

OPERATING INSTRUCTIONS

SZ-7512-P



General Description

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.

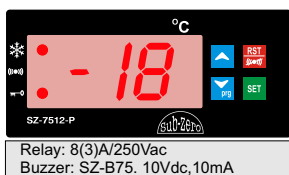
The alarm is automatically set equal to the set point and can be muted with the 'RST' key.

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.

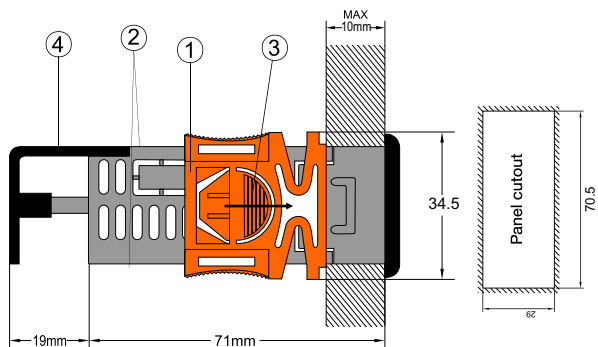
Technical Data

Housing	Black, ABS Plastic.
Front Cover	Red Polycarbonate plastic.
Dimensions	Front : 75 X 34.5 MM Depth : 71 MM (w/o back lid)
Panel Cutout	29 X 70.5 MM
Mounting	Flush panel mounting with fasteners.
Frontal protection	IP 65
Connections	Screw terminal blocks. ≤ 2.5 sq mm one wire/ terminal only.
Display	2 X14.2 mm (0.56") LED
Data storage	Non-volatile EEPROM memory.
Power input	230Vac +/-10%,50-60Hz. Others on request.
Operating temp.	5°C to 50°C (non-condensing).
Storage temp	-20°C to 70°C (non-condensing).
Input	NTC Probe, SZ-N75.
Range	-50°C to 99°C
Resolution	1°C
Accuracy	+/- 1°C
Probe tolerance	+/- 0.3°C at 25°C

Front Panel View, Relay



Installation and Dimensions



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 increase protection against water seepage.

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.

Operating Messages And Icon Status

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

Min = Minimum, Max = Maximum

Fac. = Factory Setting (Default)

1. Set Point : To set the Antifreeze set point.

Min	Max	Fac.
-50°C	50°C	3°C



1. Press and hold the "SET" key for 2 Seconds.
2. The set value will start flashing.
3. Use ▲ or ▼ to set the desired range.
4. Press SET key & you will see "--" which confirms that the set point has been stored in memory.

Parameter List

2. To set other Parameters.



1. Press & hold the prg key for 2 seconds.
2. Display will show "P5" & flash.
3. To go to other parameters, use ▲ or ▼ keys.

3. P5 Parameter : To set probe calibration.

Min	Max	Fac.
-10°C	10°C	0°C

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.

1. To change the P5 parameter, press the "SET" key.
2. To go to desired value, use ▲ or ▼ keys.
3. To set confirm value press "SET" key you will see "--" which confirms that the value has been stored in memory.

Example: 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 temperature will show 30°C (28°C + 2°C).

4. LP Parameter : To lock keypad.

Min	Max	Fac.
0	1	0

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

1. To change the LP parameter, press the "SET" key.
2. To go to desired value, use ▲ or ▼ keys.

0 : keypad unlocked
1 : keypad locked.



3. To set confirm value press "SET" key you will see "--" which confirms that the value has been stored in memory.

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

OPERATING INSTRUCTIONS

5. **AL** Parameter : To activate / deactivate buzzer.

Min	Max	Fac.
0	1	1

Once set to on, the buzzer will come on incase the temperature is equal to the set point.

1. To change the AL parameter, press the "SET" key.
2. To go to desired value, use ▲ or ▼ keys.



0 : Deactivate the buzzer.
1 : Activate the buzzer.

3. To set confirm value press "SET" key you will see "--" which confirms that the value has been stored in memory.

Note: Alarm will be ON in probe fail condition irrespective of AL parameter but not modified.

RST This key will reset the relay and mute the buzzer alarm.

6. **FS** Parameter : To restore default settings of the controller.

Min	Max	Fac.
0	1	0

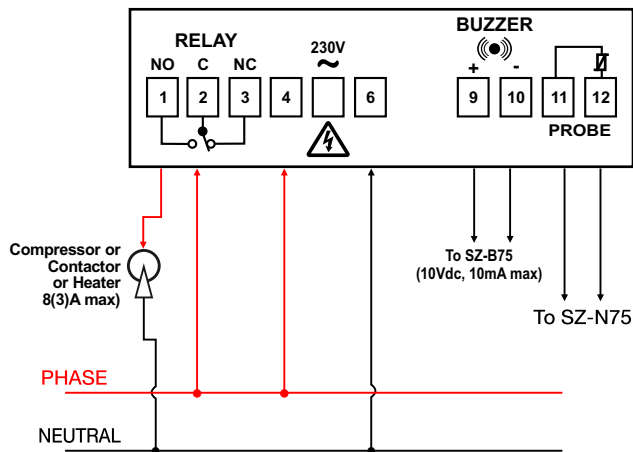
When set to 1 all parameters are programmed to factory values. Useful to debug setting related problems.

1. To change the FS parameter, press the "SET" key.
2. To go to desired value, use ▲ or ▼ keys.
3. To set confirm value press "SET" key you will see "--" which confirms that the value has been stored in memory.

7. **EP** Parameter: To end programming.

Once the SET key is pressed, the control goes into the normal mode and displays the temperature and all settings are recorded.

Wiring Diagram



Caution : Wiring Shown for 230Vac Loads Only.

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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