

SZ-7524T
Instruction Manual

Touch Sensitive Temperature Controller

Features:

- 2 NTC probes for cold room temp. + Evap. coil Temperature.
- Range: -50.0°C to 50.0°C (when rS = 0.1) -50°C to 50°C (when rS = 1)
- Relay outputs: Compressor + Defrost + Evap. Fan, Compressor protection algorithm.
- Auto/Manual defrosting facility (Time/Temp based).

Cautions

WIRING: The probe and its corresponding wires should never be installed in a conduit next to control or power supply lines. The electrical wiring should be done as shown in the diagram. The power supply circuit should be connected to a protection switch. The terminals admit wires of upto 2.5sq mm.

WARNING: Improper wiring may cause irreparable damage and personal injury. Kindly ensure that wiring is done by qualified personnel only.

Maintenance: Cleaning: Clean the surface of the controller with a soft moist cloth. Do not use abrasive detergents, petrol, alcohol or solvents.

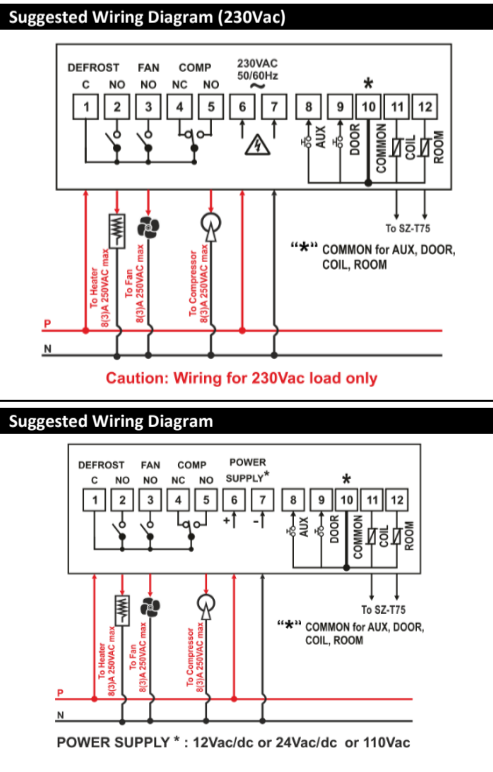
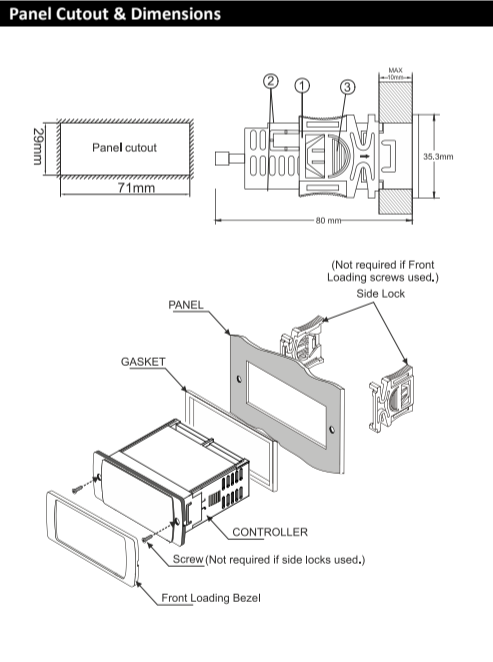
Notice: The information in this document is subject to change in order to improve reliability, design or function without prior notice and does not represent a commitment on the part of the company. In no event will the company be liable for direct, indirect, special, incidental or consequential damage arising out of the use or inability to use the product or documentation, even if advised of the possibility of such damages. No part of this manual may be reproduced or transmitted in any form or by any means without the prior written permission of the company.

Installation: Fixing and dimensions of panel models: To fix the unit, slide the fastener (1) through the guides (2) as per the position shown in the figure. Move the fastener in the direction of the arrow, pressing tab (3) it permits to move the fastener in the opposite direction of the arrow.

Controller: Controller should be installed in a place protected by vibration, water and corrosive gasses and where ambient Temperature does not exceed the values specified in the technical data.

Probe: To give a correct reading, the probe must be installed in a place protected from thermal influences, which may affect the Temperature to be controlled.

Panel Cutout & Dimensions



Technical Data

Housing : Black ABS Plastic, Auto-extinguish

Front Cover : Polycarbonate Plastic V0 Grade

Dimensions : Frontal: 94 X 35.3mm, Depth: 80mm
 : 29 X 71mm

Panel Cutout : Flush panel mounting with fasteners

Protection : IP65 Front (with gasket)

Connections : Screw terminal blocks.
 : < 2.5sq mm terminal only.

Display : 3 X 17mm 7 segment display
 : 9 LEDs for Indication

Data storage : Flash APROM Memory

Power input : 230 Vac ±10%, 50/60Hz Standard.
 : Others on request.

Relay output : All Relay 8(3)A, 250V AC

Operating temp. : 0°C to 60°C (non-condensing)

Storage temp : 20% to 85% (non-condensing)

Measuring Range : -25.0°C to 60.0°C (non-condensing)
 : -50.0°C to 50.0°C (when rS=0.1)
 : -50°C to 50°C (when rS=1)

Input : 2 NTC Probes - SZ-T75.

Digital Input (Potential Free) : 2 Digital Inputs for Compressor Fault & Door Open Fault

Resolution : 1°C / 0.1°C

Accuracy : +/- 1°C

User Interface

COIL UP/COIL KEY : In Program mode: Scroll through parameters & increases parameter value. To view coil Temperature. Touch and hold key for 1 sec to check LL and LH Log.

PRG DOWN / PROGRAM KEY : Touch and hold for 2sec to enter into Program Mode. In Program Mode: Decreases parameter value.

RST DEFROST / RESET KEY : This key will mute the visual alarm. This key will start a manual defrost cycle if pressed for 2 sec. Press again for 2 seconds it will come out of defrost mode and STOP defrost cycle. If P7 parameter is set to 0, or Coil Temperature is greater than Defrost stop Temperature this key will remain inactive.

SET : In Program Mode: Set/Save the changed value of parameter.

COIL + PRG : If "nd" parameter is set to P_{r-2} or SP and COIL + PRG keys pressed simultaneously, Display will show Room Temperature.

PRG + SET : To view actual duration of Defrost Frequency.

Index

Sr.	Para	Description
1	SP	Compressor Relay Set Point.
2		To Set Other Parameter
3	P2	High Temperature limit.
4	P3	Low Temperature limit.
5	HS	Maximum Set Point limit.
6	LS	Minimum Set Point limit.
7	P4	Differential for Compressor Relay ON condition.
8	P5	Probe Calibration for Room Temperature.
9	P6	Time delay (Compressor Relay restart after cutoff).
10	dt	Minimum ON time for Compressor Relay.
11	E1	Compressor Relay status in Probe Fail.
12	Ln	Compressor Relay OFF time during Probe Fail.
13	Cy	Compressor Relay ON time during probe fault.
14	dF0	To set Mode to start Defrost.
15	E2	Set type of Defrost
16	E3	Set Drip Time for defrost water to drain out.
17	E4	Set Post Drip Time
18	E5	Defrost duration during Coil Probe Fail.
19	E6	Computation method for defrost.
20	P7	Defrost duration & manual defrost.
21	P8	Defrost frequency.
22	P9	Power ON Defrost Delay.
23	L1	Evaporator Fan stop temp Coil.
24	L2	To set time delay between Evaporator Fan Relay restart time.
25	L3	Evaporator Fan operation when Compressor is OFF.
26	L4	Evaporator Fan Differential (Hysteresis).
27	ELS	Probe 2 offset calibration (Evap. fan coil Probe).
28	L6	Evaporator Fan status during Defrost.
29	L7	Defrost stop Temperature (Evaporator Coil Probe).
30	L8	Defrost Start Temperature.
31	L9	Defrost Start Temperature Delay
32	do0	Activate or deactivate Door Open Digital Input.
33	do1	Door Open fault Sensing delay.
34	do2	Compressor / Fan Status on Door Open Fault.
35	do3	Delay time for Temperature updating at Door Open Digital Input Fault.
36	CF0	Activate or deactivate Compressor Fault Digital Input.
37	CF1	Compressor Fault digital input Sensing delay.
38	CF2	Compressor / Fan Status on Compressor Fault Digital Input.
39	CF3	To set reset mode for Compressor Output, on AUX Digital Input for Compressor Fault.
40	CF4	Number of retrials of Compressor when Manual reset is selected.
41	dHF	Display while Defrost Cycle is in progress.
42	nd	Default (Normal) Display.
43	dh	Delay the display of Temperature.
44	Rd	To set the Time Delay at Power ON for Alarm.
45	rS	To set Controller Resolution.
46	PR	Change Password
47	LP	Keypad Lock
48	FS	Restore factory defaults
49	EP	End Programming.
		LED Indications
		Operating Messages
		Password Function
		Temperature Logging
		Disclaimer & Warranty

Parameter List:

1. SP Function: To set Compressor Relay Set Point.

Touch & hold SET key for 2 seconds.

Display will show set value. The Set Point value can now be modified by using the UP/DOWN key. After selecting the desired value, touch the set key and user can see "- - -" which confirms that the Set Point has been stored in memory.

rS = 0.1			rS = 1		
Min	Max	Fac. Set	Min	Max	Fac. Set
LS+1.0	HS-1.0	0.0°C	LS+1	HS-1	0°C

2. To Set Other Parameters Touch & hold PRG key for 2 seconds.

Display will flash "P2". To select other parameters, use UP/DOWN keys.

3. P2 Function: To Set Maximum Allowable High Temperature Limit.

To change value use PRG key. To set value touch SET key.

Example: If this parameter is set to 50.0°C and the Temperature reaches or goes above 50.0°C, Display will show Ht (High Temperature) indicating that the Temperature has reached or gone above the value set in this parameter. Differential of 1.0°C is considered for clearing the fault.

rS = 0.1			rS = 1		
Min	Max	Fac. Set	Min	Max	Fac. Set
P3+1.0	50.0°C	50.0°C	P3+1	50°C	50°C

4. P3 Function: To Set Minimum Allowable Low Temperature Limit.

Example: If this parameter is set to -50.0°C and the Temperature reaches or goes below -50.0°C, Display will show Lt (Low Temperature) indicating that the Temperature has reached or gone below the value set in this parameter. Differential of 1.0°C is considered for clearing the fault.

rS = 0.1			rS = 1		
Min	Max	Fac. Set	Min	Max	Fac. Set
-50.0°C	P2-1.0	-50.0°C	-50°C	P2-1	-50°C

5. HS Function: To set Maximum Set Point Limit.

Once set at a particular value, this will not allow the Set Point to go above this value. Example: Setting this parameter at 25.0°C will not allow the Set Point to go above 24.0°C (HS-1.0).

rS = 0.1			rS = 1		
Min	Max	Fac. Set	Min	Max	Fac. Set
SP+1.0	50.0°C	50.0°C	SP+1	50°C	50°C

6. LS Function: To set Minimum Set Point Limit.

Once set at a particular value, this will not allow the Set Point to go below this value. Example: Setting this parameter at -10.0°C will not allow the Set Point to go below -9.0°C (LS+1.0).

rS = 0.1			rS = 1		
Min	Max	Fac. Set	Min	Max	Fac. Set
-50.0°C	SP-1.0	-50.0°C	-50°C	SP-1	-50°C

7. P4 Function: To set the Differential for Compressor Relay ON condition.

Differential between cut out and cut in temperature can be set between 1.0°C to 20.0°C. Example: If the Set Point is set at 10.0°C and differential is set at 2.0°C, then when the system reaches 10.0°C, the Compressor Relay will go OFF. Since the differential is 2.0°C, the Compressor Relay will come ON (restart) at 12.0°C (10.0°C + 2.0°C).

rS = 0.1			rS = 1		
Min	Max	Fac. Set	Min	Max	Fac. Set
1.0°C	20.0°C	2.0°C	1°C	20°C	2°C

8. P5 Function: To Set Probe Calibration.

In time it may be possible that the display may be offset by a degree or so. To compensate for this error, user may need to add or minus the degrees required to achieve the correct Temperature.

Example: The Temperature on the display is 28.0°C, whereas the actual Temperature is 30.0°C. User will have to set the P5 parameter to 2.0 °C, which means that once out of the Programming Mode, the Temperature on display will be 30.0°C (28.0°C + 2.0°C).

rS = 0.1			rS = 1		
Min	Max	Fac. Set	Min	Max	Fac. Set
-10.0°C	10.0°C	0.0°C	-10°C	10°C	0°C

9. P6 Function: To set time delay between Compressor Relay restart.

This parameter is used to protect the Compressor from restarting in a short period of time.

Example: If this parameter is set at 3 minutes, the Compressor Relay goes OFF at the Set Point, it will not restart for a minimum of 3 minutes, even if the differential is achieved earlier. This parameter is good to protect the life of the compressor.

rS = 0.1			rS = 1		
Min	Max	Fac. Set	Min	Max	Fac. Set
0 Min	99 Min	3 Min	0 Min	99 Min	3 Min

10. dt Function: Minimum ON Time for Compressor Relay.

This parameter is used to protect the Compressor so that there is enough time for oil to return back to the Compressor. This delay starts once the Compressor Relay is ON.

Example: If this parameter is set at 1 minute and if the Temperature is achieved before 1 minute, then the Compressor Relay will remain ON for minimum 1 minute, though Set Point is achieved.

rS = 0.1			rS = 1		
Min	Max	Fac. Set	Min	Max	Fac. Set
0 Min	20 Min	0 Min	0 Min	20 Min	0 Min

11. E1 Function: Compressor Relay status in case of Probe Failure.

When set to OFF (0) = Compressor Relay status is OFF.

ON (1) = Compressor Relay status is ON.

CyC (2) = Compressor Relay performs a duty cycle for Cn for minutes OFF and Cy for minutes ON.

Min	Max	Fac. Set
OFF	CyC	CyC

12. Ln Function: Compressor Relay OFF Time during probe fault.

If E1 is not CyC, this parameter will not be applicable. Example: If this parameter is set to 4 minutes, then Compressor Relay will be OFF for 4 minutes while performing the duty cycle.

Min	Max	Fac. Set
1 Min	99 Min	4 Min

13. Cy Function: Compressor Relay ON Time during probe fault.

If E1 is not CyC, this parameter will not be applicable. Example: If this parameter is set to 10 minutes, then Compressor Relay will be ON for 10 minutes while performing the duty cycle.

Min	Max	Fac. Set
1 Min	99 Min	10 Min

14. dF0 Function: To set Mode to start Defrost.

When set to,

0 = Defrost will start on time.
 1 = Defrost will start on Time or Temperature, whichever takes first to start Defrost.

Min	Max	Fac. Set
0	1	0

Note: when dF0 set to 1, L7-L8 parameters reset to Factory settings. L9, L8 parameters will be visible only when dF0 set to 1.

15. E2 Function: To set type of Defrost.

When set to,

ELE (0) = Electric Defrost in which case Compressor is OFF.
 Hot (1) = Hot gas Defrost where Compressor is ON.

Min	Max	Fac. Set
ELE	Hot	ELE

16. E3 Function: To set drip time for defrost water to drain out.

This is the time for which the Fan, Compressor, Heater will stay OFF so that the Defrost Water can drip & drain out.

Min	Max	Fac. Set
0 Min	99 Min	3 Min

17. E4 Function: To set post drip time.

Example: This is the time where Compressor goes ON after drip time.
 Note: In Electric Defrost Compressor will ON only if Room Temperature > SP + diff. but it will not check this in Hot Gas Defrost.

Min	Max	Fac. Set
0 Min	99 Min	1 Min

18. E5 Function: Defrost duration during Coil probe failure (Only manual).

Example: If this is set to 5 min, then Manual Defrost for 5 min will take place during Coil probe fail.

Min	Max	Fac. Set
1 Min	10 Min	5 Min

19. E6 Function: To set computation method for Defrost.

When set to,

rEt (0) = Defrost Frequency time calculation will start once the Controller is ON.
 Example: If this parameter is set to 6Hrs, then defrost will happen at every 6Hrs.
 CrH (1) = Defrost Frequency time calculation will be done only When Compressor is ON.
 Example: If this parameter is set to 6Hrs, then after every 6Hrs of Compressor ON Defrost will happen.

Min	Max	Fac. Set
rEt	CrH	rEt

20. P7 Function: To set Defrost duration.

This is maximum amount of time allowed for Defrost. If set to 0, there will be no Defrost Cycle.
 Example: If P7 is set to 30 Mins, E6 is set to rEt and P8 is set to 1 Hr then after every 1 Hr defrosting will take place for 30 mins.

Min	Max	Fac. Set
0 Min	99 Min	30 Min

Note: When P7 parameter set to 0, Defrost related parameters will not display.

21. P8 Function: To set Defrost Frequency.

This is the amount of time between two Defrost Cycles.
 Example: Same as P7 parameter.

Min	Max	Fac. Set
1 Hr	31 Hrs	6 Hrs

22. P9 Function: To set power ON defrost delay.

Example: If P9 parameter is 30 minutes then at power after 30 minutes defrosting will take place once.

Min	Max	Fac. Set
0 Min	99 Min	30 Min

Note: When P7 is set to 0, P9 parameter will not be applicable or considered.

23. L1 Function: Evaporator Fan stop Temperature.

Evaporator Fan will be switched off when Coil Temperature is greater than or equal to Evaporator Fan Stop Temperature. Example: If this parameter is set to 2.0°C, then Evaporator Fan will cut OFF at 2.0°C.

rS = 0.1			rS = 1		
Min	Max	Fac. Set	Min	Max	Fac. Set
-50.0°C	50.0°C	2.0°C	-50.0°C	50.0°C	2.0°C

24. **L2** Function: To set time delay between Evap. Fan Relay restart time

Example: If this parameter sets at 1 minutes, the Evaporator Fan Relay will cut-off at the Temperature set by L1 parameter but the fan will not come ON for a minimum of 3 minutes even if L4 is achieved earlier.

Min	Max	Fac. Set
0 Min	20 Min	1 Min

25. **L3** Function: Evap. Fan operation when Compressor is OFF.

When set to,

OFF (0) = Evaporator fan is OFF when Compressor is OFF, and it will be ON depending on Coil Temperature and its Set Point.

ON (1) = Evaporator Fan will be ON/OFF independent of Compressor Status according to Coil Probe Temperature.

Min	Max	Fac. Set
OFF	ON	ON

26. **L4** Function: Evaporator Fan Differential (hysteresis).

Example: If L1 parameter is set to 2.0°C, and the L4 is set to 2.0°C, then Evaporator Fan will cut OFF at 2.0°C and restart only at 0.0°C

rS = 0.1			rS = 1		
Min	Max	Fac. Set	Min	Max	Fac. Set
1.0°C	20.0°C	2.0°C	1°C	20°C	2°C

27. **EL5** Function: To set Probe 2 offset calibration (Evaporator Fan Coil Probe).

In time it may be possible that the Temperature on the Display may be offset by a degree or so. To Compensate for this error, you may need to add or minus the degrees required to achieve the correct Temperature setting value is from -10.0°C to 10.0°C

rS = 0.1			rS = 1		
Min	Max	Fac. Set	Min	Max	Fac. Set
-10.0°C	10.0°C	0.0°C	-10°C	10°C	0°C

28. **L6** Function: Evaporator Fan status during defrost.

When set to,

OFF (0) = In Manual or Auto Defrost (Hot gas or Heater), Fan will be OFF.

ON (1) = In Manual or Auto Defrost (Hot gas or Heater), Fan will be ON.

Min	Max	Fac. Set
OFF	ON	OFF

29. **L7** Function: To set Defrost stop Temperature (Evap. coil probe)

Defrost process will Stop when Coil Temperature is greater than or equal to Stop Temperature.

To start Defrost Process, Coil Temperature should be less than or equal to L7-diff.

Example: If Stop Temperature set to 8.0°C, then when Coil Temperature reaches to or goes above 8.0 °C, the Defrost process will Stop.

To start Defrost Cycle based on P8 parameter or Manual, Coil Temperature should be less than or equal to 7.0°C.

dF0 = 0

rS = 0.1			rS = 1		
Min	Max	Fac. Set	Min	Max	Fac. Set
-50.0°C	50.0°C	8.0°C	-50.0°C	50.0°C	8°C

dF0 = 1

rS = 0.1			rS = 1		
Min	Max	Fac. Set	Min	Max	Fac. Set
L8+1	50.0°C	8.0°C	L8+1	50°C	8°C

30. **L8** Function: To set Defrost start Temperature.

Defrost process will start when Coil Temperature is less than or equal to Start Temperature.

When Defrost stop condition occurs due to P7 duration over or Defrost stop manually then it will check Coil Temperature should be greater than or equal to L8+1.0.

Example: If start Temperature set to -10.0°C, then when Coil Temperature reaches to or goes below -10.0°C, the Defrost process will start.

If Defrost stop condition occurs that time Temperature should be greater than or equal to -9.0°C.

rS = 0.1			rS = 1		
Min	Max	Fac. Set	Min	Max	Fac. Set
-50.0°C	L7-1.0	-10.0°C	-50°C	L7-1	-10°C

Note: L8 & L9 parameters will be visible, only when dF0 = 1.

31. **L9** Function: To set Defrost Start Temperature Delay.

When Coil Temperature is less than or equal to L8 parameter, Defrost will Start After L9 duration.

Min	Max	Fac. Set
0 Min	99 Min	10 Min

32. **do0** Function: To activate or deactivate Door Open Digital Input function.

When set to,

d.iS (0) = Door open digital input is disabled.

oPn (1) = Door open digital input is activated when contact is open.

CLo (2) = Door open digital input is activated when contact is closed.

Min	Max	Fac. Set
d.iS	CLo	d.iS

33. **do1** Function: To set Door Open Fault sensing delay.

Example: If do1 = 5 seconds and if Digital Input (Fault) is present for 5 seconds then fault is detected.

Min	Max	Fac. Set
0 sec	99 sec	5 sec

Note: This parameter will be visible, only when do0 > d.iS.

34. **do2** Function: To set Compressor / Fan status on Door open fault.

When set to,

Enb (0) = No action will be performed, Alarm indication OFF.

EnA (1) = No action will be performed, Alarm indication ON.

CoF (2) = Compressor will be OFF.

FoF (3) = Fan will be OFF.

FCF (4) = Fan and Compressor will be OFF.

Min	Max	Fac. Set
Enb	FCF	EnA

Note: This parameter will be visible, only when do0 > d.iS.

35. **do3** Function: To set delay time for Temperature updating at Door open digital input fault.

Example: This Parameter is set to 10sec, Room Temperature is -18.0°C & Door open condition occurs then Room Temp value -18.0°C at Door open condition will be held for the 10sec even if Room Temperature is rising.

After over the Temperature hold duration display Temperature will be increased by 0.1°C at every 1sec until it reaches current Room Temperature.

Min	Max	Fac. Set
0 sec	180 sec	10 sec

Note: This parameter will be visible, only when do0 > d.iS.

36. **CF0** Function: To activate or deactivate Compressor fault digital input.

When set to,

d.iS (0) = Compressor fault digital input is disabled.

oPn (1) = Compressor fault digital input is activated when contact is open.

CLo (2) = Compressor fault digital input is activated when contact is closed.

Min	Max	Fac. Set
d.iS	CLo	d.iS

37. **CF1** Function: To set Compressor fault digital input sensing delay.

Example: If CF1 = 5seconds and if compressor digital input (Fault) is present for 5 seconds then fault is detected.

Min	Max	Fac. Set
0 sec	99 sec	5 sec

Note: This parameter will be visible, only when CF0 > d.iS.

38. **CF2** Function: To set Compressor / Fan status on Compressor fault digital input.

When set to,

Enb (0) = No action will be performed, Alarm indication OFF.

EnA (1) = No action will be performed, Alarm indication ON.

CoF (2) = Compressor will be OFF.

FoF (3) = Fan will be OFF.

FCF (4) = Fan and Compressor will be OFF.

Min	Max	Fac. Set
Enb	FCF	Enb

Note: This parameter will be visible, only when CF0 > d.iS.

39. **CF3** Function: To set reset mode for Compressor output, on Compressor fault digital input.

Aut (0) = Auto Reset.

nAn (1) = Manual Reset after CF4 retrials in 1 hour.

Example: If this parameter set to "nAn" mode & CF4 is set to 5 then, Compressor fault will be cleared after 5 retrials only after pressing reset key for 2 seconds.

If this parameter is set to "Aut" mode then Compressor fault will be cleared automatically when it is healthy.

Min	Max	Fac. Set
Aut	nAn	Aut

Note: This parameter will be visible, only when CF0 > d.iS.

40. **CF4** Function: No of retrials of Compressor when Manual reset is selected.

Example: As mentioned in CF3

Min	Max	Fac. Set
1	10	5

Note: This parameter will be visible, only when CF0 > d.iS.

41. **ddf** Function: This parameter is used to select display while the Defrost Cycle is in progress.

When set to,

ndd (0) = Default display as per nd parameter setting

dF (1) = Defrost Label

Min	Max	Fac. Set
ndd	dF	ndd

42. **nd** Function: Default (Normal) display.

When set to,

P.r.1 (0) = Room Temperature

P.r.2 (1) = Coil Temperature

SP (2) = Set Point

Min	Max	Fac. Set
P.r.1	SP	P.r.1

43. **dd** Function: This parameter is used to Delay the display of Temperature update by the set in this parameter.

Each value corresponds to 5 seconds, if the value is set to 1, it corresponds to 5 seconds, if it is set to 2, it corresponds to 10 seconds and so on.

For example, if this parameter is set to 1, Temperature on the display will be updated after 5 seconds. The same value will be considered for calculation and logging.

Display delay parameter is applicable only when Temperature is increasing (rising). When Temperature is decreasing (falling) this parameter will not be applicable.

If this parameter is set to 0, this feature will be disabled.

Min	Max	Fac. Set
0 sec	36 sec	0 sec

44. **Ad** Function: This parameter is used to set the time delay at Power ON for Alarm Indication.

Example: If this parameter is set to 20 minutes, once the controller is powered ON, no fault indication will be activated for 20 minutes.

Alarm delay is used only for High Temperature and Low Temperature, but not for Room Sensor fail.

If Control Probe Temperature reaches or goes above P2 parameter value, High Temperature (Ht) fault will be displayed.

If Control Probe Temperature reaches or drops below P3 parameter value, Low Temperature (Lt) fault will be displayed.

Differential of 1°C is considered for clearing the fault.

Min	Max	Fac. Set
0 Min	99 Min	20 Min

45. **rS** Function: To set controller resolution.

This parameter when set to 0.1, it will take all parameter in 0.1°C resolution.

This parameter when set to 1, it will take all parameter in 1°C resolution.

Note: Temperature and parameter will also change accordingly.

Min	Max	Fac. Set
0.1	1	-

46. **PA** Function: To change Password.

User cannot enter into Program Mode & Set Mode, if correct Password is not entered.

If the Password is kept other then 0, user need to enter correct Password to enter into Set/Program Mode.

If Password is 0, user can directly access Set/Program Mode.

Min	Max	Fac. Set
-999	999	0

47. **LP** Function: To lock keypad.

This parameter is used to lock the keypad so that tampering is not possible by by-standers.

UnL (0) = Keypad unlocked.

LoL (1) = Keypad locked.

When locked all parameters can only be viewed, but not modified.

Note: If LP parameter is set to **LoL** and if user tries to change any parameter value, "LP" will flash on the display.

Min	Max	Fac. Set
UnL	LoL	UnL

48. **FS** Function: To restore default settings of the controller.

When set to 1 all parameters are programmed to factory set values.

Useful to debug setting related Problems.

When set to,

0 = FS is disable.

1 = FS as per default value.

Min	Max	Fac. Set
0	1	0

49. **EP** Function: To end programming.

To end programming Once the key is pressed, the Controller goes into the normal mode and displays the Temperature and all settings are recorded.

	ON	Ht, Lt, PP, CF, do, CPP	-
	ON	When Temperature is displayed.	-

Operating Messages

Message	Description	Parameter
Ht	High Temperature Alarm Temperature above the maximum high Temperature limit.	P2
Lt	Low Temperature Alarm Temperature below the minimum low Temperature limit.	P3
PP	Room Probe Fail Probe short circuit, circuit open or without probe, or Temperature is > 50.0°C or < -50.0°C.	-
CPP	Coil Probe Fail Probe short circuit, circuit open or without probe, or Temperature is > 50.0°C or < -50.0°C.	-
CF	AUX (Auxiliary) Input Compressor fault present.	CF0, CF2, CF3
do	Door open fault	do0, do1, do2
LL	Last Low Temperature Last low Temperature logged.	-
LH	Last High Temperature Last high Temperature logged.	-
dF	Defrost Defrost in progress.	ddf
ndF	No defrost Action takes place if Start or Stop temperature is not achieved.	-
LrS	In Log function: When LL and LH values are cleared.	-
FrS	To reset Manual Reset Fault.	-
LP	Keypad lock Keypad is locked.	LP

Password Function

- In Programme Mode:**
Touch & hold "PRG" key for 2sec. Display will flash "P2" parameter if "PA" value is kept "0". If other than "0", then "PA" and "0" will flash. Use "▲" and "▼" keys to enter the Password. On entering correct value, Display will flash the first parameter "P2". User can scroll through parameters using "▲" or "▼" keys.
- In Set Mode:**
Touch & hold "SET" key for 2sec. Display will flash Set Point value if "PA" parameter value is kept to "0". If other than "0", then Display will flash "PA" and "0". Use "▲" or "▼" to enter the Password. On entering correct value, Display will flash Set Point value. User can set desired value using "▲" or "▼" keys. To save the modified value use "SET" key.

High and Low Temperature Logging function

- How to see the logged values:**
LL: Last Low Temperature
LH: Last High Temperature
Touch and hold "▲" key for 1 second Display will flash "LL" and the corresponding Temperature for 4 seconds. After this, Display will flash "LH" and the corresponding Temperature for 4 seconds and come out of Log mode and will display Control probe Temperature.
- How to reset the Logged values:**
While the display is showing the logged values, if User touches & holds the "SET" key for 1sec, the logged values will be cleared and "LrS" will be displayed. Log Values will get reset after Power ON/OFF.

Disclaimer: These manual & its contents remain the sole property of PVR CONTROLS, India and shall not be reproduced or distributed without authorization. Although great care has been taken in the preparation of this document, the company or its vendors in no event will be liable for direct, indirect, special, incidental or consequential damage arising out of the use or inability to use the product or documentation, even if advised of the possibility of such damages. No part of this manual may be reproduced or transmitted in any form or by any means without the prior written permission of the company. PVR CONTROLS, reserves the right to make and changes or improvements without prior notice.

Warranty: This product is warranted against defects in materials and workmanship for a period of one year from the date of purchase. During the warranty period, product determined by us to be defective in form or function will be repaired or, at our option, replaced at no charge. This warranty does not apply if the product has been damaged by accident, abuse, and misuse or as a result of service or modification other than by the company. This warranty is in lieu of any other warranty expressed or implied. In no event shall the company be held liable for incidental or consequential damages, including lost revenue or lost business opportunity arising from the purchase of this product.

OTHER PRODUCTS

Controlled cooling, always	
Cold Room Controller	Ball Valves
Chiller Controller	Globe Valves
Two Compressor Controller	Hand Valves
Heating Controller	Flow Switches
Humidity Controller	Solenoid Valves
Pressure Controller	

REV4- 23.07.2024