

Instructions : SZ 7516-P

GENERAL DESCRIPTION

GENERAL DESCRIPTION The Sub-Zero Series 7516-P are aesthetically superior versions of their predecessors. The SZ 7516-P is a single set point controller with buzzer. They are specifically designed for blood bank applications wherein the compressor cuts off at set point and is restarted at a temperature of set point plus differential, also if the power fails the controller indicates blood bank temperature for monitoring purpose.

Additionally these controllers offer several protection features that are easily understood by the examples in the instructions below. The controller can be used for heating applications, when the P1 parameter is set to "1".

A number of parameters are displayed alphanumerically to set up the instrument for each specific application.

The SZ-7516-P controller can be used for several applications with a measuring range from -50 $^\circ$ C to 99 $^\circ$ C.

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	point		Function: To set the cut out point of the controller.
Press and hold the SET key for 2 Seconds.		nold	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°C	

OPERATING INSTRUCTIONS



SZ-7516-P

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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 get desired value & press set to confirm. 0: Cooling mode and 1: Heating mode.
Min	Max	Fac.	
0	1	0	

P3 Parameter To change the P3 parameter, press the SET key.			Function: To set minimum allowable low temperature set point.
			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.	Example : Setting this parameter
-50°C	XX°C	-50°C	at -30°C will not allow the set point
XX = Set Point <i>LL</i> (Message on display)			temperature reaches -30°C, the display will show Lt (LowTemp.) indicating that the temperature has gone below the value in this parameter and at this point the buzzer will activate.
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P5 Parameter To change the P5 parameter, press the SET key.			Function: To set probe calibration.
			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°C to +10°C.
Min I	Max	Fac.	Example : The temperature on
-10°C 10°C 0°C		0°C	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).

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.MinMaxFac. Fac. Example : Setting this parameter at 25°C will not allow the set point to go above 25°C. Also, if the temperature reaches 25°C, the display will show Ht (High Temp.) indicating that the temperature has gone above the value in this parameter and at this point the buzzer will activate.(if AL parameter is set to 1)	P2 Parameter	Function: To set maximum allowable high temperature limit.
MinMaxFac. $(X^{\circ}C)$ $99^{\circ}C$ $99^{\circ}C$ $XX = Set$ Point $xx = Set$ PointHL(Message on display) $(Message on display)$ $xx = Set$	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.
$\frac{\text{KX}^{\circ}\text{C} 99^{\circ}\text{C} 99^{\circ}\text{C}}{\text{KX} = \text{Set Point}} \text{at } 25^{\circ}\text{C} \text{ will not allow the set point to go above } 25^{\circ}\text{C}. \text{ Also,}$ $\frac{\text{KX} = \text{Set Point}}{\text{HE}} \text{if the temperature reaches } 25^{\circ}\text{C}, \text{ the display will show Ht (High Temp.) indicating that the temperature has gone above the value in this parameter and at this point the buzzer will activate.(if AL parameter is set to 1)}$	Min Max Fac.	Example : Setting this parameter
XX = Set Point if the temperature reaches 25°C, the display will show Ht (High Temp.) indicating that the temperature has gone above the value in this parameter and at this point the buzzer will activate.(if AL parameter is set to 1)	XX°C 99°C 99°C	at 25°C will not allow the
	XX = Set Point HE (Message on display)	if the temperature reaches 25°C. Also, if the temperature reaches 25°C, the display will show Ht (High Temp.) indicating that the temperature has gone above the value in this parameter and at this point the buzzer will activate.(if AL parameter is set to 1)

P4	Parame	eter	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°C to 20°C.
Min	Max	Fac.	Example (in cooling mode) :
1°C	$20^{\circ}C$	2°C	If the set point is set at 10°C and differential is set at 2°C, then when
			the system reaches 10°C, the relay will cut out. Since the differential is 2, the relay will cut in (restart) at 12°C (10°C+2°C).
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P6	Parame	eter	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.	Example : If this parameter is set
0 Min 99 Min 3 Min Flashing Time delay in progress		Jogress	at 3 minutes, the felay 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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		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
0 1	0	only be viewed, but not modified.
ल 0 (

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	Мах	Fac.	
0	2	1	

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.
ess the ET key	and displays the temperature and all settings are recorded.



FSI	Parame	eter	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	

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 > 99°C or <-50°C	
∦ ● On/Off	Comp. Relay on/off	SP, P4
(((●))) ● Flashing	Alarm (Ht, Lt or PP)	AL,P2,P3
न−0 On/Off	Keypad locked/unlocked	LP
∦ 🔆 Flashing	Time delay in progress	P6

Technical data:	Diada ADC Diadia
Housing	: Black, ABS Plastic
Front Cover	: 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 protecti	on : I.P65
Connections	: Screw terminal blocks.
	≤2.5sqmm one wire/ terminal only
Display	: 2 X14.2 mm (0.56") LED
Data storage	: Non-volatile EEPRÓM memory
Power input	: 230Vac +/-20%,50-60Hz.
•	Other on request
Operating temp	.: 5°C to 50°C (non-condensing).
Storage temp	: -20°C to 70°C(non-condensing).
Output	:1 SPDT relay 8 (3)A, 250Vac.
Input	: NTC probe, SZ-N75.
Range	: -50°C to 99°C.
Resolution	: 1°C.
Accuracy	: +/- 1°C.
Probe tolerance	at 25°C : +/- 0.3°C
Alarm (buzzer)	: SZ-B75_10Vdc_10mA
Battery Input Fr	r Backup : 9 6V/dc 1800mAh (MAX)
battory input i t	on request for 72Hr Backup
	on request for 72111 Dackup.



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.





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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