

# OPERATING INSTRUCTIONS



**SZ-7512-P**



INDIA

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## INDEX

Para.	Page	Description
	3	To set the Set Point of the controller.
	4	How to set other parameters.
P5	5	Probe calibration.
LP	6	Keypad lock.
AL	7	Alarm - to activate buzzer.
FS	8	Restore factory defaults.
EP	9	End Programming & keypad functions.
	10	Operating messages.
	12	Wiring Diagram.
	13-14	Panel cutout & dimensions.

### Introduction: SZ-7512-P(Antifreeze thermostat)

#### Operating Instructions

The SZ-7512-P is a digital antifreeze thermostat with manual reset facility and alarm (Buzzer) facility, this has a fixed differential of 2°C. The SZ-7512-P can be used as a direct replacement to the following mechanical antifreeze thermostats :-

- (a) Honeywell T675-B, (b) Danfoss-KP61, (c) Ranco-6953,
- (d) Johnson A19ACA-15C, (e) White Rodgers 16A60-9.

The alarm is automatically set equal to the set point and can be muted with the 'RST' key.

The controller functions similar to the above mentioned mechanical thermostats i.e. relay will go off when the set point is achieved and the same can be restarted only if the differential is reached and the 'RST' key is pressed.

1

2

Set point	Function: To set the cut out point of the controller.						
Press and hold the SET key for 2 seconds.	Display will change to set range flash. The set point range can now be changed by using the UP/DOWN keys. After setting the desired range, press the SET key and you will see " _ _ " which confirms that the set point has been stored in memory.						
<table border="1"> <thead> <tr> <th>Min</th> <th>Max</th> <th>Fac.</th> </tr> </thead> <tbody> <tr> <td>-50°C</td> <td>50°C</td> <td>3°C</td> </tr> </tbody> </table>	Min	Max	Fac.	-50°C	50°C	3°C	
Min	Max	Fac.					
-50°C	50°C	3°C					


3

To set other parameters.	
Press and hold DOWN(prg) key for 2 seconds.	Display will show 'P5' & flash to go other parameters, use UP / DOWN keys.


4

<b>P5 parameter</b>			Function: To set probe calibration.
To change the P5 parameter, press the SET key.			Use UP/DOWN keys to set desired range. In time it may be possible that 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 range is from -10°C to + 10°C
Min	Max	Fac.	<b>Example:</b> The temperature on the display is 28°C, whereas the actual temperature is 30°C. You will need to set the P5 mode to 2, which means that once out of the programming mode, the display will show the temperature 30°C (28°C + 2°C).
-10°C	+10°C	0°C	

5

<b>LP parameter</b>			Function : To lock keypad.
To change the LP parameter, press the SET key.			Use UP/DOWN keys to set desired range. This Parameter can lock the keypad so that tampering is not possible by by-standers.
Min	Max	Fac.	When set to 0= keypad unlocked 1= keypad locked
0	1	0	When locked all parameters can only be viewed, but not modified.
			


6

<b>AL parameter</b>			Function: To activate / deactivate alarm.
To change the AL parameter, press the SET key.			Use the UP/DOWN keys to set alarm on or off. Once set to on, the buzzer will come on incase the temperature is equal to the set point.  1 = Activates Buzzer. 0 = Deactivates Buzzer.
Min	Max	Fac.	<b>Note</b> =Alarm will be ON in probe fail condition irrespective of AL parameter
0	1	1	
			

7




<b>FS Parameter</b>			Function : To restores default settings of the controller.
To change the FS parameter, press the SET key.			When set to 1 all parameters are programmed to default values. Useful to debug setting related problems.
Min	Max	Fac.	
0	1	0	

8

<b>EP Parameter</b>		Function : To end programming.
To end programming press the SET key		Once the SET key is pressed, the controller goes into the normal mode and displays the temperature and all settings are recorded.
 Reset key		This key will reset the relay and mute the buzzer alarm.

9

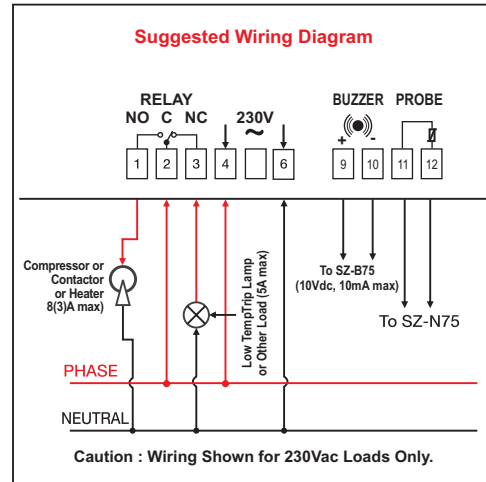
#### Operating messages and Icon status

Message	Description	Parameter
Lt	Temperature is equal to the set point.	Set Point
PP	Probe short circuit, circuit open or without probe, or temperature >50°C or < -50°C	
 ●	On/Off Compressor Relay On/Off.	SP + 2°C
 ●	Flashing Alarm (Lt or PP)	AL , P3
 ●	On/Off Keypad locked/unlocked.	LP

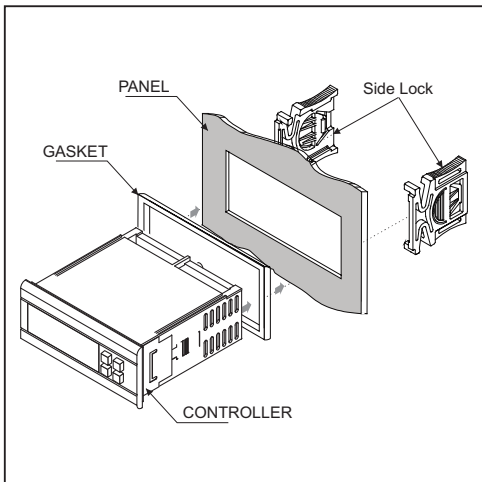
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Technical data :	
<b>Housing</b>	: Black ABS plastic.
<b>Front cover</b>	: Polycarbonate plastic.
<b>Dimensions</b>	: Front - 75 x 34.5 mm, Depth 71 mm (w/o back lid).
<b>Panel Cutout</b>	: 29mm x 71mm
<b>Mounting</b>	: Flush panel mounting with fasteners.
<b>Protection</b>	: Front panel is water proof & IP 65 rated .
<b>Connections</b>	: Screw terminal blocks. ≤ 2.5 sq.mm wire terminal only
<b>Display</b>	: 14.2 mm (0.56") LED.
<b>Data storage</b>	: Non-volatile EEPROM memory
<b>Power input</b>	: 230Vac, +/-10%, 50Hz/60Hz. Others on request.
<b>Operating temp.</b>	: 5°C to 50°C (non-condensing).
<b>Storage temp</b>	: -20°C to 70°C (non-condensing).
<b>Output</b>	: 1 SPDT relay 8(3)A, 250Vac
<b>Input</b>	: NTC probe, SZ-N75
<b>Range</b>	: -50°C to 50°C
<b>Resolution</b>	: 1°C
<b>Accuracy</b>	: +/-1°C
<b>Probe tolerance at 25°C</b>	: +/-0.3°C
<b>Alarm (buzzer)</b>	: SZ-B75, 10Vdc, 10mA

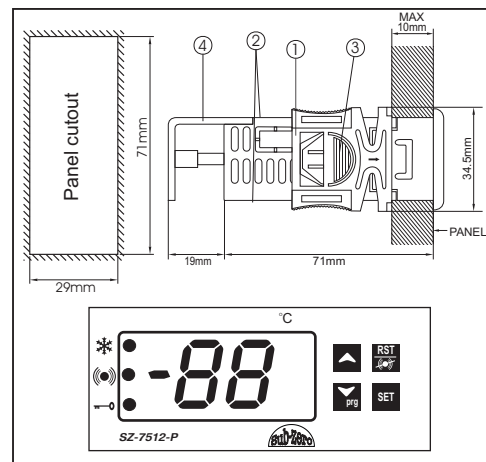
11



12



13



14

**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. Once the controller has been connected, they should be covered with the lid ④ Silicon sealant should be applied along the perimeter of the panel cut out or a rubber 'O' ring supplied before the unit is fitted to obtain IP65 grade.

**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.

**Alarm (Buzzer)** : Only use SZ-B75 buzzer with SZ-7512-P series controller. Use of any other type of result in permanent damage to the controller and may cause personal injury.

15

**CAUTION**

**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.

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16

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17

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18

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19

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20



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