

KT1000 Temperature Controller Operating Manual

1. Overview

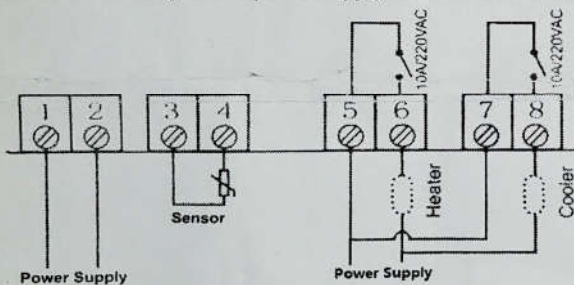
- Temperature switch between °C and °F
- Heat and cool two relay output
- Support delay start and temperature calibration.
- Alarm when temp exceed setting limit or sensor error
- All parameters setting can be saved when power off.
- Refrigerating control output delay protection
- Can be used for domestic freezer, water tanks, refrigerator, industrial chiller, steamer, industrial equipment and other temperature control applications.

2. Specifications

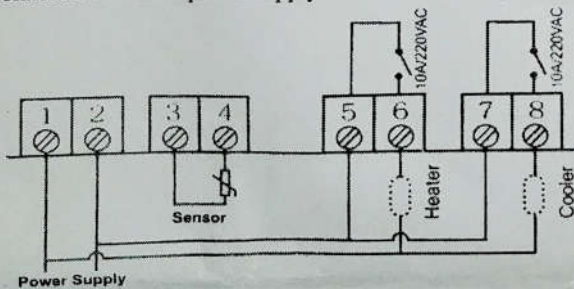
- Power Supply: AC90~250V 50/60Hz / DC12V / DC24V
- Temperature control range: -66°F~248°F / -55~120°C
- Return difference Value: 0~30°F / 0~10°C
- Accuracy: ±0.2°F (°F mode) / ±0.1°C (°C mode)
- Resolution : 0.1°F / 0.1°C
- Measuring input: NTC sensor 10K 1m
- Relay contact capacity: Cool Heat 10A max
- Size: 75mm(L)*34mm(W)*85mm(Depth)
- Mounting size: 71(L)*29(W)mm

3. Wiring Diagram

Connection 1: Independent power supply for controller and load



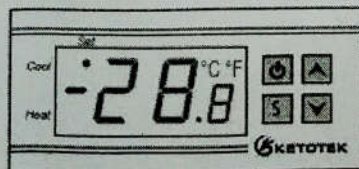
Connection 2: Same power supply for controller and load



4. Key Instruction

- [S]: Set key, Confirm the setting value, Entry and Set parameter.
- [▲]: Increase value, Press and hold 2s to switch °C and °F
- [▼]: Decrease value, Press [▲] and [▼] 2s to Restore factory settings.
- [⏻]: Power on/off, quit and save the settings.

Cool: Cool output indicator
Heat: Heat output indicator
Set: Setting indicator



Indicator	Function	Notes
Cool light	On: Refrigeration starts; Off: Refrigeration stops; Flash: compressor delay	Cool, Heat indicator light can not be "on" status simultaneously
Heat light	On: heating starts; Off: heating stops	
Set light	On: parameter setting status	

5. Key Operation Instruction

- **Check parameter:** In normal working status, the screen display real time environment temperature. press [▲]. it display the setting temperature value. press [▼]. it display the return difference value. Press [⏻] to back to normal display.
- **Set parameter:** In normal working status, press S for 3s to enter set parameter mode. Press [▲] or [▼] to switch from F1-F6. (see code table). Press S to display the value of current code. Then press and hold S, press [▲] or [▼] to increase or decrease the value of current code. You can also press and hold S with [▲] or [▼] simultaneously to choose and adjust the value quickly. After finish the setting, press [⏻] to save the value and return to normal display. If no key operation within 30 seconds, system won't save the modified value, screen back to display environment temperature. Screen display "Er" if error appears during parameter saving, and back to normal working status in 3 seconds.
- **Restore system data:** When power on, system will do self test, screen will display "Er" if error exit, press any key to restore default value and enter into normal working mode.

6. Operation Instruction

- In normal working status, the screen display RT (real time temperature value from sensor). hold [⏻] for 3 seconds to power off, press [⏻] to power on. Press S to go into setting mode to set code value F1~F6.
- ① **Refrigerating starts** when $RT \geq F1 + F2$, the refrigerating relay is connected. cool indicator flashes. it indicates the refrigerating equipment is under compressor delay protect status; When $RT \leq F1$, cool indicator light off, refrigerating relay disconnects. cooler stop working.
- ② **Heating starts** when $RT \leq F1 - F2$, heat indicator light on. heat relay connect. When $RT \geq F1$, heat indicator turn off, heat relay disconnect, heater stop working.
- **For example,** set 10°F, difference 3°F, heater work when $RT \leq 7^\circ\text{F}$. heater stop when $RT \geq 10^\circ\text{F}$. Cooler work when $RT \geq 13^\circ\text{F}$, Cooler stop when $RT \leq 10^\circ\text{F}$.

Code	Function	Set Range	Default
F1	Temperature set value	-66°F~248°F / -55~120°C	50°F 10°C
F2	Return Difference	0~30°F / 0~10°C	3
F3	Compressor delay time	0~10minute	3minutes
F4	Temperature calibration	-10~10	0
F5	Switch °C and °F	°C and °F	°F
F6	Set high temperature Alarm limit	-66°F~248°F / -55~120°C	off