Intelligent temperature controller, Energy-saving and practicality

# Microcomputer temperature controller

《User manual of **MH2000**》

Thank you for choosing Shenzhen "MEIHANG TECHNOLOGY" microcomputer temperature controller. This product gather a wide range of modern heating and cooling technology, small size, light weight, big range working voltage(AC90V~AC250V±10% 50/60Hz), simple operation, accurate measurement and anti-interference ability, etc. It suits most users in different environments for automatic intelligent control system of many kinds of refrigeration, heating equipment. The procedure has been set the power outage permanent memory function.

specifications：

1. Working voltage range: AC90V-250V±10% 50/60Hz；Power consumption：≤3W
2. Power   consumption of standing by: ≤0.5W
3. Control range of temperature: -40℃~120℃, measurement error：±0.3℃
4. Precision of temperature control: 0.1℃, separation rate:0.1℃,
   Slewing range of temperature：0.1℃~30℃(adjustable)
5. temperature sensor: NTC 25℃=10K B3435 ±1%（1.5miter length, no positive or negative）；
6. power line: 1.5 meters (nation standard)
7. relay: 10A/AC220V'
8. Working environment temperature：﹣20℃~70℃， humidity： 90%RH none moisture condensation；
9. Dimension of whole unite: 60(width)X28.5(thickness)X155(length)

Sketch map：
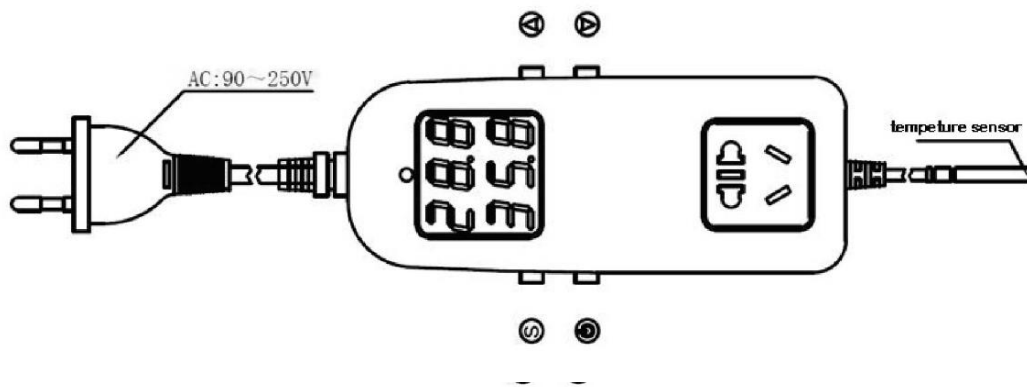


## Operation of buttons：

⏻： Reset button，in the setting status; press this button one time to quit the setting status, back to the display status.

S：setting button， press S 3 seconds get into Menu code, it display: [PO H]。Press S once more and again to cycle the parameter setting status [PO H]→[P1 32.0]→[P2 0.0]→[P3 0.5] parameter code（refer to the attachment）, if you want to adjust the parameter code chose, please press △ or ▽ when it appears and press ⏻ to save and quit.

△ or▽： up or down to adjust the parameter, press it for a long time it will adjust quickly;

## Parameter setting:

**Heating mode：** get into parameter menu code model, after choosing code ☐, press button △ or ▽ it display **"H"** or **"C"**, after 3 seconds, it will save it automatically， **"H"** means heating model, e.g.: e.g. the setting control temperature is 40℃, slewing range of temperature is 2℃, when the environment temperature ≥ setting temperature (40℃), the relay will switch off and stop the output load; when the environment temperature ≤ setting temperature (40℃) - slewing range of temperature（2℃）=38℃, the reply will switch on and output load again：

**Refrigeration control：** get into parameter menu code model, after choosing code ☐, press button △ or ▽ it display **"H"** or **"C",** after 3 seconds, it will save it automatically, "C" means refrigeration, e.g.: e.g. the setting control temperature is 40℃, slewing range of temperature is 2℃, when the environment temperature ≤40℃, the relay will switch off and stop output load. When the environment temperature ≥4 2℃（40℃+2℃=42℃）the relay will switch on and start the output load.

**setting of temperature control：** get into parameter menu and choose ☐, press button △ or▽to change the parameter needed, it will save it automatically after 3 seconds,（press button△ or ▽ for more than 2 seconds could adjust the parameter quickly）, this is the setting range of the temperature control （range: -40—120℃）；

**delay start:** get into parameter menu and chose ☐, press button△ or▽to change the parameter needed, it will save it automatically after 3 seconds,（press button△ or ▽ for more than 2 seconds could adjust the parameter quickly）, this is the setting of delay start （range: 0—10minutes)

**Setting of slewing range：** get into parameter menu and choose ☐, press button △ or▽to change the parameter needed, it will save it automatically after 3 seconds,（press button△ or ▽ for more than 2 seconds could adjust the parameter quickly）, this is the setting of delay start function（range: 0.1-—30℃）

**Code:**

| code | instruction | Explanation | default / unit |
|---|---|---|---|
| P0 H | Heating/refrigeration | Setting of heating/refrigeration mode | H=heating，C=refrigeration |
| P1 32.0 | Tem. Control | Set the temperature data（-40—120℃） | 32.0 ／ ℃ |
| P2 0.0 | Delay start | Set the delay start time(0—10分钟) | 00 ／ minute |
| P3 0.5 | Slewing range | Tem. difference between on/off of equipment（0.1-—30℃） | 0.5 ／ ℃ |

**Defective reminding:** when the temperature sensor detects the up limited environment temperature of 120℃, it flashes HHH and turn off the output; when the temperature sensor detects the down limited environment temperature -40℃, it flashes LLL and turn off the output too.

Note:

a. To prevent high-frequency interference, do not install the sensor line bundled with the power line and loaded equipment line, but should be separated wiring;

b. Supply voltage must be consistent with the rated voltage and the deviation is less than ± 10%. Strict distinction between sensor installation, power line and loaded output interface;

c. The temperature control host machine cannot be installed in the place where is dripping water, or the elderly, children could be touched;