Model: SF-101 Digital Temperature Controller

Dimension:77(Length)×35(Width)×60(Depth)mm
Mounting hole dimension:71(Length)×29(Width)mm

Features of Function

- Mini-sized and integrated intelligent control .
- Temperature Display / Temperature Control / Value Storing / Self Testing

Specifications

1. Power supply:230VAC
2. Temperature sensor: NTC
3. Range of temperature displayed:－45℃~99℃(－40~120℉); Accuracy:±1℃(±2℉)
4. Range of set temperature:－45℃~99℃(－40~120℉); Factory default: 0℃(32℉)
5. Temperature of the operating environment:－10℃~60℃ (14~140℉)
   Relative Humidity:20%~90%(Non-condensing)
6. Relay output contact capacity:
   Compressor relay: N.O. 16A/250VAC

Front Panel Operation

1 . Set temperature (compressor stop temperature) adjustment

- Press SET button, the set temperature is displayed.
- Press △ or ▽ button to modify and store the displayed value , Press SET button to exit the adjustment and display the cold room temperature.
- If no more button is pressed within 10 seconds, the cold room temperature will be displayed. (Set temperature adjustment range: parameter E1~E2)

2. Refrigeration LED: During refrigeration, the LED is on; When the cold room temp. is constant, the LED is off; During the delay start, the LED flashes; during defrosting, the LED flashes.
3. Parameter setup

- Press SET button and hold for 6 seconds to enter the parameter setup mode while E1 flashes.
- Press again SET button to select sequentially from the parameters : E2,E3,E4,E5,C1.
- Press △ or ▽ button, the value of parameter will be displayed and can be modified and stored.
- If no more button is pressed within 10 seconds, the cold room temperature will be displayed.

Parameter	Function	Set range	Default
E1	Lower setpoint limit	－45℃/－40℉ ～Set temp.	－35℃/－31℉
E2	Higher setpoint limit	Set temp.～99℃/120℉	20℃/68℉
E3	Temp. Hysteresis	1～30℃/1～54℉	4℃/7℉
E4	Comp. start delay time	0～10Min	2Min
E5	Offset on room temp.	－20～20℃/ ℉	0℃/℉
C1	Temperature unit	0=℃ 1=℉	0

4. The factory default resumption: press ▽ button for 1 second and then press △ button simultaneously for 6 seconds, the indicator flashes , all parameters will be resumed as same as factory defaults. After 10 seconds, it returns to the normal operation.
5. Lock parameters:
   In normal operating,press ▽ button and hold for 6 seconds to lock the parameters if "OFF" is displayed (No modification is allowed),or to unlock if "ON" is displayed. Parameter can be displayed only and can not be modified if locked.(Fatory default is "ON")

Function detail

1. Temperature control
   - After turning on for the delay time ,the compressor starts operating when cold room temperature≥ (set temperature+ hysteresis), and will be off when cold room temperature ≤ set temperature.
   - To protect the compressor, it can not re-start unless the time when the compressor stops every time is longer than the delay time(Parameter E4).
2. Defrosting Functions
   - Operating after a defrost interval time (Parameter F2),it will be automatically enter the status of defrost, the compressor will stop. When the defrost duration ends, it will enter the normal status of refrigeration.
   - When defrost interval time F2 is set to "00" , the function of automatic defrost will be cancelled.
   - Press SET and ▽ button simultaneously and hold for 6 seconds to enter the parameter setup mode while F1 flashes. Press again SET button to select F1,F2,F4. Press △ or ▽ button, the value of parameter will be displayed and can be modified and stored.
   - If no more button is pressed within 10 seconds, the cold-room temperature will be displayed .
3. Display during defrost
   When setting the parameter F4=1,the room temp. is locked during defrost, and the last value before defrost is displayed. When defrost ends, normal display will be resumed after 20 minutes delay of room temp. display. The refrigeration LED flashes during the delay.

Parameter	Function	Set range	Default
F1	Max. Defrost duration	1～90Min	20Min
F2	Defrost interval time	0～24Hr	0
F4	Display termination temp.	0=Normal display 1=Last value before defrost	1

4. Abnormal work mode
   When sensor is short-circuited or overheated (more than 99℃/120℉) "HH" is displayed;When sensor is open-circuited or temperature is too low (less than －45℃/－49℉) " LL" is displayed. At that time, the compressor works automatically by the cycle of 45 minutes on and 15 minutes off.

Notes for Installation

1. Sensor leads must be kept separately from main voltage wires in order to avoid high frequency noise induced. Separate the power supply of the loads from the power supply of the controller.
2. When installation the sensor shall be placed with the head upward and the wire downward.
3. In case of long-distance sensor installation from the controller, the sensor cable may be prolonged up to 100 m max. without any re-calibration.
4. The temperature controller can not be installed in the area with water drops.

Accessories for the temperature controller

1. One temperature sensor
2. One installation stand
3. One cover panel and one φ3×10mm screw

Circuit Diagram