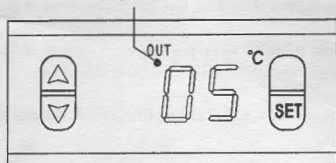


Model: SF-800T-1 Digital Temperature Controller

Output LED



Features of Function

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

Specifications

1. Power supply:230VAC 50/60Hz
2. Temperature sensor: NTC, 1pc, 2 meters(L) (Neither positive nor negative)
3. Range of temperature displayed: $-45^{\circ}\text{C}\sim 99^{\circ}\text{C}$ ($-49\sim 210^{\circ}\text{F}$); Accuracy: $\pm 1^{\circ}\text{C}$ ($\pm 2^{\circ}\text{F}$)
4. Range of set temperature: $-45^{\circ}\text{C}\sim 82^{\circ}\text{C}$ ($-49\sim 180^{\circ}\text{F}$); Factory default: 00°C (32°F)
5. Dimension:77(Length) $\times$ 35(Width) $\times$ 70(Depth)mm
Mounting hole dimension:71(Length) $\times$ 29(Width)mm
6. Temperature of the operating environment: $-10^{\circ}\text{C}\sim 60^{\circ}\text{C}$ ($14\sim 140^{\circ}\text{F}$)
Relative Humidity:20%~90% (Non-condensing)
7. 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. Output LED: During refrigeration, the output LED is on; When the cold room temp. is constant, the output LED is off; During the delay process, the output 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,CF.
 - 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, it will return to normal operation.

Parameter	Function	Set range	Default
E1	Lower set point limit	$-45^{\circ}\text{C}/-49^{\circ}\text{F}\sim\text{Set temp.}$	-02°C 28°F
E2	Higher set point limit	$\text{Set temp.}\sim 82^{\circ}\text{C}/180^{\circ}\text{F}$	12°C 54°F
E3	Temp. hysteresis	$01\sim 30^{\circ}\text{C}$ $02\sim 54^{\circ}\text{F}$	04°C 07°F
E4	Comp. start delay time	$00\sim 10\text{Min}$	3Min
E5	Offset on room temp.	$-20\sim 20^{\circ}\text{C}$ $-36\sim 36^{\circ}\text{F}$	$00^{\circ}\text{C}/^{\circ}\text{F}$
CF	Temperature unit	$^{\circ}\text{C}/^{\circ}\text{F}$	$^{\circ}\text{C}$

4. The factory default resumption: press **▲** and **▼** button simultaneously for 6 seconds, the indicator flashes 888 , all parameters will be resumed as same as factory defaults. After 10 seconds, it returns to the normal operation.

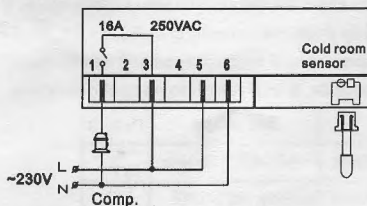
- Lock parameters (two modes): Press and button simultaneously for 6 seconds, will switch between A with B mode. (The factory default is A)
 - Press button and hold for 6 seconds to lock the parameters if "OFF" is displayed, or to unlock if "On" is displayed. Parameters can be displayed only and can not be modified if locked, but the adjustment of set temperature is still active. (The factory default is "On")
 - Press button and hold for 6 seconds to lock the parameters if "OFF" is displayed, or to unlock if "On" is displayed. Parameters and set temperature can be displayed only and can not be modified if locked. (The factory default is "On")
- When adjusting the inner parameters, long press button for 6 seconds, COP will be displayed, the current parameters will be saved as factory defaults.

Function detail

- Temperature control (When first time power on, press for once to cancel delay and enter automatic control.)
 - After turning on for the delay time, the compressor starts operating when cold room temperature $\geq$ (set temperature + hysteresis), and will be off when cold room temperature $\leq$ set temperature.
 - To protect the compressor, it can re-start unless the time when the compressor stops every time is longer than the delay time (Parameter E4).
- Regularly defrost by turning off comp.
 - Operating after a defrost interval time (Parameter F2), it will automatically enter the status of halt, and the compressor will stop. After a certain time (F1), it will enter automatic refrigeration state.
 - When the defrost interval time F2 is set to "00", the function of defrost by turning off comp. will be cancelled.
 - Press and button simultaneously and hold for 6 seconds to enter the parameter setup mode while F1 flashes. Press again button to select F2, F4, F1. 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, it will return to normal operation.
- Display during defrost
 - When setting F4=1, the room temperature is locked during defrost, and the last value before defrost will be displayed. When defrost ends, it will resume normal display after 20 minutes delay of room temperature display (or lower than the set temperature). The output LED flashes during delay.

Parameter	Function	Set range	Default
F1	Max. Defrost duration	01~90Min	10Min
F2	Defrost interval time	00~24Hr	3Hr
F4	Display during defrost	00=normal display 01=last value before defrost	01

- Abnormal work mode
 - When sensor is short-circuited or overheated (more than 99°C/210°F) "HH" is displayed; when sensor is open-circuited or temperature is too low (less than -45°C/-49°F) "LL" is displayed. At that time the compressor automatically by the cycle of 30 minutes on and 15 minutes off.
- Circuit Diagram:



Notes for Installation

- 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.
- When installation, the probe should be placed with head upward and wire downward.
- In case of long-distance probe installation from the controller, the probe cable may be prolonged up to 100 m max. without any re-calibration
- The temperature controller can not be installed in the area with water drops.

Accessories for the temperature controller

- One temperature sensor
- One set installation stand