

• User Manual of AL8010F

Heating or Cooling Controller

1. Features

- The voltage of input electric for the load **needs not** same as the voltage of this controller, and it is also working if they are same.
- With adjustable aim temperature value / difference value / calibration value and Higher and Lower temperature limitation exceed which range will trigger alarms.
- It will change the room temperature by turn on / off the load automatically.

2. Applications

Suit to place where need constant temperature, like beer fermentation chamber / pool, brewing hardware, boiler, fridge, freezer, Incubators, Aquariums, Hatchers, terrariums etc.

3. Package

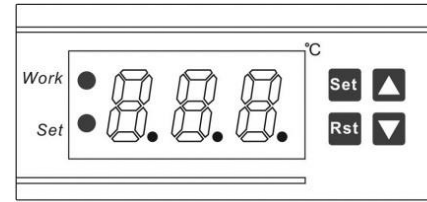
Controller	1PC	Sensor	1PCS
	S		
Fasteners	2PC	Manua	1PCS
	S	I	
Waterproof	1PC		
Cover	S		

4. Specification

Input Power	220V AC \pm 10% 50/60HZ; (12V/24/110V Option)
Maximum current	10A (Default) under 220V AC
Sensor	NTC, 25°C /10 K Ω , sensor cable 100cm
Protection Class	IP65 to front panel
Storage	-10°C ~ 60°C, RH<90%, without condensation
Rated Power:	\leq 3W
Meas. & Control:	-40°F~ +230°F
Precision:	0.1°F
Accuracy:	\pm 1°F

5. Interface & Operation

5.1. Button & Icon



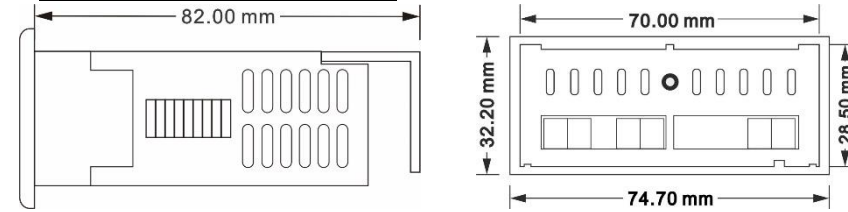
Under normal status

- When screen light, Press **Rst** and hold on 3s to turn off the display, attention it is just dim the screen not turn off controller;
- When screen dark, Press **Rst** and release, to light on the screen.

Indicator / Character in Display

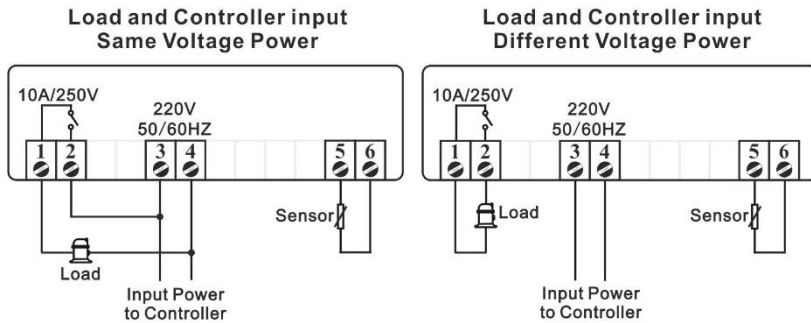
Indicator	Meaning	On	Hide	Wink
Work ●	Working status of load	Load Working	Stop	Delay
Set ●	Setting status	On Set	Non-setting	N/A

5.2. Dimensions & Installation



- Suggested amount dimension: 71.0*29.0*85.0mm (W*H*D)
- Detach the slide fasteners, put the controller into the hole, wiring follow diagram;
- Install the fasteners, and the waterproof cover.
- Please **avoid** installing in the below environments:
 - Relative humidity>90%, have condensation
 - The places that temperature <14°F or >140°F;
 - The places that have inflammables and explosives;
 - Strong vibration or struck
 - Exposed to the continuous water mist spraying;
 - Exposed to the dust;
 - Exposure to corrosive and pollution gas (for example: The gas, smoke or salt fog that contain sulfur or ammonia;
 - Wireless electromagnetic interference or strong magnetic fields (near to transmitting antenna or switch board room);

5.3. Wiring Diagram



- A. This is 10K NTC sensor, need not to distinguish positive or negative when wiring sensor.
- B. The input voltage must within the voltage value marked in diagram $\pm 10\%$ value.
- C. Load Power $\leq \frac{\text{Votage of load} * \text{Max current of Relay}}{\text{Factor}}$
- The factor for Inductive Load like compressor, heating pump, usually be 5~8;
 - The factor for Resistive Load like Electric heating rod, Electric blanket usually is 1.5~2;
 - The factor for Incandescent lamp usually is 15.

6. Configurations

6.1. Function & Parameter

Code	Function	Min	Max	Default	Step
HC	Heating or Cooling	C	H	C	
D	Return Difference (°F)	1	50	10	1
LS	Lowest set Limit (°F)	-40	ATV	-40	1
HS	Highest Limit (°F)	ATV	230	230	1
CA	Temperature Calibration (°F)	-10	10	0	1
PT	Delay Time (Min)	0	10	1	1

6.2. How to set my ideal temperature?

We call it ATV means Aim Temperature Value (default 5°F) which is the ideal temperature value you wish to keep around, once exceed this value (if difference value = 0) the working status of load will be changed; and ATV must between the lower limit and higher limit.

- Step1** Assure power on, Press and release **Set** key once time you will find display blink a data which is changeable
- Step2** Now press **▲** or **▼** keys to get you aim value.
- Step3** Waiting 10s the device will save data automatically or press **Ret** to save it

immediately.

6.3. When will the load working?

Firstly of all, the instant time passed the delay time, and then matches one of the following

- **In heating mode**, the relay will turn on heater when
Measured Temperature Value \leq ATV - Temp. Differential
- **In Cooling mode**, the relay will turn on cooler
Measured Temperature Value \geq ATV + Temp. Differential

6.4. How to set other parameters?

- Step1** Press **Set** and hold on 3s until appears the code HC.
- Step2** Now press the **▲** or **▼** keys to select the code you want to update;
- Step3** Press **Set** and release to see exist value; now Press the **▲** or **▼** keys in order to get you aim value;
- Step4** Press **Set** key to memorize the configured value and return to the menu.
- Repeat operation from step 2 / 3 / 4 to adjust other parameters;**
- Step5** Press **Ret** to save data and quit from setting mode back to normal monitor status. Actually modified value will be memorized automatically if without operation in 10s

6.5. How to get Factory Reset?

In normal status, press **▲** and **▼** keys in same time, do not release them until screen shows YS which means success, nearly 3s.

7. Error & Alarm

When alarm occur, if the readout flash --- and buzzer sounds,

- Press any key to stop buzz scream;
- Check the room temperature and then change the compressor / heater working status manually if need,
- fix or replace the sensor; after that screen will back to normal state

And other code please, reference below content to fix problem.

Code	Reason	Troubleshooting
HHH	Measured temperature > HS	Check the refrigerator or heater
LLL	Measured temperature < LS	Check the refrigerator or heater

8. Environmental Information



- Package:** The packages material is 100% recyclable; Just dispose it through specialized recyclers.
- Product:** The electro components can be recycled or reused if it is disassembled for specialized companies.
- Disposal:** Please do not burn or throw the controllers in domestic garbage, observe the respectively law in your region concerning the environmental responsible manner of dispose its devices.

