

PROCESS & TEMPERATURE CONTROLLER

MULTISPAN

PTC- 382-M1



OUTPUT SPECIFICATION :

Relay Output	
Relay	2 nos.
Relay Type	1 ST C/O (NO-C-NC) , 2 ND C/O (NO-C)
Rating	5A ,230V AC/30 V DC
Transmitter supply	
24V DC	
Modbus Communication	
RS-485	

AUXILIARY SUPPLY :

Supply voltage	100 to 270V AC ,50-60Hz
Power consumption (VA RATING)	Approx 6 VA @ 230V AC MAX

ENVIRONMENT CONDITION :

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

TECHNICAL SPECIFICATION

INPUT SPECIFICATION:

Input Types	Input	Range
Thermocouple	J	0 to 600 °C
	K	0 to 1200 °C
RTD	PT-100	-99 to 400 °C
	PT.1	-99.9 to 400.0 °C
Voltage	0-10V DC	-1999 to 9999
Current	0-20mA DC	-1999 to 9999
	4-20mA DC	-1999 to 9999
Resolution	J,K,PT-100 = 1 °C	
	PT.1 = 0.1 °C	
	0-10V DC,0-20mA DC,4-20mA DC = 0.1,0.01,0.001,0001	
Indication Accuracy	±1% of FSD ± 1 Count (FSD : full scale deflection)	

DISPLAY AND KEYS:

Display	4 digit, 7 seg 0.8" RED
Keys	SET, ENT, INC, DEC

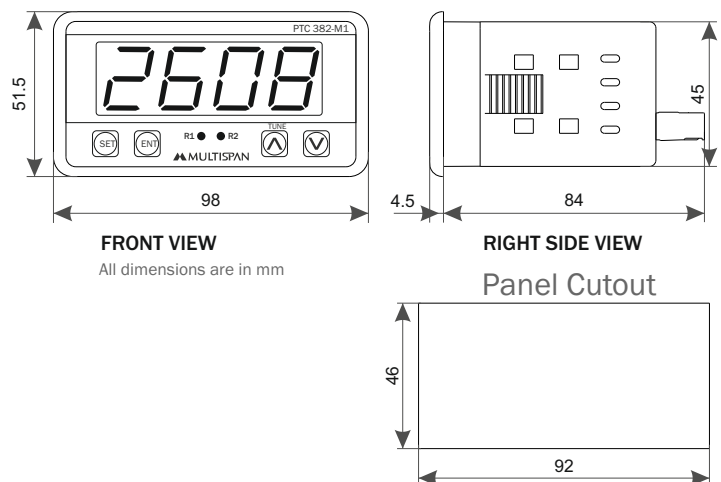
DIMENSION:

Size	51.5 (H) x 98 (W) x 84 (D) mm
Panel Cutout	46 (H) x 92 (W) mm

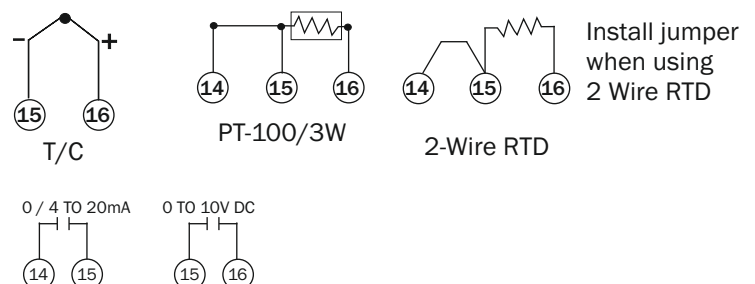
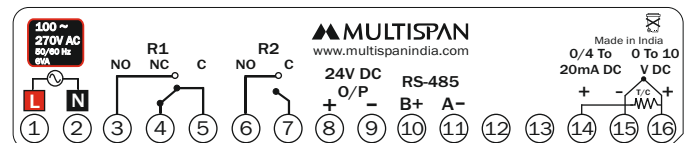
CONTROL METHOD:

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

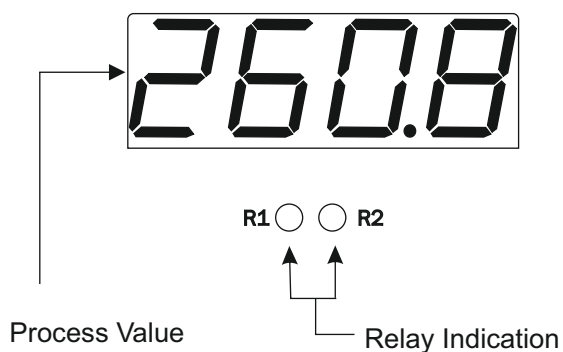
MECHANICAL INSTALLATION



TERMINAL CONNECTION



DISPLAY INDICATION



KEY OPERATION

FUNCTION	PRESS KEY
OPERATOR MODE	
To enter in parameter setting	Press for 5 sec
For start/stop PID auto tuning	Press 6 sec
To go in factory setting mode	+ Press 3 sec
To Reset soak process	Long Press
PARAMETER SETTING MODE	
To set parameter value	
Set parameter to be save & exit.	
To increment parameter value.	
To decrement parameter value.	

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.

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, oils 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 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.

INSTALLATION GUIDELINES

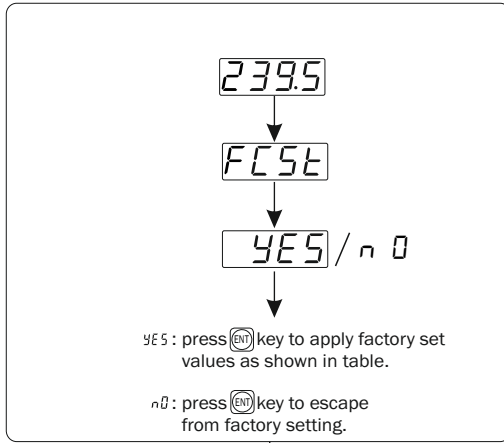
1. This equipment, being built-in-type, normally becomes a part of main control panel and in such case the terminals do not remain accessible to the end user after installation and internal wiring.
2. Do not allow pieces of metal, wire clippings, or fine metallic fillings from installation to enter the 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.

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 1mm² 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.

FACTORY SETTING



FACTORY SETTING

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

PARAMETER MESSAGE DESCRIPTION

SEt 1	Set Point 1 For O/P 1
SEt2	Set Point 2 For O/P 2
LOw 1	Low Set Point 1
HIG 1	High Set Point 1
LOw 2	Low Set Point 2
HIG 2	High Set Point 2
PASS	Password
INPt	Input (Sensor)
SLL	Set Low Limit
SHL	Set High Limit
OFFSEt	Offset
Pb	Proportional Band For PID Action
It	Integral Time Constant
dIt	Derivative Time Constant
Ct	Cycle Time For PID Action
r	Manual Reset
C-Pb	Cooling PB
C-On	Cooling On Time
C-OF	Cooling Off Time
HYS 1	Hysterisis 1

PARAMETER MESSAGE DESCRIPTION

HYS2	Hysterisis 2
OUT 1	OutPut 1 Mode
SOAK	Soak Time Select
SPnd	Soak Mode
SPUt	Soak Unit
SPt	Soak Time Value
MEMO	Soak Time Memory
End	Soak Time End
Ctrl 1	Control Action 1
OUT2	Output 2 Mode
Ctrl2	Control Action 2
ALr 1	Alarm 1
ALr2	Alarm 2
Set2nd	Set 2 Mode
r1dL	Relay 1 Delay Time
r2dL	Relay 2 Delay Time
ALt	Alarm Time
PID	PID Action
ONOFF	ON-OFF Action
BLtP	Blower TP Action
HIGH	High Alarm
LOW	Low Alarm
Out-b	OutBand Alarm
Ab-L	Absolute Low Alarm
In-b	In Band Alarm
Ab-O	Absolute Out Band Alarm
SEC	Second
min	Minute
HOUR	Hour
HEAt	Heating Mode
COOL	Cooling Mode
ALr	Alarming Mode
OFF	OFF Mode
YES	Yes
n0	No
SAVE	Save
Indl	Set 2 Individual to Set 1
Reltu	Set 2 Reletive to Set 1
FCSE	Factory Setting
BASE	Basic Configuration
Pv	Retransmission O/P On PV
SV	Retransmission O/P On SV
PERC	Percentage wise Selection Of 4-20 mA Analog O/P (Manually)

PARAMETER MESSAGE DESCRIPTION

LrR9	Low Range for analog input
HrR9	High Range for analog input
CrFC	Correction Factor for analog input
FLTr	Filter Time
SLL	Signal Low Limit for 4-20mA input
rLY1	Relay 1 parameter setting
rLY2	Relay 2 parameter setting
nBUS	Modbus Parameter setting

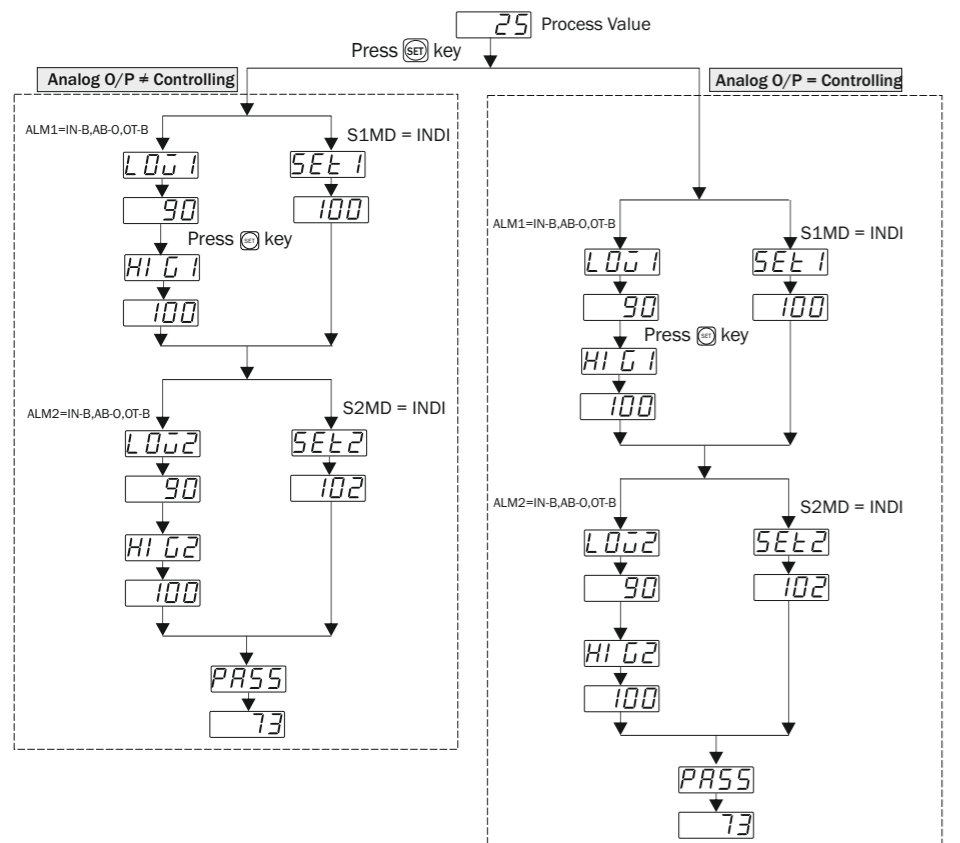
LOPC	Low percentage
HI PC	High percentage
Fr'd	Forward
rEur	Reverse
SHPS	Soak Passing
SHrG	Soak Remaining
SHtN	Soak Time Normal
Addr	Address
bAUd	Baudrate
Prty	Parity
dAtA	Datatype

nOnE	None Parity
EuEn	Even Parity
Odd	Odd Parity
Si nt	Sign Integer
FLDt	Float datatype
AUtO	Auto
Addr	Address
bAUd	Baudrate
Prty	Parity
dAtA	Datatype

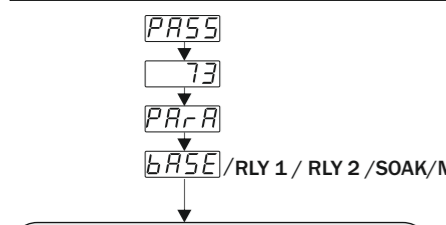
RANGE FOR CONTROL PARAMETER

SR.	PARAMETER	RANGE FOR J,K,PT-100	RANGE FOR PT.1	RANGE FOR ANALOG INPUT	
1	PB	0.0 to 999.9 °C	0.0 to 999.9 °C	0.0 to 999.9	
2	IT	0 to 9999	0 to 9999	0 to 9999	
3	DT	0 to 9999	0 to 9999	0 to 9999	
4	CT	4 to 99 sec	4 to 99 sec	4 to 99 sec	
5	MR	-9 to 9 °C	-9.0 to 9.0 °C	DP 3	-0.099 to 0.099
				DP 2	-0.99 to 0.99
				DP 1	-9.9 to 9.9
				DP 0	-99 to 99
6	OFFSET	-20 to 20 °C	-20.0 to +20.0 °C	DP 3	-0.999 to 0.999
				DP 2	-9.99 to 9.99
				DP 1	-99.9 to 99.9
				DP 0	-999 to 999
7	HYS1	1 to 100 °C	0.1 to 100.0 °C	DP 3	0.001 to 0.999
				DP 2	0.01 to 9.99
				DP 1	0.1 to 99.9
				DP 0	1 to 999
8	HYS2	1 to 100 °C	0.1 to 100.0 °C	DP 3	0.001 to 0.999
				DP 2	0.01 to 9.99
				DP 1	0.1 to 99.9
				DP 0	1 to 999
9	C-PB	2.0 to 25.0 °C	2.0 to 25.0 °C	2.0 to 25.0	
10	C-ON	1 to 20 sec	1 to 20 sec	1 to 20 sec	
11	C-OF	5 to 200 sec	5 to 200 sec	5 to 200 sec	
12	R1DL	0.00 to 99.59 mm.ss	0.0 to 99.59 mm.ss	0.00 to 99.59 mm.ss	
13	R2DL	0.00 to 99.59 mm.ss	0.0 to 99.59 mm.ss	0.00 to 99.59 mm.ss	
14	ALTM	0 to 99 sec	0 to 99 sec	0 to 99 sec	
15	CRFC	-	-	DP 3	-0.999 to 0.999
				DP 2	-9.99 to 9.99
				DP 1	-99.9 to 99.9
				DP 0	-999 to 999
16	FLTR	-	-	0.1 to 10.0 Sec	
17	SLL	-	-	0.0 to 5.0 mA	

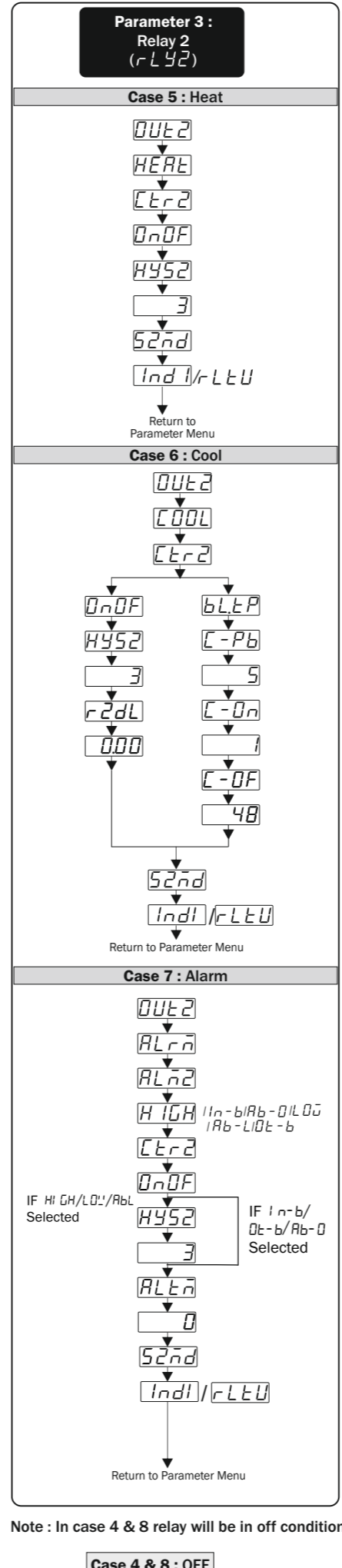
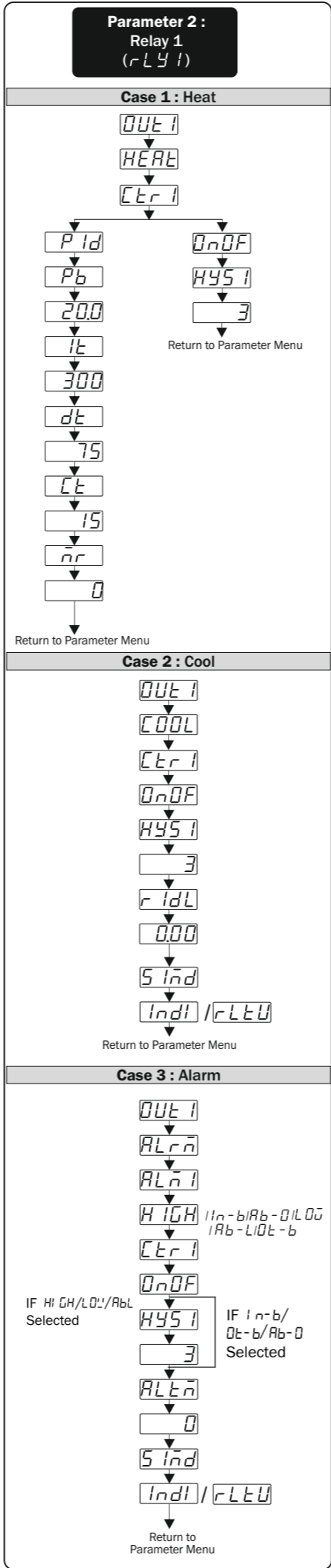
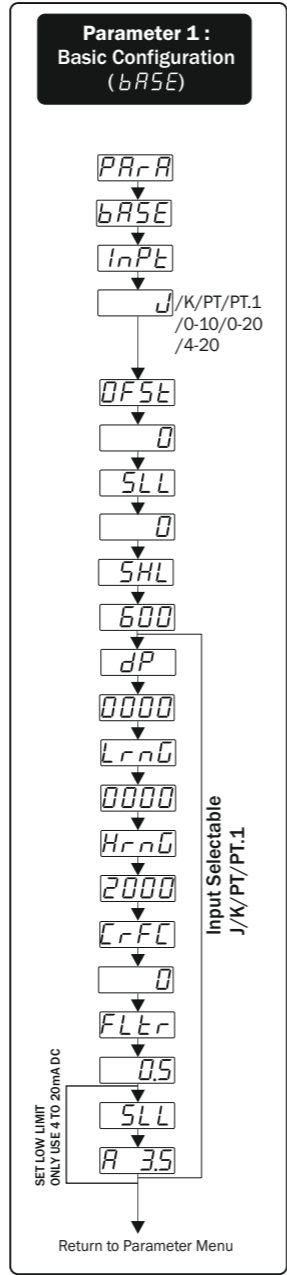
PARAMETER SETTING



Password 73 Explanation

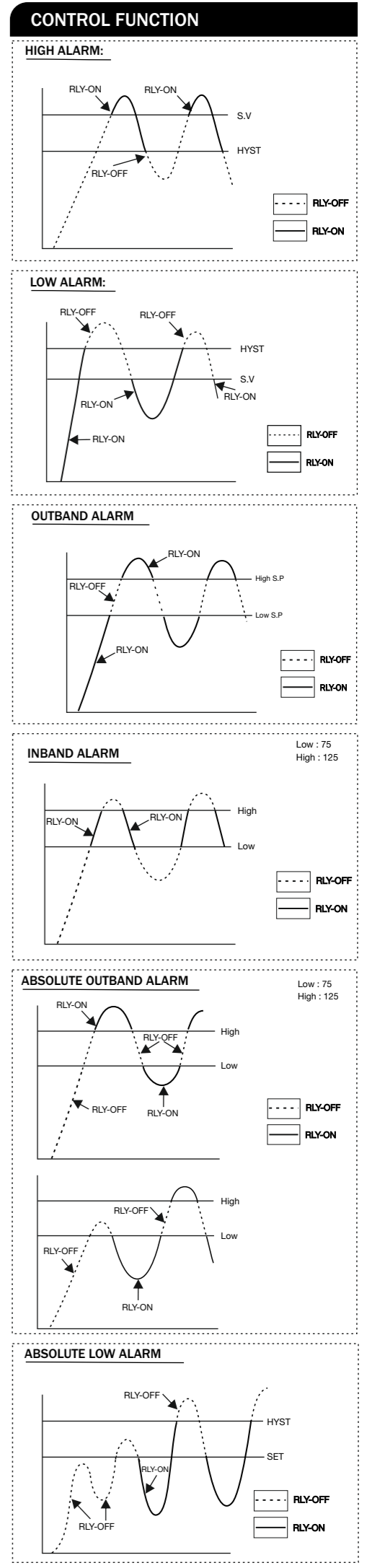
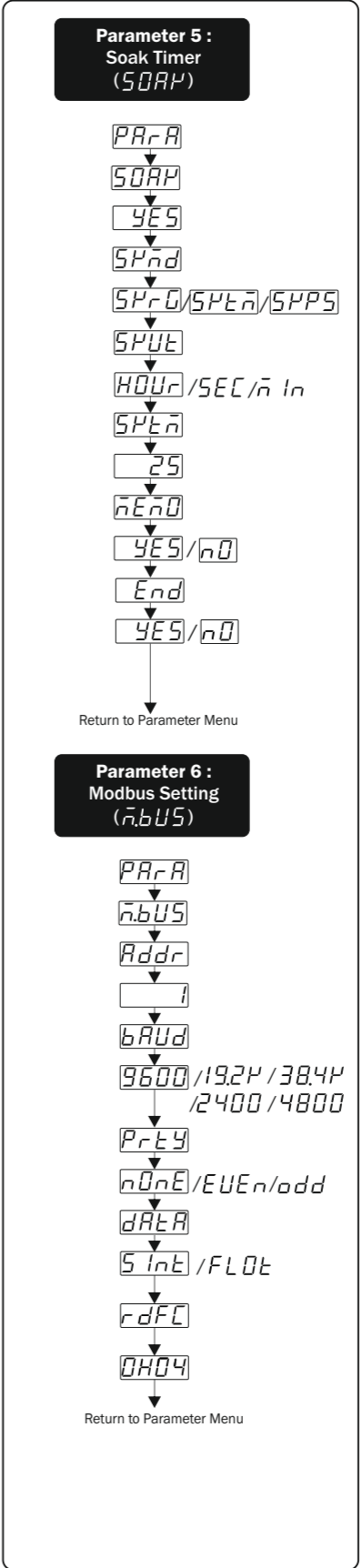


- Parameter 1 : Basic Configuration (BASE)
- Parameter 2 : Relay 1 (RLY1)
 - Case 1 : Heat
 - Case 2 : Cool
 - Case 3 : Alarm
 - Case 4 : Off
- Parameter 3 : Relay 2 (RLY2)
 - Case 5 : Heat
 - Case 6 : Cool
 - Case 7 : Alarm
 - Case 8 : Off
- Parameter 4 : Soak Timer (SOAK)
- Parameter 5 : Modbus (nBUS)



Note : In case 4 & 8 relay will be in off condition

Case 4 & 8 : OFF



MODBUS

Slave Address :	1 to 127
Baudrate :	2400,4800,9600,38400bps
Parity :	None,Even,Odd
Datatype :	Sign integer, Float (32 Bit Little Endian Byte Swap)
Read Function Register :	0x03 and 0x04
Write Function Register :	0x06 and 0x10

Note :- When Parameter 32100 = no available

When Process Value 32101 = Initialization Value

When Process Value 32102 = Sensor Open

When Process Value 32103 = Sensor Reverse

When Process Value 32104 = Over Range

When Process Value 32105 = I/P Signal Lower then SLL

Sr.No	Access Type	Parameter	Register																	
			Data Type																	
			Integer	Float																
1	R	Process Value	0	0																
2	R	R1 Status	1	2																
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>On</td> <td>1</td> </tr> <tr> <td>Off</td> <td>0</td> </tr> </table>	Selection	Value	On	1	Off	0												
Selection	Value																			
On	1																			
Off	0																			
3	R	R2 Status	2	4																
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>On</td> <td>1</td> </tr> <tr> <td>Off</td> <td>0</td> </tr> </table>			Selection	Value	On	1	Off	0										
		Selection			Value															
On	1																			
Off	0																			
Control Percentage	3	6																		
4	R	Analog Output Value	4	8																
5	R/W	Set1	5	10																
6	R/W	Low Set1	6	12																
7	R/W	High Set1	7	14																
8	R/W	Set2	8	16																
9	R/W	Low Set2	9	18																
10	R/W	High Set2	10	20																
11	R/W	Set3	11	22																
12	R/W	Low Set3	12	24																
13	R/W	High Set3	13	26																
14	R/W	Input	14	28																
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>J</td> <td>0</td> </tr> <tr> <td>K</td> <td>1</td> </tr> <tr> <td>PT-100</td> <td>2</td> </tr> <tr> <td>PT.1</td> <td>3</td> </tr> <tr> <td>0 - 10V DC</td> <td>4</td> </tr> <tr> <td>0 - 20mA DC</td> <td>5</td> </tr> <tr> <td>4 - 20mA DC</td> <td>6</td> </tr> </table>			Selection	Value	J	0	K	1	PT-100	2	PT.1	3	0 - 10V DC	4	0 - 20mA DC	5	4 - 20mA DC	6
		Selection			Value															
		J			0															
		K			1															
		PT-100			2															
		PT.1			3															
		0 - 10V DC			4															
		0 - 20mA DC			5															
		4 - 20mA DC			6															
15	R/W	Relay1 Mode	15	30																
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>Heat</td> <td>0</td> </tr> <tr> <td>Cool</td> <td>1</td> </tr> <tr> <td>Alarm</td> <td>2</td> </tr> <tr> <td>Off Mode</td> <td>3</td> </tr> </table>			Selection	Value	Heat	0	Cool	1	Alarm	2	Off Mode	3						
		Selection			Value															
		Heat			0															
		Cool			1															
Alarm	2																			
Off Mode	3																			
Control Action1	16	32																		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>Pid</td> <td>0</td> </tr> <tr> <td>On-Off</td> <td>1</td> </tr> <tr> <td>Blower TP</td> <td>2</td> </tr> </table>			Selection	Value	Pid	0	On-Off	1	Blower TP	2										
Selection			Value																	
Pid			0																	
On-Off	1																			
Blower TP	2																			

Sr.No	Access Type	Parameter	Register																	
			Data Type																	
			Integer	Float																
18	R/W	Alarm1	17	34																
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>End Alarm</td> <td>0</td> </tr> <tr> <td>Abs Low</td> <td>1</td> </tr> <tr> <td>High Alarm</td> <td>2</td> </tr> <tr> <td>In Band</td> <td>3</td> </tr> <tr> <td>Abs Out Band</td> <td>4</td> </tr> <tr> <td>Outband</td> <td>5</td> </tr> <tr> <td>Low alarm</td> <td>6</td> </tr> </table>			Selection	Value	End Alarm	0	Abs Low	1	High Alarm	2	In Band	3	Abs Out Band	4	Outband	5	Low alarm	6
		Selection			Value															
		End Alarm			0															
		Abs Low			1															
		High Alarm			2															
		In Band			3															
Abs Out Band	4																			
Outband	5																			
Low alarm	6																			
19	R/W	Hys1	18	36																
20	R/W	Delay Time1	19	38																
21	R/W	Alarm Time1	20	40																
22	R/W	Relay2 Mode	21	42																
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>Heat</td> <td>0</td> </tr> <tr> <td>Cool</td> <td>1</td> </tr> <tr> <td>Alarm</td> <td>2</td> </tr> <tr> <td>Off Mode</td> <td>3</td> </tr> </table>			Selection	Value	Heat	0	Cool	1	Alarm	2	Off Mode	3						
		Selection			Value															
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		Cool			1															
Alarm	2																			
Off Mode	3																			
23	R/W	Control Action2	22	44																
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>On-Off</td> <td>1</td> </tr> <tr> <td>Blower TP</td> <td>2</td> </tr> </table>			Selection	Value	On-Off	1	Blower TP	2										
		Selection			Value															
On-Off	1																			
Blower TP	2																			
24	R/W	Alarm2	23	46																
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>End Alarm</td> <td>0</td> </tr> <tr> <td>Abs Low</td> <td>1</td> </tr> <tr> <td>High Alarm</td> <td>2</td> </tr> <tr> <td>In Band</td> <td>3</td> </tr> <tr> <td>Abs Out Band</td> <td>4</td> </tr> <tr> <td>Outband</td> <td>5</td> </tr> <tr> <td>Low alarm</td> <td>6</td> </tr> </table>			Selection	Value	End Alarm	0	Abs Low	1	High Alarm	2	In Band	3	Abs Out Band	4	Outband	5	Low alarm	6
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		High Alarm			2															
		In Band			3															
Abs Out Band	4																			
Outband	5																			
Low alarm	6																			
25	R/W	Hys2	24	48																
26	R/W	Delay Time2	25	50																
27	R/W	Alarm Time2	26	52																
28	R/W	Set2 Mode	27	54																
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>Relative</td> <td>0</td> </tr> <tr> <td>Individual</td> <td>1</td> </tr> </table>			Selection	Value	Relative	0	Individual	1										
		Selection			Value															
Relative	0																			
Individual	1																			
29	R/W	Relay3 Mode	28	56																
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>Heat</td> <td>0</td> </tr> <tr> <td>Cool</td> <td>1</td> </tr> <tr> <td>Alarm</td> <td>2</td> </tr> <tr> <td>Off Mode</td> <td>3</td> </tr> </table>			Selection	Value	Heat	0	Cool	1	Alarm	2	Off Mode	3						
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Alarm	2																			
Off Mode	3																			
30	R/W	Control Action3	29	58																
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>On-Off</td> <td>1</td> </tr> <tr> <td>Blower TP</td> <td>2</td> </tr> </table>			Selection	Value	On-Off	1	Blower TP	2										
		Selection			Value															
On-Off	1																			
Blower TP	2																			
31	R/W	Alarm3	30	60																
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>End Alarm</td> <td>0</td> </tr> <tr> <td>Abs Low</td> <td>1</td> </tr> <tr> <td>High Alarm</td> <td>2</td> </tr> <tr> <td>In Band</td> <td>3</td> </tr> <tr> <td>Abs Out Band</td> <td>4</td> </tr> <tr> <td>Outband</td> <td>5</td> </tr> <tr> <td>Low alarm</td> <td>6</td> </tr> </table>			Selection	Value	End Alarm	0	Abs Low	1	High Alarm	2	In Band	3	Abs Out Band	4	Outband	5	Low alarm	6
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Sr.No	Access Type	Parameter	Register											
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32	R/W	Hys3	31	62										
33	R/W	Delay Time3	32	64										
34	R/W	Alarm Time3	33	66										
35	R/W	Set3 Mode	34	68										
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>Relative</td> <td>0</td> </tr> <tr> <td>Individual</td> <td>1</td> </tr> </table>			Selection	Value	Relative	0	Individual	1				
		Selection			Value									
Relative	0													
Individual	1													
36	R/W	Soak	35	70										
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>On</td> <td>1</td> </tr> <tr> <td>Off</td> <td>0</td> </tr> </table>			Selection	Value	On	1	Off	0				
Selection	Value													
On	1													
Off	0													
37	R/W	Soak Mode	36	72										
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>Soak Time Normal</td> <td>0</td> </tr> <tr> <td>Soak Pass</td> <td>1</td> </tr> <tr> <td>Soak Remaining</td> <td>2</td> </tr> </table>			Selection	Value	Soak Time Normal	0	Soak Pass	1	Soak Remaining	2		
		Selection			Value									
		Soak Time Normal			0									
Soak Pass	1													
Soak Remaining	2													
38	R/W	Soak Unit	37	74										
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>Sec</td> <td>0</td> </tr> <tr> <td>Min</td> <td>1</td> </tr> <tr> <td>Hour</td> <td>2</td> </tr> </table>			Selection	Value	Sec	0	Min	1	Hour	2		
		Selection			Value									
Sec	0													
Min	1													
Hour	2													
39	R/W	Soak Time	38	76										
		Memory			39	78								
							<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>NO</td> <td>0</td> </tr> <tr> <td>Yes</td> <td>1</td> </tr> </table>	Selection	Value	NO	0	Yes	1	
Selection	Value													
NO	0													
Yes	1													
40	R/W	End Save	40	80										
41	R/W	Run Soak Value	41	82										
42	R	Soak Status	42	84										
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>End</td> <td>0</td> </tr> <tr> <td>Run</td> <td>1</td> </tr> <tr> <td>Hold</td> <td>2</td> </tr> </table>			Selection	Value	End	0	Run	1	Hold	2		
		Selection			Value									
End	0													
Run	1													
Hold	2													
43	R/W	Set Low Limit	43	86										
44	R/W	Set High Limit	44	88										
45	R/W	Offset	45	90										
46	R/W	DP Process	46	92										
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>0000</td> <td>0</td> </tr> <tr> <td>000.0</td> <td>1</td> </tr> <tr> <td>00.00</td> <td>2</td> </tr> <tr> <td>0.000</td> <td>3</td> </tr> </table>			Selection	Value	0000	0	000.0	1	00.00	2	0.000	3
		Selection			Value									
		0000			0									
000.0	1													
00.00	2													
0.000	3													
47	R/W	Low Range	47	94										
48	R/W	High Range	48	96										
49	R/W	CRFC	49	98										
50	R/W	FLTR Process	50	100										
51	R/W	Signal Low Limit	51	102										
52	R/W	PB	52	104										
53	R/W	IT	53	106										
54	R/W	DT	54	108										
55	R/W	CT	55	110										
56	R/W	MR	56	112										
57	R/W	PB2	57	114										
58	R/W	CT2	58	116										
59	R/W	C PB	59	118										

60	R/W	C ON	60	120												
61	R/W	C OF	61	122												
62	R/W	Auto Tune	62	124												
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>No</td> <td>0</td> </tr> <tr> <td>Yes</td> <td>1</td> </tr> </table>			Selection	Value	No	0	Yes	1						
		Selection			Value											
No	0															
Yes	1															
Address	63	126														
63	R/W	Baudrate	64	128												
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>B 2400</td> <td>0</td> </tr> <tr> <td>B 4800</td> <td>1</td> </tr> <tr> <td>B 9600</td> <td>2</td> </tr> <tr> <td>B 19200</td> <td>3</td> </tr> <tr> <td>B 38400</td> <td>4</td> </tr> </table>			Selection	Value	B 2400	0	B 4800	1	B 9600	2	B 19200	3	B 38400	4
		Selection			Value											
		B 2400			0											
		B 4800			1											
B 9600	2															
B 19200	3															
B 38400	4															
64	R/W	Parity	65	130												
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>None</td> <td>0</td> </tr> <tr> <td>Even</td> <td>1</td> </tr> <tr> <td>Odd</td> <td>2</td> </tr> </table>			Selection	Value	None	0	Even	1	Odd	2				
		Selection			Value											
		None			0											
Even	1															
Odd	2															
65	R/W	Data Type	66	132												
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>Sign Integer</td> <td>0</td> </tr> <tr> <td>Float</td> <td>1</td> </tr> </table>			Selection	Value	Sign Integer	0	Float	1						
		Selection			Value											
Sign Integer	0															
Float	1															
Read function code	67	134														
66	R/W	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>0H03</td> <td>0</td> </tr> <tr> <td>0H04</td> <td>1</td> </tr> </table>	Selection	Value	0H03	0	0H04	1	68	136						
		Selection	Value													
		0H03	0													
0H04	1															
67	R/W	Analog Output Type	68	138												
68	R/W	RT Low Range	69	140												
69	R/W	RT High Range	70	142												
70	R/W	Control Mode	71	144												
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Selection</th> <th>Value</th> </tr> <tr> <td>Forward</td> <td>1</td> </tr> <tr> <td>Reverse</td> <td>0</td> </tr> </table>			Selection	Value	Forward	1	Reverse	0						
		Selection			Value											
Forward	1															
Reverse	0															
71	R/W	Low Percentage	72	146												
72	R/W	High Percentage	73	148												
73	R/W	Filter Timer	74	148												

Data type = Sign Integer show value as per following

Input	Actual Value	DP Selection
J,K,Pt	Value/1	Fix
Pt.1	Value/10	Fix
Where Parameter is 1,6-14,19,25,32,44-46,48,49,57,69,70		
0-10V DC	Value/1	0
0-20 mA DC	Value/10	1
4-20mA DC	Value/100	2
	Value/1000	3
Where Parameter is 5 ,20,26,33		
0-10V DC	Value/10	Fix
0-20 mA DC		
4-20mA DC		
Where Parameter is 4,51-53,72,73		
0-10V DC	Value/100	Fix
0-20 mA DC		
4-20mA DC		