

SET Parameter			Function: To set the cut out point of the controller.
To change the SET parameter, press the SET key.			Display will change to set value. The set point value can now be changed by using the UP/DOWN key. After setting the desired value, press the set key and you will see "--" which confirms that the set point has been stored in memory.
Min	Max	Fac.	
P3	P2	0.0°C	

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IL Parameter			Function: To set lower limit for Iout.
To change the IL parameter, press the SET key.			Use UP/DOWN keys to set desired value. This function sets lower limit of temperature for Iout (4-20mA out). Note : When rI is '1' then one can change IL parameter by 1.0°C resolution.
Min	Max	Fac.	
-40.0°C	IH-4.0°C	0.0°C	Example : If IL is set to 0°C then at 0°C temperature Iout will be 4mA.

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IH Parameter			Function: To set Higher limit for Iout.
To change the IH parameter, press the SET key.			Use UP/DOWN keys to set desired value. This function sets Higher limit of temperature for out (4-20mA out). Note : When rI is '1' then one can change IH parameter by 1.0°C resolution.
Min	Max	Fac.	
IL+4.0°C	50.0°C	16.0°C	Example : If IH is set to 10.0°C then at 10.0°C temperature Iout will be 20mA.


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VL Parameter			Function: To set lower limit for Vout.
To change the VL parameter, press the SET key.			Use UP/DOWN keys to set desired value. This function sets lower limit of temperature for Vout (0-10V). Note : When rV is '1' then one can change VL parameter by 1.0°C resolution.
Min	Max	Fac.	
-40.0°C	VH-1.0°C	0.0°C	Example : If VL is set to 0°C then at 0°C temperature Vout will be 0V.

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VH Parameter			Function: To set Higher limit for Vout.
To change the VH parameter, press the SET key.			Use UP/DOWN keys to set desired value. This function sets Higher limit of temperature for Vout (0-10V). Note : When rV is '1' then one can change VH parameter by 1.0°C resolution.
Min	Max	Fac.	
VL+1.0°C	50.0°C	10.0°C	Example : If VH is set to 10.0°C then at 10.0°C temperature Vout will be 10V.

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To set other Parameters		
Press & hold the DOWN(prg) key for 2 seconds.		Display will show P1. To go to other parameters, use UP/DOWN keys.
		

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P1 Parameter			Function: To set controller for heating or cooling.
To change the P1 parameter, press the SET key.			Use UP/DOWN keys to set desired value & press set to confirm. 0 : Cooling mode and 1 : Heating mode.
Min	Max	Fac.	
0	1	0	

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P2 Parameter			Function: To set maximum allowable high temperature limit.
To change the P2 parameter, press the SET key.			Use UP/DOWN keys to set desired value. Once set at a particular value, this will not allow the set point to go above this value.
Min	Max	Fac.	
XX°C	50.0°C	50.0°C	
XX = Set Point			Example : Setting this parameter at 25.0°C will not allow the set point to go above 25.0°C. Also, if the temperature reaches 25.0°C, the display will show HT(High Temp.) indicating that the temperature has gone above the value in this parameter.
HT			
(Message on display)			

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P3 Parameter			Function : To set minimum allowable low temperature set point.
To change the P3 parameter, press the SET key.			Use UP/DOWN keys to set desired value. Once set at a particular value, this will not allow the set point to go below this value.
Min	Max	Fac.	
-40.0°C	XX°C	-40.0°C	
XX = Set Point-1			Example : Setting this parameter at -5.0°C will not allow the set point to go below -5.0°C. Also, if the temperature reaches -5.0°C, the display will show LT (Low Temp.) indicating that the temperature has gone below the value in this parameter.
LT			
(Message on display)			


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P4 Parameter			Function: To set the differential.
To change the P4 parameter, press the SET key.			Use UP/DOWN keys to set desired value. Differential between cut out and cut in temperature can be set between 1.0°C to 20.0°C.
Min	Max	Fac.	
0.5°C	20.0°C	2.0°C	
			Example (in cooling mode) : 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 relay will cut out. Since the differential is 2.0, the relay will cut in (restart) at 12.0°C (10.0°C+2.0°C).


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P5 Parameter			Function: To set probe calibration.
To change the P5 parameter, press the SET key.			Use UP/DOWN keys to set desired value. 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 value is from -10.0°C to +10.0°C.
Min	Max	Fac.	
-10.0°C	10.0°C	0.0°C	
			Example : The temperature on the display is 28.0°C, whereas the actual temperature is 30.0°C. You will need to set the P5 mode to 2.0, which means that once out of the programming mode, the temperature will show 30.0°C (28.0°C + 2.0°C).

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P6 Parameter			Function: To set time delay between relay restart time.
To change the P6 parameter, press the SET key.			Use UP/DOWN keys to set desired value. This parameter is used to protect the compressor from restarting in a short period of time and can be set between 0 to 99 minutes.
Min	Max	Fac.	
0 Min	20 Min	3 Min	
 Flashing Time delay in progress			Example : If this parameter is set at 3 minutes, the relay will cut off at the set temperature, but 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 when there are power fluctuations and the compressor is switched off and on within a few seconds.

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

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E1 Parameter			Function : Relay status on Probe Failure.
To change the E1 parameter press the SET key.			Use UP/DOWN keys to set desired value. When set to 0 = Relay status is ON. 1 = Relay performs a duty cycle 10 minutes ON and 4minutes OFF. 2 = Relay status is OFF.
Min	Max	Fac.	
0	2	1	

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PO Parameter			Function : To enable/disable Power Switch
To change the PO parameter press the SET key.			Use UP/DOWN keys to get desired value & press SET key to confirm. 0 = Disable power switch 1 = Enables power switch Controller has power switch, which if enable puts controller in active or stand by state. If press for 2 seconds controller will go in stand by mode, display will show "OF" To again switch to ACTIVE WORKING MODE, press power switch again for 2 seconds. All leds and 7-segment display will flash and enter into NORMAL WORKING MODE.
Min	Max	Fac.	
0	1	0	

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rl Parameter			Function : To set resolution for Iout.
To change the rl parameter press the SET key.			Use UP/DOWN keys to set desired value. 0 = 0.1°C Resolution 1 = 1°C Resolution Note : When rl parameter is change to 1 (1°C Resolution) IH will get set to IL+4.0 .
Min	Max	Fac.	
0	1	0	

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rV Parameter			Function : To set resolution for Vout.
To change the rV parameter press the SET key.			Use UP/DOWN keys to set desired value. 0 = 0.1°C Resolution 1 = 1°C Resolution Note : When rV parameter is change to 1 (1°C Resolution) VH will get set to VL+1.0 .
Min	Max	Fac.	
0	1	0	

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FS Parameter			Function : To restore default settings of the controller.
To change the FS parameter press the SET key.			When set to '1' all parameters are programmed to factory values. Useful to debug setting related problems.
Min	Max	Fac.	
0	1	0	

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EP Parameter.	Function: To end programming.
To end programming press the SET key	Once the SET key is pressed, the control goes into the normal mode and displays the temperature and all settings are recorded.

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Operating messages and Icon status

Message	Description	Parameter
Ht	Temperature above the maximum limit of the set point.	P2
Lt	Temperature below the minimum limit of the set point.	P3
PP	Probe short circuit, circuit open or without probe, or temperature > 50.0°C or < -40.0°C	
❄ ● On/Off	Comp. Relay on/off	SP, P4
🔑 ● On/Off	Keypad locked/unlocked	LP
❄ ☀ Flashing	Time delay in progress	P6

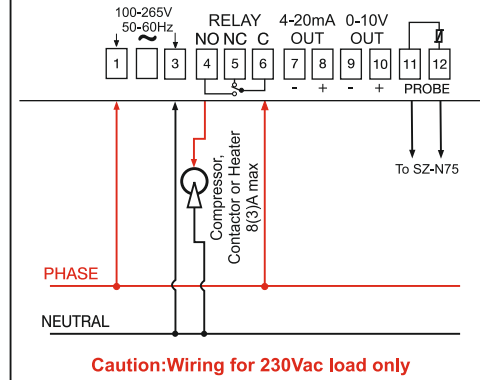
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Technical data:

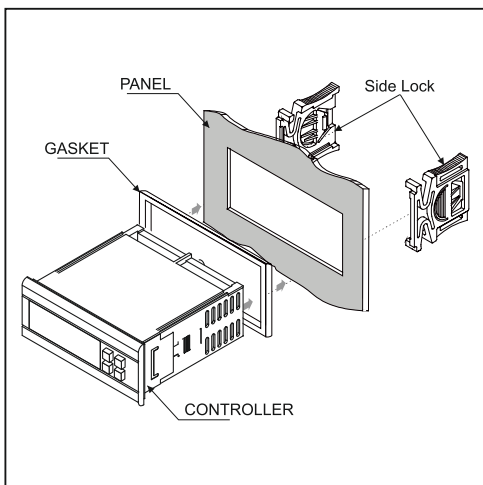
Housing : Black, ABS Plastic
Front Cover : Red Polycarbonate plastic.
Dimensions : Front : 75 X 34.5 MM,
 Depth : 71 MM (w/o back lid)
Panel Cutout : 29 X 71 mm
Mounting : Flush panel mounting with fasteners
Frontal protection : I.P65
Connections : Screw terminal blocks.
 ≤ 2.5sqmm one wire/ terminal only
Display : 3 X14.2 mm (0.56") LED
Data storage : Non-volatile EEPROM memory
Power input : 100-265 Vac, 50Hz/60Hz.
Operating temp. : 5°C to 50°C(non-condensing)
Storage temp : -20°C to 70°C(non-condensing)
Output : SPDT relay 8 (3)A, 250Vac.
 4-20mA Out, Resolution - 0.2mA
 0-10V Out, Resolution - 0.1V
Input : NTC probe, SZ-N75
Range : -40.0°C to 50.0°C
Resolution : 0.1°C
Accuracy : +/- 1°C
Probe tolerance at 25°C : +/- 0.3°C

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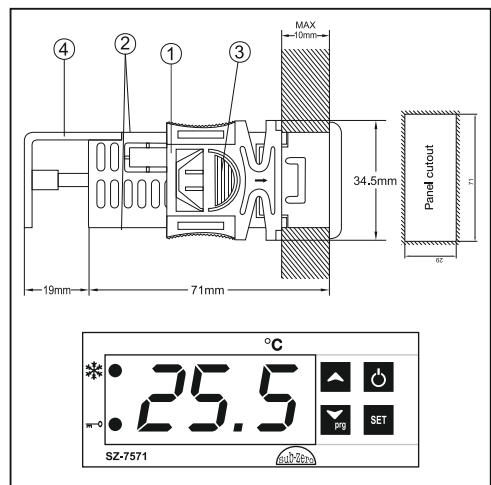
Suggested Wiring Diagram



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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 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.

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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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OUR OTHER PRODUCTS



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Cold Room Controller
Chiller Controller
Two Compressors Controller
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Humidity Controller
Pressure Controller

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Solenoid Valves

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