

LTC-20HT User Manual

1. Introduction

LTC-20HT is a temperature controller with a band switch, specially designed for direct-cooling refrigerators and freezers used in kitchen. It has functions of temperature display and control, start delay protection of compressor, sensor failure, and over range indication. The switch can be used to adjust temperature. It is convenient to operate and reliable in performance.

Technical Parameters

1. Temperature measuring range: $-40^{\circ}\text{C}\sim 90^{\circ}\text{C}$
2. Temperature accuracy: $\pm 1^{\circ}\text{C}$
3. Display resolution: 1°C
4. Return difference of temperature: 4°C
5. Sensor: NTC
6. Output capacity of refrigeration relay : 30A/220VAC (1.5HP load at maximum)
7. Start delay time of compressor: 2 min
8. Temperature control level: 0~7 (OFF: the controller is turned off)
9. Power supply: $220\pm 10\%$ (VAC), 50/60Hz
10. Overall power consumption: <5w
11. Operating ambient temperature: $-5^{\circ}\text{C}\sim 50^{\circ}\text{C}$
12. Storage temperature: $-25^{\circ}\text{C}\sim 75^{\circ}\text{C}$
13. Relative humidity: 20%~85% (non-condensing)

Operating Instruction

Use the bands switch to set temperature. The dot on the switch points to the temperature when compressor stops. This temperature value plus return difference equals to the temperature when compressor starts.

When the switch is rotated to "OFF", the temperature controller is turned off and compressor stops running.

Note: Rotate the switch (clockwise): 0: (OFF), 1: (6°C), 2: (4°C), 3: (2°C), 4: (0°C), 5: (-1°C), 6: (-3°C), 7: (-5°C).

Indicator Status

Indicator	Status	Meaning
Refrigeration indicator	On	Compressor is running.
Refrigeration indicator	Flash	Compressor is in start delay (delay time: 2 min).
Refrigeration indicator	Off	Compressor stops.

Note: the decimal point represents the refrigeration indicator.

Fault Code

1. "EE": sensor failure
2. "--": knob failure
3. "HH": measured temperature is beyond the upper limit of measuring range
4. "LL": measured temperature is beyond the lower limit of measuring range

Wiring Mode

Terminal COM, OUT: load; terminal ACN, ACL: power supply; terminal NTC: sensor

Safety Rule

Danger: Wiring requires disconnection of power supply. It is forbidden to connect terminals with power on.

Warning: The controller is forbidden to be used in too humid environment, high temperature, strong electromagnetic interference or strong corrosion environment. Do distinguish the sensor lead power line and output lead of relay. Please do not connect lines wrong. The relay cannot be overloaded.

Notice: Power supply should be in compliance with the voltage indicated in this manual. Suggest to keep suitable distance between sensor lead and power line to avoid possible interference. The sensor should be installed far away from air openings to ensure the accuracy of measured temperature.

Product Liability Insurance Provided by PICC.

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