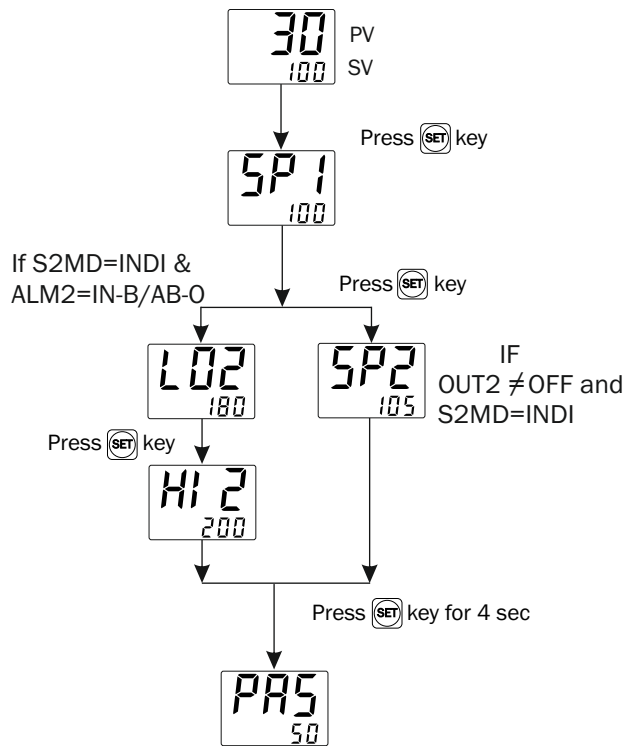
MECHANICAL INSTALLATION GUIDELINES

- Prepare the panel cutout with proper dimensions as shown above.
- Fit the unit into the panel with the help of clamp given.
- The equipment in its installed state must not come in close proximity to any heating source, caustic vapors, oil steam, or other unwanted process byproducts.
- Use the specified size of crimp terminal (M3.5 screws) to wire the terminal block. Tightening the screws on the terminal block using the tightening torque of the range of 1.2 N.m.
- Do not connect anything to unused terminals.

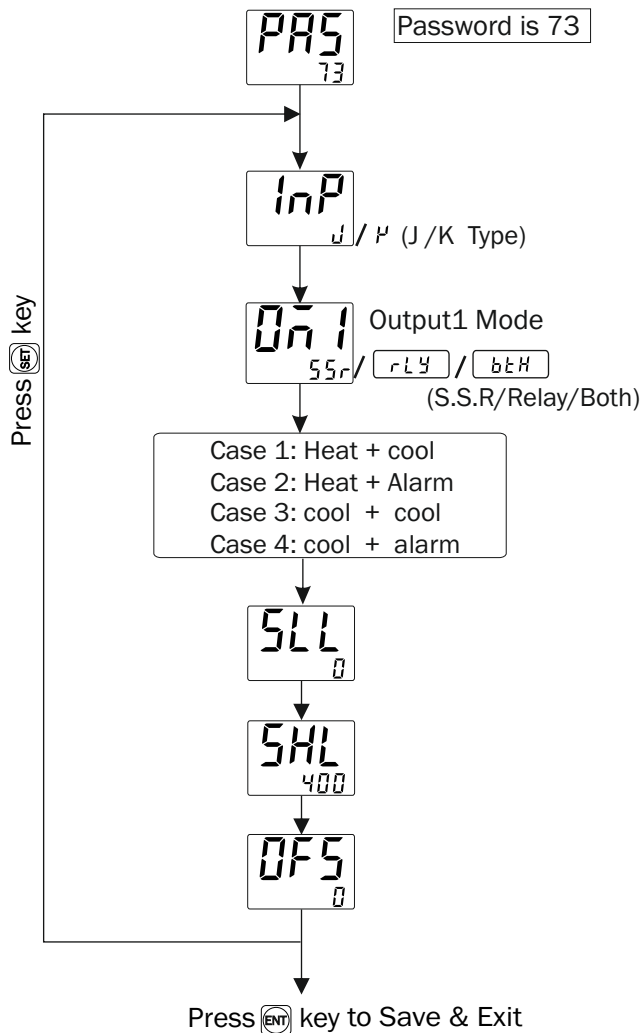
Specifications are subject to change, since development is a continuous process, So for more updated operating information and Support, Please contact our Helpline: 9978991474/76/82 or Email at service@multispanindia.com Ver:2208

PARAMETER SETTING

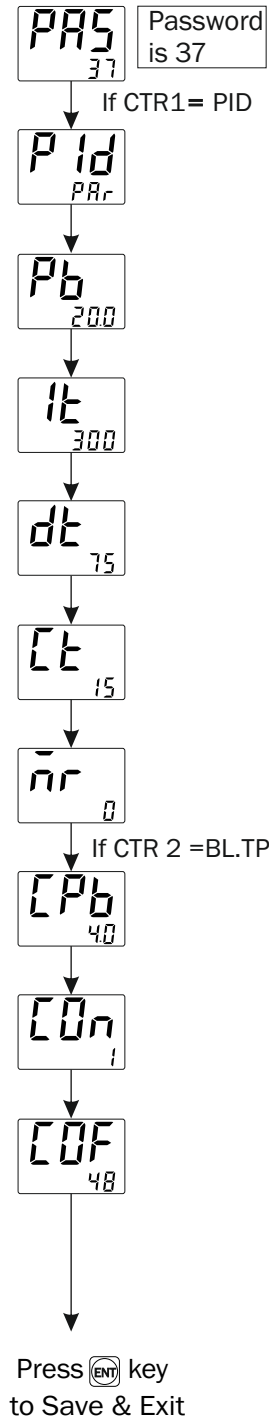
SET POINT SETTING



BASIC CONFIGURATION

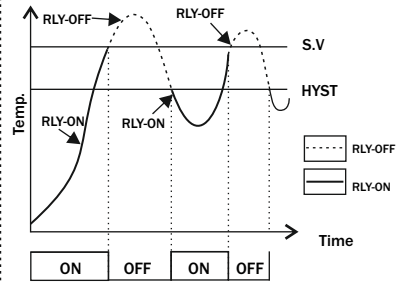


CONTROL PARAMETER SETTING

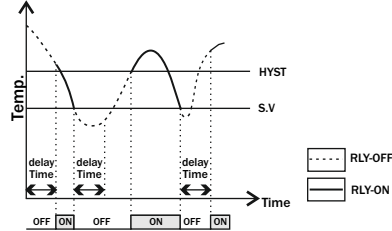


CONTROL FUNCTION

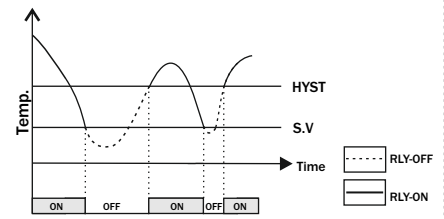
ON - OFF control (Heating)



ON - OFF control (Cooling) for relay 1 mode



ON - OFF control (Cooling) for relay 2 mode

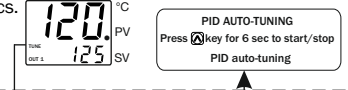


Auto Tuning:

→ The Auto-tuning function automatically computes and sets the Proportional band (Pb), Integral time (It), Derivative time (dt), and cycle time as per process characteristics.

→ Tuning LED will turn "ON" during Auto-Tuning

→ If the power goes off before auto-tuning is completed, auto-tuning will be restarted at next power ON.



BASIC CONFIGURATION

