MULTISPAN

TEMPERATURE CONTROLLER
UTC - 4202G

CE

PV = Process value
SV = Set Value

Display Color:
Upper : White Or Red
Lower : Green

TECHNICAL SPECIFICATION

INPUT SPECIFICATION:

	Input	Range
Input Types	J	0 to 600°C
	J.1	0.0 to 400.0°C
	K	0 to 1200°C
	K.1	0.0 to 500.0°C
	PT-100	-50 to 400°C
	PT.1	-50.0 to 400.0°C
Resolution	J,K,PT-100 = 1°C	
	J.1,K.1,PT.1 = 0.1°C	
Indication Accuracy	±1% of FSD ± 1°C	

DISPLAY AND KEYS:

Display	Upper: 4 digit, 7 segment, 0.56” Lower: 4 digit, 7 segment, 0.33”
Keys	SET, INC, DEC, ENT

DIMENSION:

Size	48 (H) x 48 (W) x 95 (D) mm
Panel Cutout	45 (H) x 45 (W) mm

CONTROL METHOD:

Heating	1) PID control with Auto-Tuning 2) (TP) Time Proportional 3) ON-OFF control
Cooling	1) BL.TP (Blower Time Proportional) 2) ON-OFF control
Alarm	High /Low /Absolute Low/ Inband /Absolute Outband/Outband/End Alarm

POWER SUPPLY

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

OUTPUT SPECIFICATION:

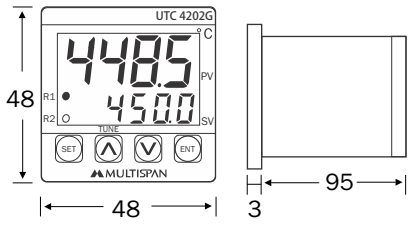
Relay Output	
Relay	2 nos.
Relay Type	1 st Relay -1 C/O (NO-C-NC) 2 nd Relay (NO-C)
Rating	10A, 230V AC / 28 V DC
SSR Drive Output	
Output Signal	12V DC, 30mA DC (ON-OFF Condition)
Relay 1 Parallel to SSR	

ENVIRONMENT CONDITION

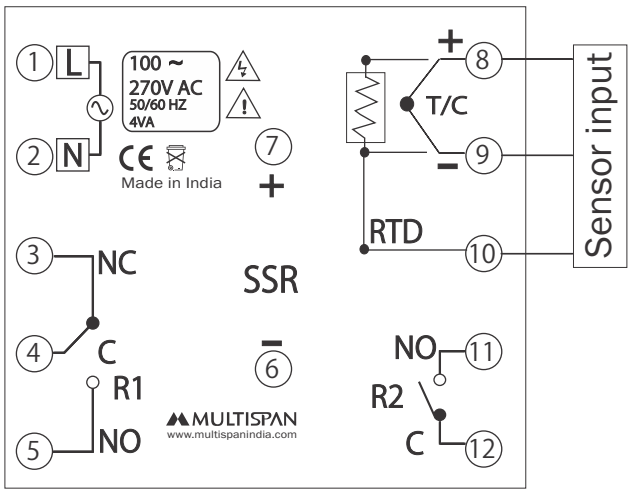
Operating Temp.	0°C to 55°C
Relative Humidity	UP to 95% RH (non-condensing)
Protection Level (As per request)	IP-65 (Front side) As per IS/IEC 60529 : 2001

MECHANICAL INSTALLATION

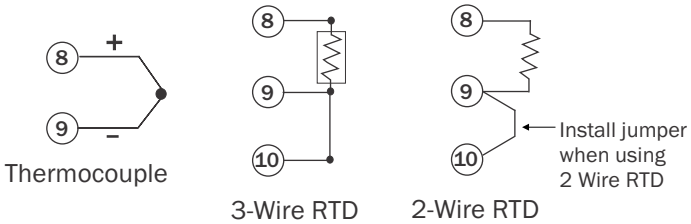
Outline Dimension (mm)	Panel Cutout Dimension (mm)



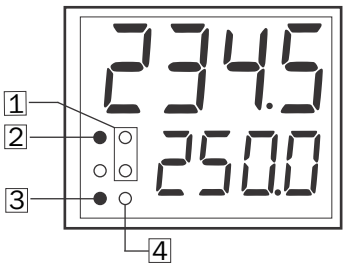
TERMINAL CONNECTION



Sensor Input



STATUS LED DESCRIPTION



1 - Soak Time counting indication

2 - Relay 1 Control O/P

3 - Relay 2 Control O/P

4 - Auto Tuning on indication

KEY OPERATION

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

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.

WARNING GUIDELINES

WARNING : Risk of electric shock.

1. 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.
2. To reduce electro magnetic interference, use wire with adequate rating and twists of the same of equal size shall be made with shortest connection.
3. 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.
4. 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.
5. A better anti-noise effect can be expected by using standard power supply cable for the instrument.

INSTALLATION GUIDELINES

1. 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.
2. 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.
3. 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.
4. Use and store the instrument within the specified ambient temperature and humidity ranges as mentioned in this manual.

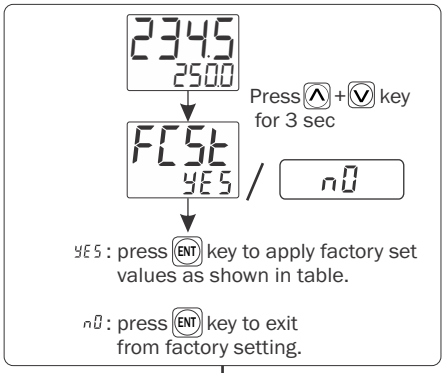
MECHANICAL INSTALLATION GUIDELINES

1. Prepare the panel cutout with proper dimensions as shown above.
2. Fit the unit into the panel with the help of clamp given.
3. 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.
4. 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.
5. Do not connect anything to unused terminals.

MAINTENANCE

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

FACTORY SETTING



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

PARAMETER MESSAGE DESCRIPTION

SEt 1	Set Point 1 For O/P 1
SEt2	Set Point 2 For O/P 2
LO1 1	Low Set Point 1
HIG1	High Set Point 1
LO12	Low Set Point 2
HIG2	High Set Point 2
PASS	Password
InPt	Input (Sensor)
SYPS	Soak Passing
SYrG	Soak Remaining
SYtn	Soak Time Normal
SLL	Set Low Limit
SHL	Set High Limit
OFSt	Offset
Pb	Proportional Band For PID Action
I t	Integral Time Constant
dt	Derivative Time Constant
Ct	Cycle Time For PID Action
Pb2	Proportional Band For TP Action
Ct2	Cycle Time For TP Action
rn	Manual Reset

PARAMETER MESSAGE DESCRIPTION

C-Pb	Cooling PB
C-On	Cooling On Time
C-OF	Cooling Off Time
HYS 1	Hysterisis 1
HYS2	Hysterisis 2
r1 md	Relay 1 Mode
SOAP	Soak Time Select
SYMd	Soak Mode
SYUt	Soak Unit
SYtn	Soak Time Value
nEnO	Soak Time Memory
End	Soak Time End
Ctr 1	Control Action 1
r2md	Relay 2 Mode
Ctr2	Control Action 2
ALn1	Alarm 1
ALn2	Alarm 2
S2md	Set 2 Mode
r 1dL	Relay 1 Delay Time
r2dL	Relay 2 Delay Time
ALtn	Alarm Time
PI d	PID Action
tP	TP Action
OnOF	ON-OFF Action
bL.tP	Blower TP Action
H IGH	High Alarm
Ab-L	Absolute Low Alarm
In-b	In Band Alarm
Ab-O	Absolute Out Band Alarm
LO1	Low Alarm
Ot-b	Outband Alarm
HEAt	Heating Mode
COOL	Cooling Mode
ALrn	Alarming Mode
OFF	OFF Mode
YES	Yes
nO	No
SAvE	Save
Indl	Set 2 Individual to Set 1
rLtv	Set 2 Reletive to Set 1
SEC	Second
nIn	Minute
HOUr	Hour
FCSt	Factory Setting

RANGE FOR CONTROL PARAMETER

PARAMETER	RANGE FOR J, K, & PT-100	RANGE FOR J.1,K.1,PT.1
PB	0.0 to 999.9°C	0.0 to 999.9°C
IT	0 to 9999	0 to 9999
DT	0 to 9999	0 to 9999
CT	4 to 99 sec	4 to 99 sec
Pb2	2 to 20°C	2 .0 to 20.0°C
Ct2	4 to 99 sec	4 to 99 sec
MR	-9 to 9°C	-9.0 to 9.0°C
OFFSET	-20 to 20°C	-20.0 to +20.0°C
HYS1	1 to 100°C	0.1 to 100.0°C
HYS2	1 to 100°C	0.1 to 100.0°C
C-PB	2.0 to 25.0°C	2.0 to 25.0°C
C-ON	1 to 20 sec	1 to 20 sec
C-OFF	5 to 200 sec	5 to 200 sec
R1DL	0.0 to 99.59 (mm.ss)	0.0 to 99.59 (mm.ss)
R2DL	0.0 to 99.59 (mm.ss)	0.0 to 99.59 (mm.ss)
ALTM	0 to 999 sec	0 to 999 sec
SKTM	0 to 999 Unit As Per Soak Unit Selected	0 to 999 Unit As Per Soak Unit Selected

ERROR DISPLAY

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

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

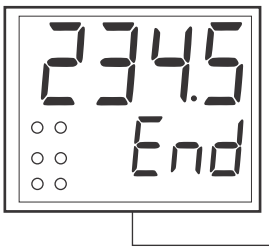
CORRECTIVE ACTION:

Check the sensor and the input wiring. If problem still exists, replace the sensor. And still if problem is not solved yet by the user, then please contact company person

SOAK TIME FUNCTION

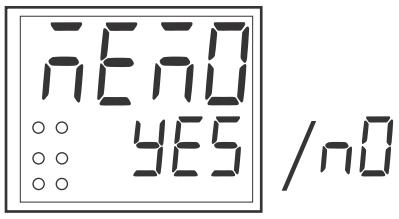
- Soak feature can be use to hold the process at a preset temperature for a preset time.
  (Range : selectable up to 0 to 999 hour)

- When soak time is completed, then display indicate message as shown below.



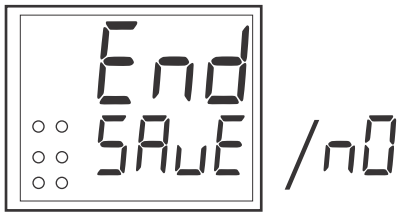
To restart process press (ENT) key for 3 sec.

Soak time memory (nEnD)



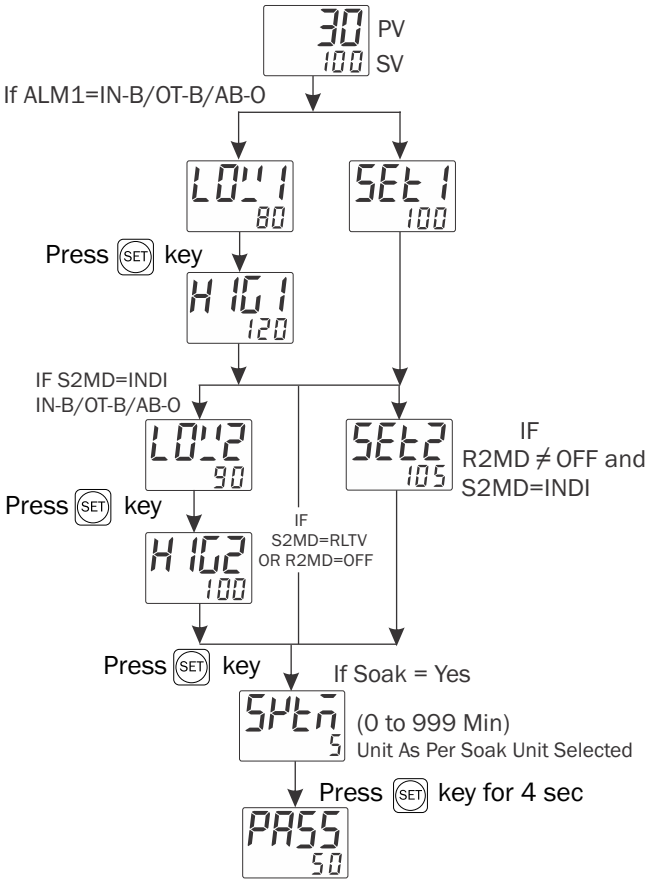
YES : In case of power supply failure, remaining soak time counting will be continued at next power on.
nO : In case of power supply failure, soak time counting will be restarted at next power on.

Soak time end (End)

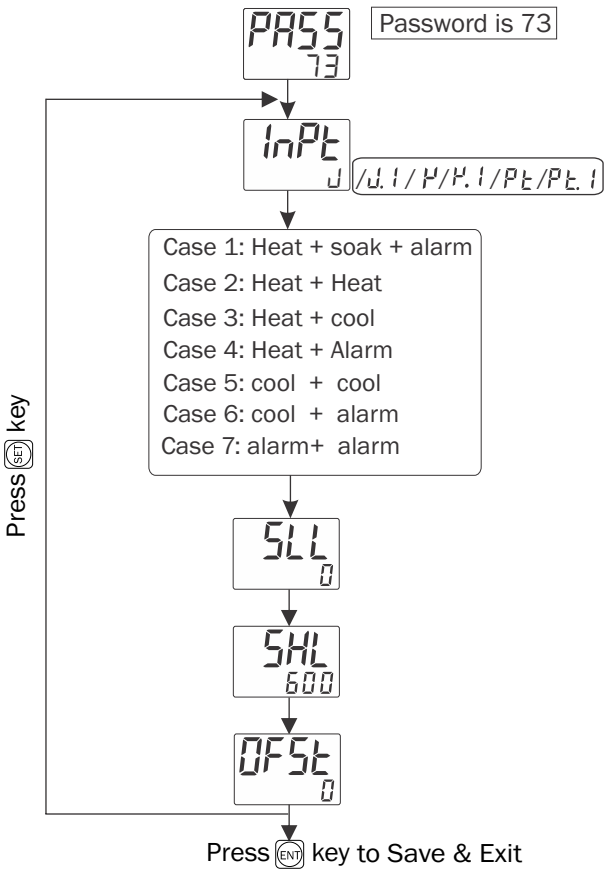


- In case of soak time end, if user apply SAvE in configuration then soak time end (End) display will still indicate after power supply failure. And that will only reset by pressing (ENT) key for 3 sec.

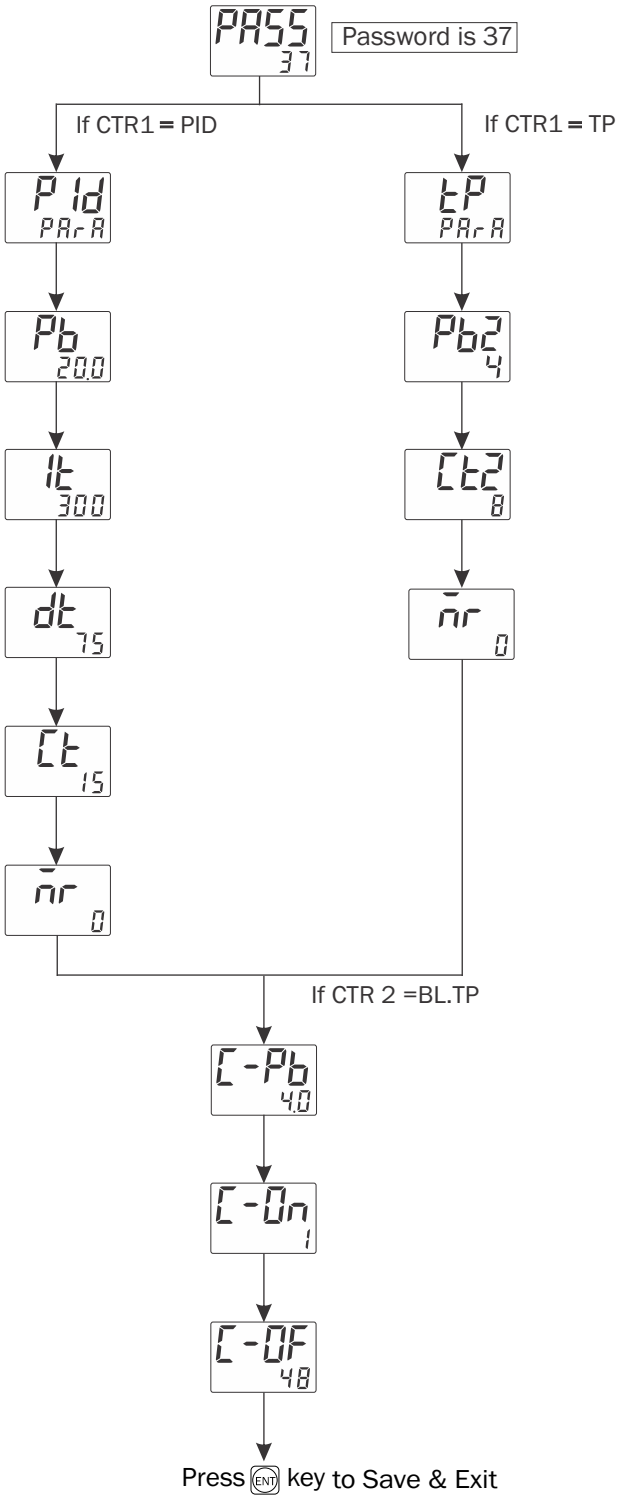
SET POINT SETTING



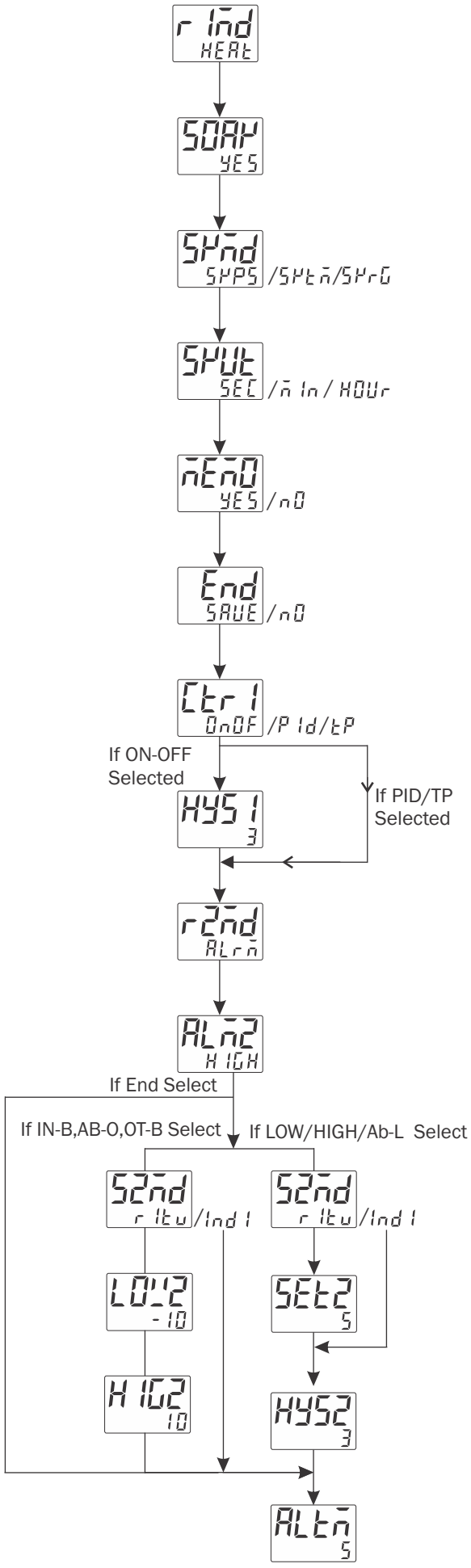
BASIC CONFIGURATION



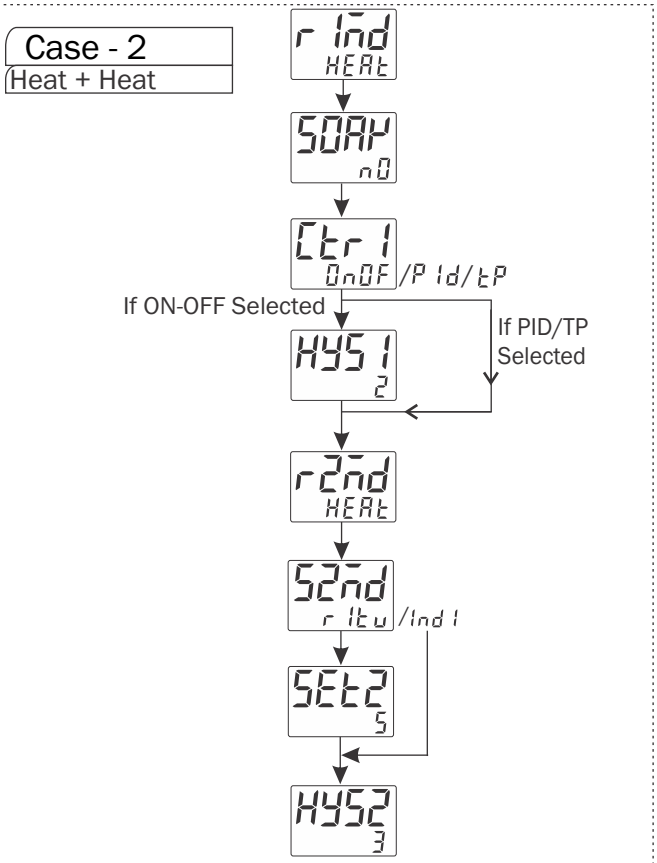
CONTROL PARAMETER SETTING



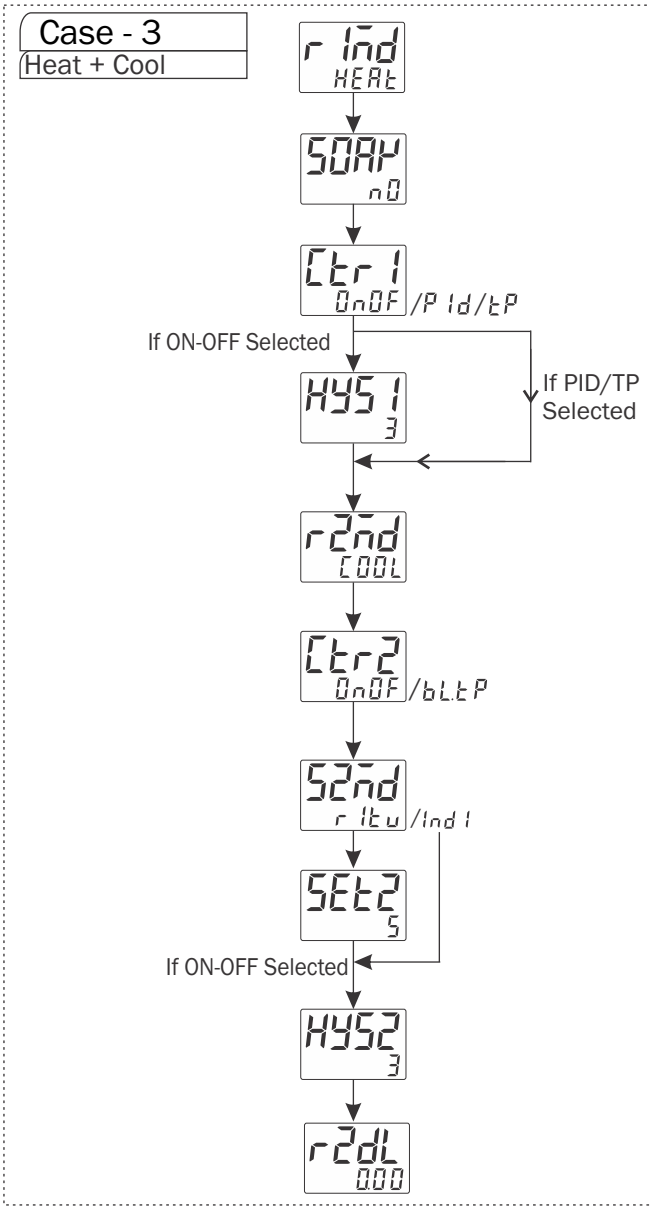
Case - 1
Heat + Soak + Alarm



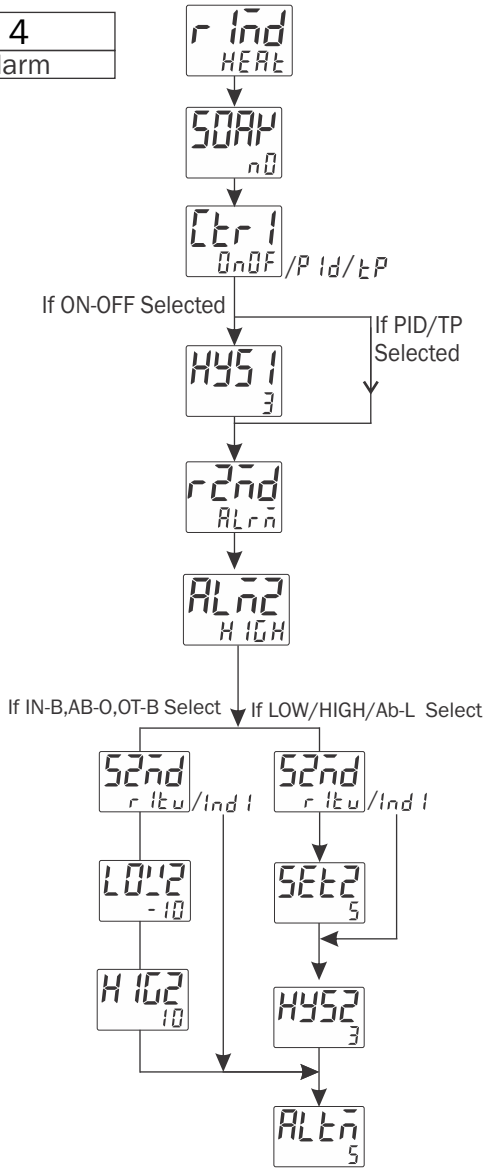
Case - 2
Heat + Heat



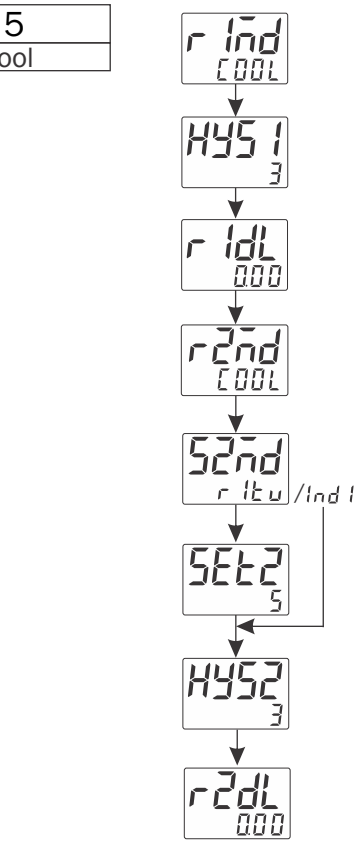
Case - 3
Heat + Cool



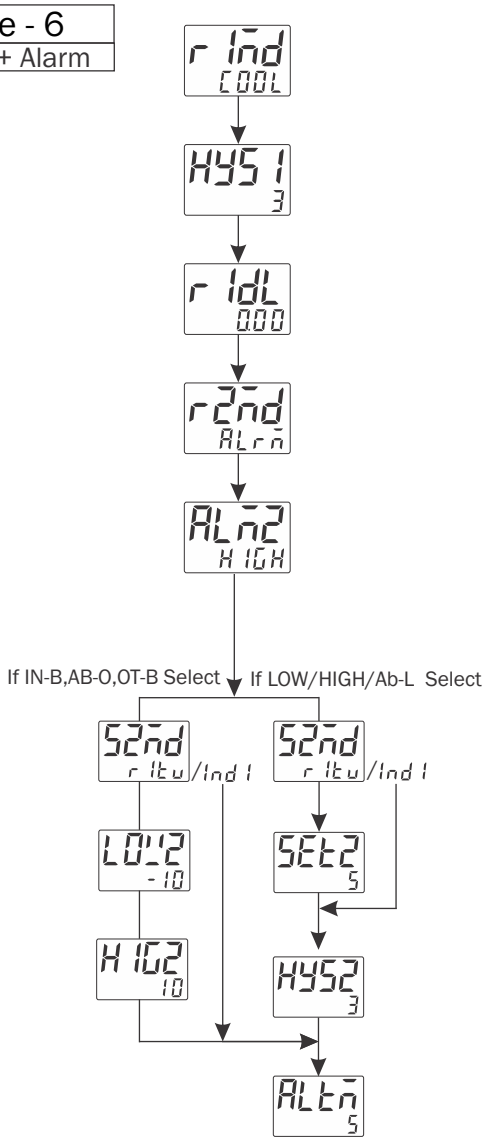
Case - 4
Heat + Alarm



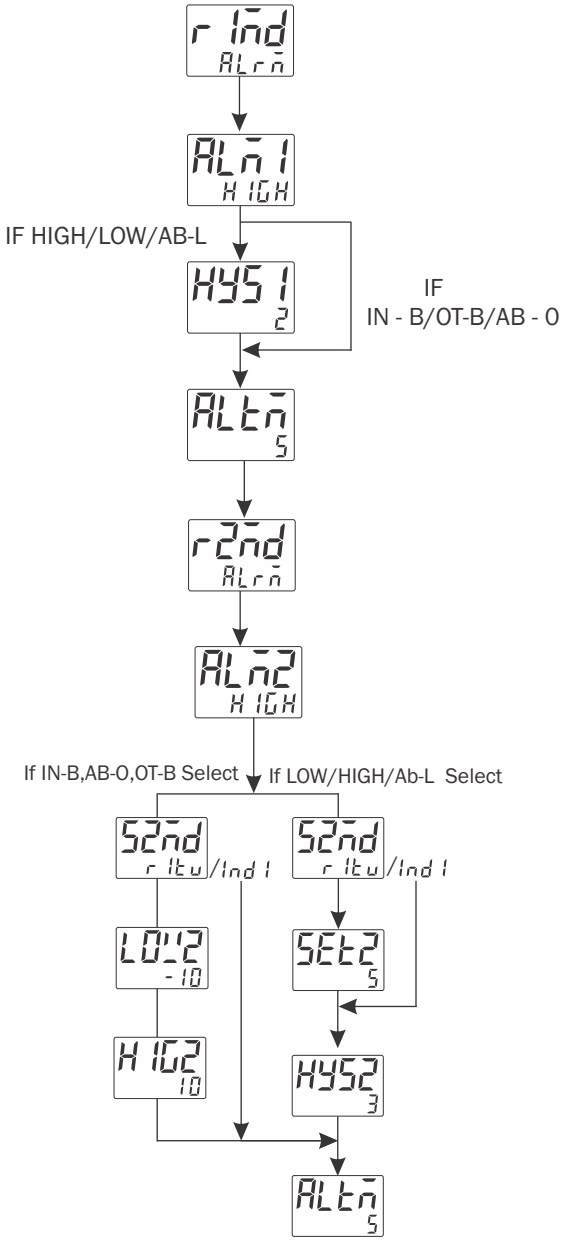
Case - 5
Cool + Cool



Case - 6
Cool + Alarm

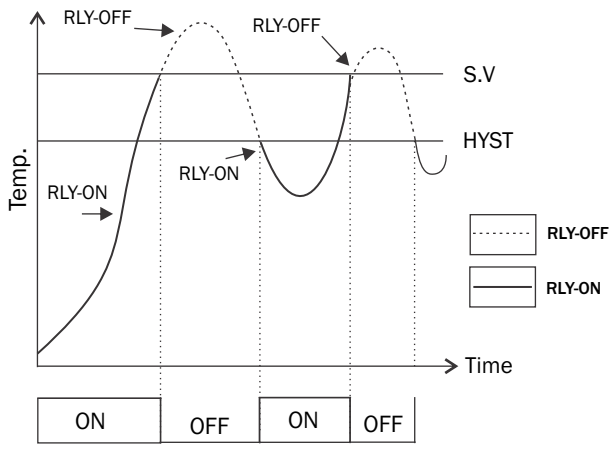


Case - 7
Alarm + Alarm

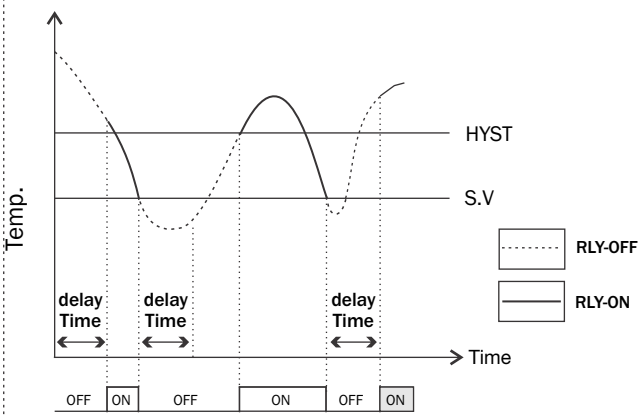


CONTROL FUNCTION

ON - OFF control (Heating)



ON - OFF control (Cooling)

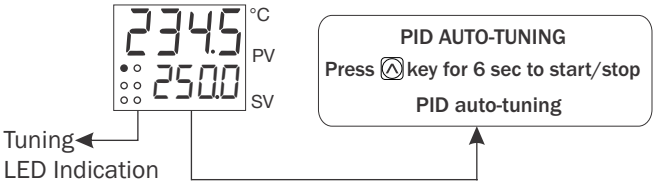


Auto Tuning:-

→ 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.



Specifications are subject to change, since development is a continuous process,
So for more updated operating information and Support,
Please contact our Helpline: 9978991476/9978991474/9978991482 or
Email at service@multispanindia.com Ver:201101