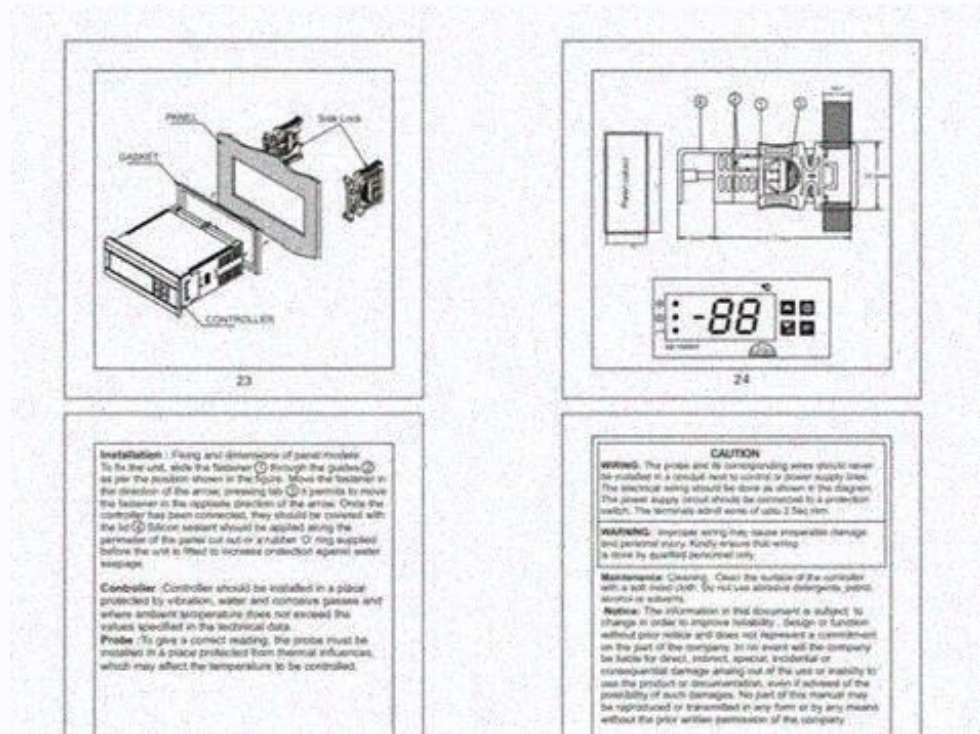I'm not robot

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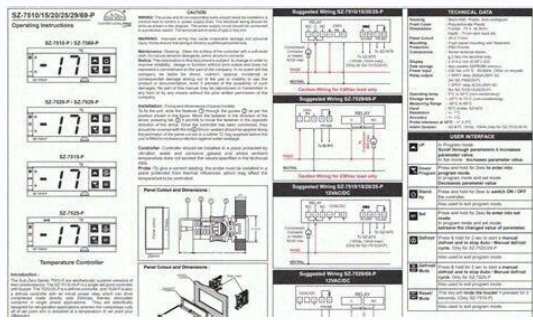**I am not robot!**

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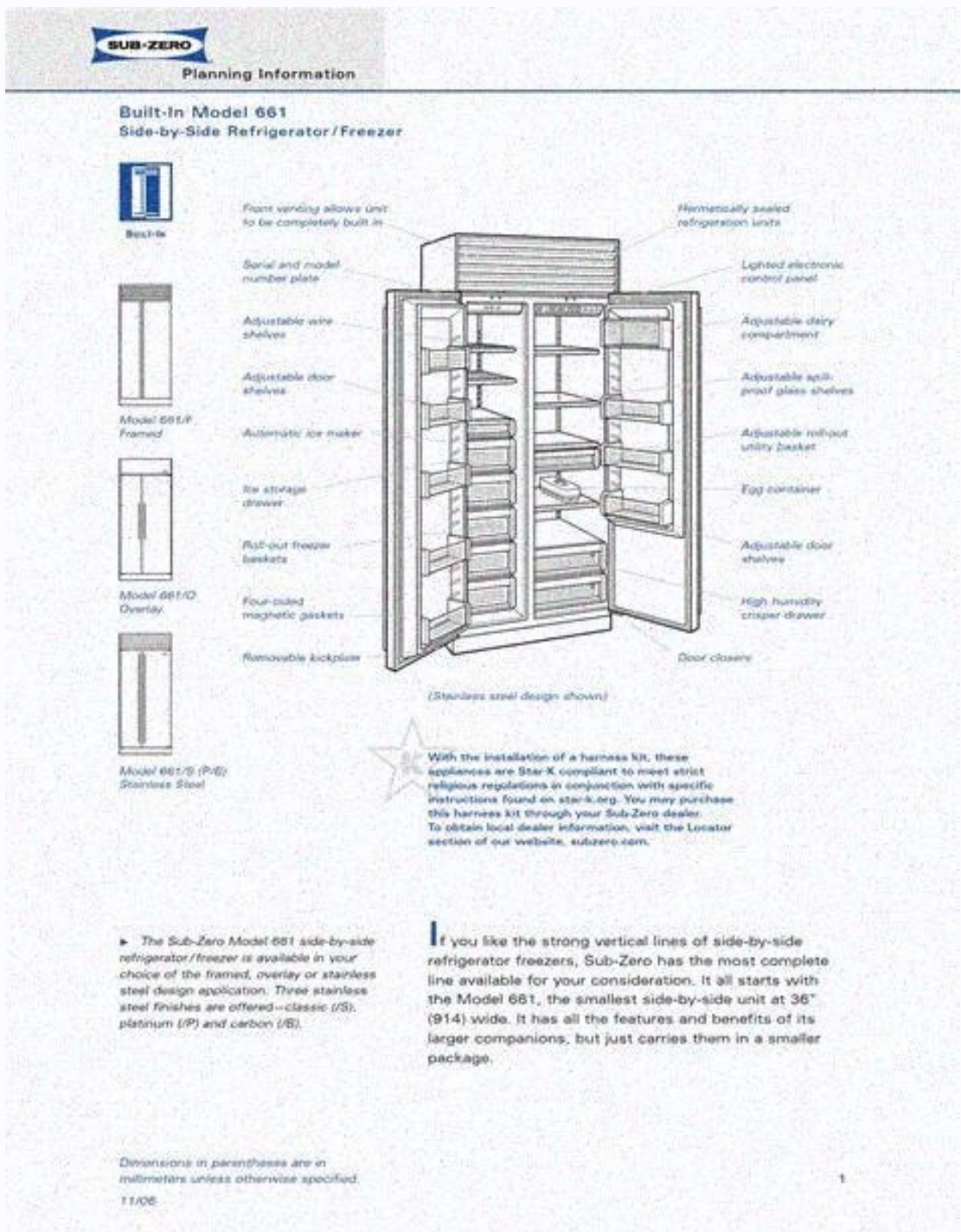
Sub zero sz-7524-p manual pdf

SZ-7524T Operating Instructions Touch Sensitive Temperature Controller Features : 2 NTC probes for cold room temp. + Evap. coil temperature. 0 0 Range : -50.0 C to 50.0 C (when rS = 0.1) 0 0 -50 C to 50 C (when rS = 1) Relay outputs : Compressor + Defrost + Evap. Fan. Compressor protection algoriithm. Auto/Man defrosting facility (Time/Temp based). 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.

Compressor protection algoriithm. Auto/Man defrosting facility (Time/Temp based). 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.
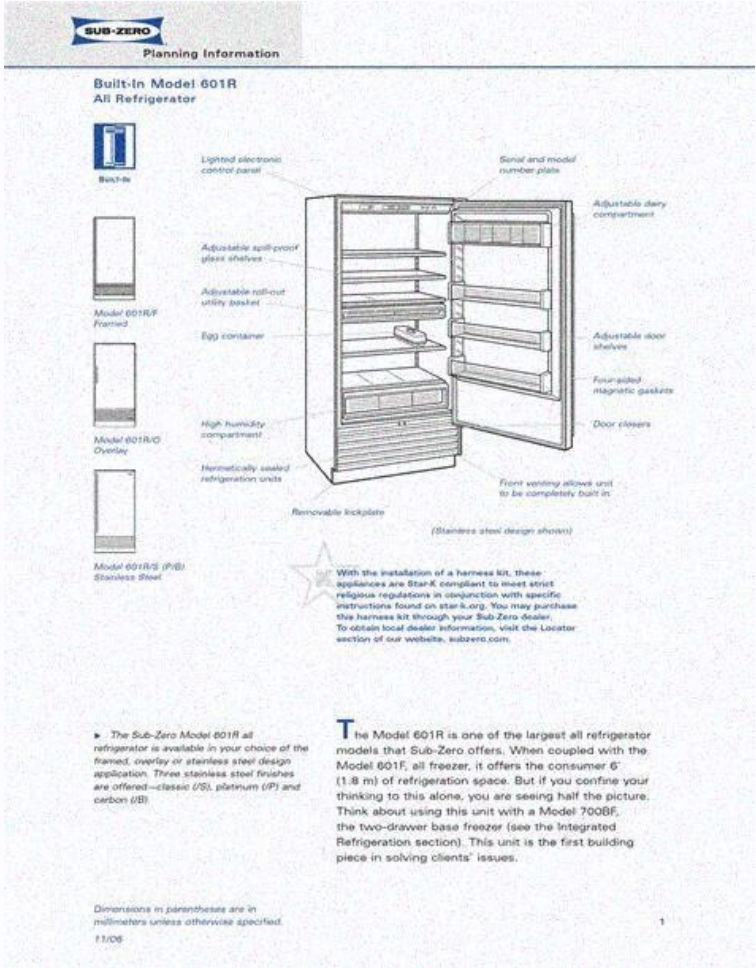

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0 0 Range : -50.0 C to 50.0 C (when rS = 0.1) 0 0 -50 C to 50 C (when rS = 1) Relay outputs : Compressor + Defrost + Evap. Fan. Com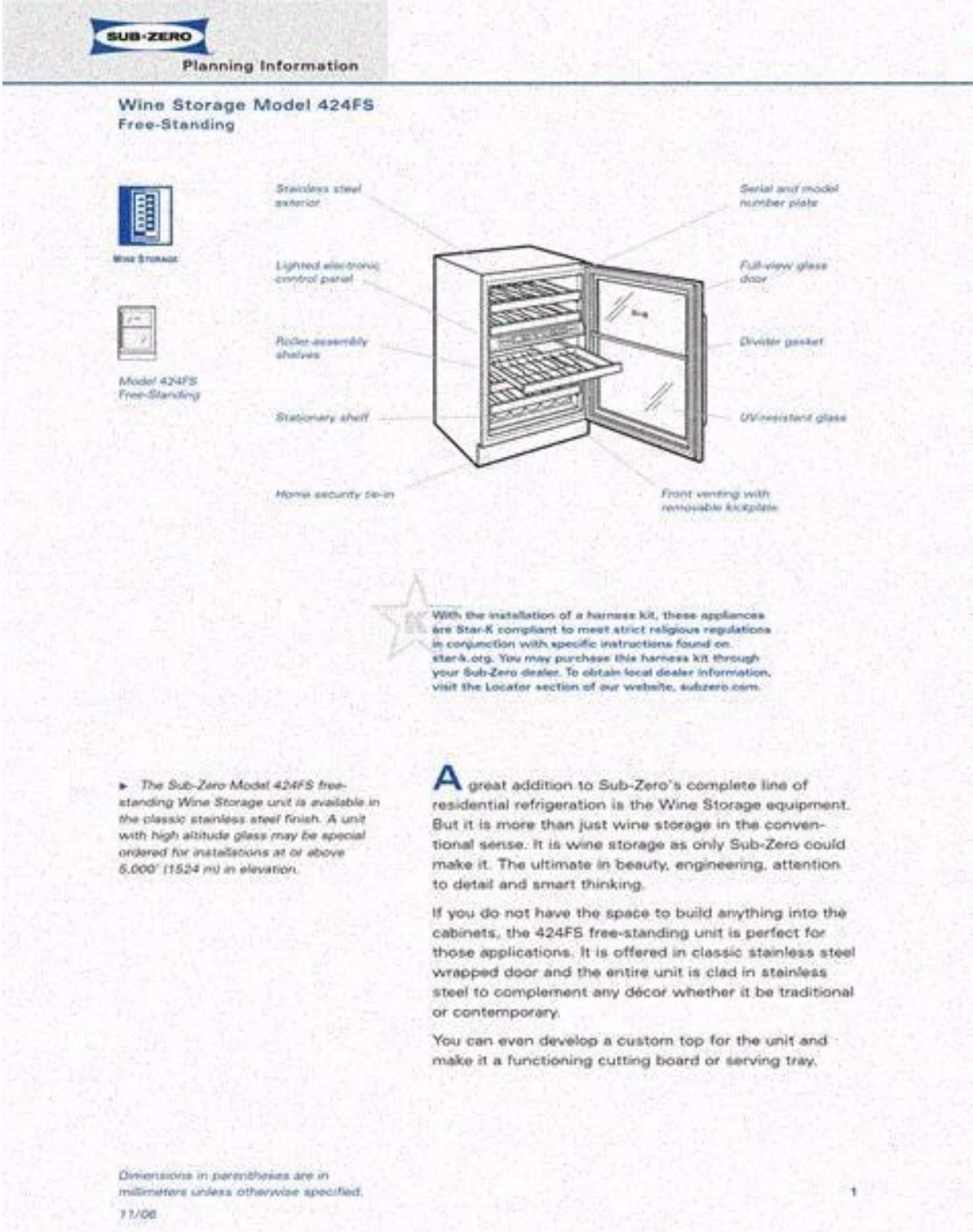pressor protection algoriithm. Auto/Man defrosting facility (Time/Temp based). CAUTION WIRING: The probe and its corresponding wires should never be installed in a conduit next to control or power supply lines.
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WARNING: Improper wiring may cause irreparable 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 and Dimensions : MAX 2 10mm 1 3 71 mm 29mm (Not required if Front Loading screws used.) Side Lock PANEL GASKET CONTROLLER Screw (Not required if side locks used.) Front Loading Bezel Suggested Wiring 230VAC DEFROST FAN COMP 50-60Hz C NO NO NC NO 1 2 3 4 5 6 7 8 9 10 TO SZ-N75T " " * COMMON for AUX, DOOR, COIL, ROOM P N Caution:Wiring for 230Vac load only TECHNICAL DATA Housing : Black ABS Plastic, Auto-extinguish Front Cover : Polycarbonate Plastic V0 Grade Dimensions : Frontal : 94 X 35.3 mm, Depth : 71mm Panel Cutout : 29 X 71mm Mounting : 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 : Non-volatile EEPROM memory Power input : 230 Vac ±15 % , 50-60Hz Standard. Others on request. Relay output : All relay 8(3)A,250VAC Operating temp.

Fan. Compressor protection algoriithm.

Compressor protection algoriithm. Auto/Man defrosting facility (Time/Temp based). 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. 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.

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3 High temperature limit. P2 Low temperature limit.

4 P3 5 HS Maximum Set Point limit. 6 LS Minimum Set Point limit. Differential for compressor relay ON condition. 7 P4 8 P5 Probe calibration for room.

9 Time delay (compressor relay restart after cutoff). P6 Minimum ON time for compressor relay. 10 Ot 11 E1 Compressor relay status in probe fail. 12 Compressor relay OFF time during probe fault. Cn Compressor relay ON time during probe fault. 13 Cy Set type of defrost 14 E2 15 Set drip time for defrost water to drain out. E3 16 E4 Set post drip time. Defrost duration during coil probe fail.

17 E5 Computation method for defrost.

18 E6 19 P7 Defrost duration & manual defrost. Defrost frequency. 20 P8 Power ON defrost delay. 21 P9 Evap. fan stop temp Coil. 22 L1 23 L2 To set time delay between Evap. fan relay restart time Evap. Fan operation when compressor is OFF.

24 L3 25 Evap.

Fan differential (Hysteresis). L4 Probe 2 offset calibration (Evap. fan coil probe) 26 L5 35.3mm Evap. fan status during defrost. 27 L6 28 Defrost stop temperature (Evap Coil probe). L7 Activate or deactivate door open digital input. 29 do0 30 do1 Door Open fault Sensing delay. Compressor / Fan Status on Door Open Fault. 31 do2 32 Delay time for Temperature updating at door do3 open digital input fault. 33 CF0 Activate or deactivate Compressor Fault digital input. Compressor Fault digital input Sensing delay. 34 CF1 Compressor / Fan Status on Compressor Fault 35 CF2 digital input. Set reset mode for Compressor output, on 36 CF3 Compressor Fault digital input. No of retrials of compressor when Manual 37 CF4 reset is selected.

Display during defrost. 38 ddF Default (Normal) Display. 39 nd Delay the display of temperature. 40 dd 41 Ad Time delay at Power ON for alarm indication. To set controller Resolution 42 rS Change Password 43 PA 44 Keypad Lock LP Restore factory defaults 45 FS End Programming 46 EP 47 LED Indications 11 12 48 Operating Messages Password Function Temperature Logging User Selectable Default Values Parameter List : 1 Function: To set compressor relay set point. Set point SET key for 2 seconds. Touch & hold 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 Min Max Fac. O LS+1.0 HS-1.0 0.0 C 2 To set other Display will flash "P2". Parameters. To select other parameters, use UP/DOWN keys. Touch & hold key for 2 seconds.

3 P2 Parameter Function: To set maximum allowable high temperature limit. Example: If this parameter is set to 50.0 C and the temperature O reaches or goes above 50.0 C, display will show Ht (High Temp.) indicating that the temperature has reached or gone above the value set in this parameter. rS = 0.1 Min Max Fac. (Message on P3+1.0 O O 50.0 C 50.0 C display) 4 P3 Parameter 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 temp) indicating that the temperature has reached or gone below the value set in this parameter. Min (Message on O -50.0 C P2-1.0 display) 5 HS Parameter 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 50.0°C will not allow the set point to go above 49.0°C (HS-1.0). Min SP+1.0 SP = Set Point 6 LS Parameter Function: To set Minimum set point limit. or and Once set at a particular value, this will not allow the set point to go below this value. Example: Setting this parameter at -50.0°C will not allow the set point to go below -49.0°C (LS+1.0). Min -50.0 C SP-1.0 O SP = Set Point 7 P4 Parameter Function: To set the differential for compressor relay ON condition. Differential between cut out and cut in temperature can be set O O between 1.0 C to 20.0 C. Example: If the set point is set at 10.0 C and differential (P4) is O set at 2.0 C, then when the room temp reaches 10.0 C, the compressor relay will cut out. Since the differential is 2.0, the compressor relay will cut in (restart) at 12.0 C (10.0 C+2.0 C).

Min O 1.0 C 8 P5 Parameter Function: To set room 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 room temperature on the display is 28.0 C, whereas the actual room temperature is 30.0 C.

User will have to set the P5 parameter to 2.0, which means that once out of the programming mode, the room temperature on display will be O O O 30.0 C (28.0 C+ 2.0 C).

Min -10.0 C O 9 P6 Parameter Function: To set time delay between compressor relay restart. This parameter is used to prevent 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. 10 Ot Parameter 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 1Min 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. 11 E1 Parameter Function : Compressor relay status in case of Control Probe Failure. When set to = Compressor relay status is OFF. = Compressor relay status is ON. = Compressor relay performs a duty cycle for Cn for minutes OFF and Cy for minutes ON.

12 Cn Parameter Function : Compressor relay OFF Time during Control probe fault. (This will be considered only when E1 is selected Example : If this parameter is set to 10 minutes, then compressor relay will be ON for 10 minutes while performing the duty cycle. rS = 1 Min Max Fac. 14 E2 Parameter Function : To set type of defrost. O LS+1 HS-1 0 C = Electric defrost in which case compressor is OFF. (This will be considered only when E1 is selected Example : If this parameter is set to 10 minutes, then compressor relay will be OFF for 4 minutes while performing the duty cycle. 13 Cy Parameter Function : Compressor relay ON Time during Control probe fault. = Hot gas defrost where compressor is ON. 15 E3 Parameter 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. O 16 E4 Parameter Function : To set post drip time . Example : This is the time where compressor goes ON after drip rS = 1 time.

Min Max Fac. Note :In electric defrost compressor will ON only if Room temp > SP + diff. but it will not check this in hot gas defrost. P3+1 O O 50 C 50 C 17 E5 Parameter Example: If this is set to 5 min, then manual defrost for 5 min O will take place during Coil probe fail. O rS = 0.1 rS = 1 18 E6 Parameter Max Fac. Min Max Fac. O O O -50.0 C -50 C P2-1 -50 C : Defrost Frequency time calculation will start once the Controller is ON. Example: If this parameter is set to 6Hrs, then defrost will happened at every 6Hrs. : Defrost Frequency time calculation will be done only When Compressor is ON. rS = 0.1 rS = 1 Example : If this parameter is set to 6Hrs, then after every Max Fac. 6Hrs of coming ON defrost will happen. O O O O 50.0 C 50.0 C SP+1 50 C 50 C 19 P7 Parameter This is maximum amount of time allowed for defrost.

If set to 0, there will be no defrost cycle. rS = 0.1 rS = 1 : If P7 is set to 15 Mins, E6 is set to rEt and P8 is Max Fac. Min Max Fac. set to 1 Hr then after every 1 Hr defrosting will take place for O O SP-1 O -50.0 C -50 C -50 C 15 mins. 20 20 P8 Parameter O O This is the amount of time between two defrost cycles. Example : Same as P7 parameter. O O O rS = 0.1 rS = 1 Max Fac.

Min Max Fac. 21 P9 Parameter O O O O O 20.0 C 2.0 C 1 C 20 C 2 C Example : If P9 parameter is 30 minutes then at power after 30 minutes defrosting will take place once. 22 L1 Parameter O O This setting is used to limit the max temperature beyond which the Evaporator fan will cut OFF.

Example : If this parameter is set to 2.0ºC, then Evap. Fan will cut OFF at 2.0ºC. rS = 0.1 rS = 1 Max Fac. Min Max Fac. 10.0 C O 0.0 C O -10 C O 10 C O O C O 23 L2 Parameter Example : If this parameter sets at 3 minutes, the Evap. Fan relay will cutoff at the temp. 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. Flashing 24 L3 Parameter 0 Min 99 Min 3 Min Time delay in progress = Evaporator fan is OFF when compressor is OFF, and it will be ON depending on Coil Temperature and its = Evaporator Fan Compressor Status according to Coil probe temperature. Min Max Fac. 25 L4 Parameter 0 Min 20 Min 0 Min Example: If L1 parameter is set to 2.0 C, and the L4 is set to 0 2.0 C, then Evap. fan will cut OFF at 2.0 C and restart only at 0 0.0 C 26 L5 Parameter Min Max Fac. 1 It may be possible that the temp. 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). Min Max Fac. 27 1 Min 99 Min 4 Min L6 Parameter = In Manual or Auto Defrost (Hot gas or Heater), Fan) . = In Manual or Auto Defrost (Hot gas or Heater) , Fan Min Max Fac. 1 Min 99 Min 10 Min 28 L7 Parameter This is the maximum temperature allowable at which the defrost process will stop. Example : If this parameter is set to 8.0ºC, then if defrosting is Min Max Fac. in progress then when temperature reaches 8.0ºC, the defrost process will stop. Defrost will stop according to P7 & E5 parameter, whichever is achieved earlier. Min Max Fac. 0 Min 99 Min 3 Min 29 do0 Parameter = Door open digital input is disabled. = Door open digital input is activated when contact is open. = Door open digital input is activated when contact is closed. Min Max Fac. 0 Min 99 Min 1 Min Function: Defrost duration during Coil probe failure (Only manual). Min Max Fac. 1 Min 10 Min 5 Min Function: To set computation method for defrost. Min Max Fac.

Function: To set Defrost duration & Manual Defrost. Min Max Fac. 0 Min 99 Min 30 Min Function: To set power ON defrost delay. Min Max Fac. 1 Hr 31 Hrs 6 Hrs Function : To set compressor ON min. Min Max Fac. 0 Min 99 Min 30 Min Function: Evap. fan stop temp (Coil). rS = 0.1 rS = 1 Min Max Fac. Min Max Fac. O O O O O O -50.0 C 50.0 C 2.0 C -50 C 50 C 2 C Function: To set time delay between Evap. fan relay restart time Max Fac. Min 0 Min 20 Min 1 Min Function: Evap. Fan operation when compressor is OFF. set point . will be ON /OFF independent of Min Max Fac. Function: Evap. Fan differential (hysterisis). 0 0 rS = 0.1 rS = 1 Min Max Fac. Min Max Fac. O O O O O O 1.0 C 20.0 C 2.0 C 1 C 20 C 2 C Function: To set probe 2 offset calibration (Evap. fan coil probe). 0 0 rS = 0.1 rS = 1 Min Max Fac. Min Max Fac. O O O O O O -10.0 C 10.0 C 0.0 C -10 C 10 C 0 C Function: Evaporator Fan status during defrost. will be OFF. will be ON. Max Fac. Min Function: To set Defrost stop temperature (Evap. coil probe) rS = 0.1 rS = 1 Min Max Fac. Min Max Fac. O O O O O O -50.0 C 50.0 C 8.0 C -50 C 50 C 8 C Function : To activate or deactivate door opendigital input function. Min Max Fac.

Two Compressor Controller SZ-7552-P / SZ-7562-P Individual set points, differentials and time delays. Cycling of compressors to avoid overloading one compressor. Activate second compressor incase first compressor is not able to handle the load. An internal 10sec time delay is provided to avoid simultaneous startups of compressors. similar option for switching off as well to prevent an electrical surge. Software keypad lock to avoid parameter tampering by bystanders. Display 7 Segment LED Display, 3 x 14.2mm (0.56") Probe Inputs NTC, Defrost (Coil) Relay Outputs Compressor1 : 8(3)ACompressor2 : 8(3)A Power Supply 230Vac Standard Temperature Range -0.0°C to +50.0°C (Resolution 0.1°C, for SZ-7552-P) -40°C to +99°C (Resolution 1°C, for SZ-7562-P) Size 75 x 34.5mm Mounting Type Panel Mount, Panel Cutout : 71 x 29mm Application 2 Independent cooling units with one temperature sensor