

## CONTROLLER INSTRUCTIONS

### Product Description

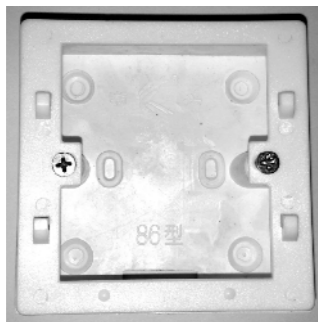
JH digital controller is mainly used in electrothermal heating temperature control. It can be installed both in surface mounting box and flush mounting box. JH digital controller adapts advanced microcomputer control chip that comes through the thermostat temperature sensor to detect temperature. And comparing with the parameters set by the user real-time, automatically turn on, turn off the heater, in order to maintain a constant temperature. It can be set to 6 time interval with corresponding set temperature every day, automatic or manual control.

On the other hand, when the temperature is more than protective set temperature which is detected by controller, the controller will stop heating, and protect the controller and heating device. To make sure the controller and heating device could be used in reasonable temperature, to extend the service life of device, to make the system more safe, more reliable, and more energy saving.

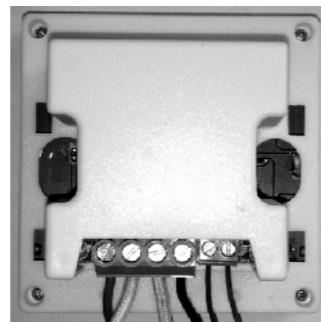
### Controller Specifications

Power: <1.5W	Load current: 25A
Timing Error: <0.01%	Temperature Control range: 5°C-30°C
Voltage: 100-240VAC	Temperature Control precision: ±1°C
Frequency: 50/60Hz	Dimension: 86mm× 86mm × 21mm

### Installation



1. Fix the installation board on surface mounting box or flush mounting box by screws.



2. Make sure the linking of power wire, load wire and temperature detecting wire are correct.

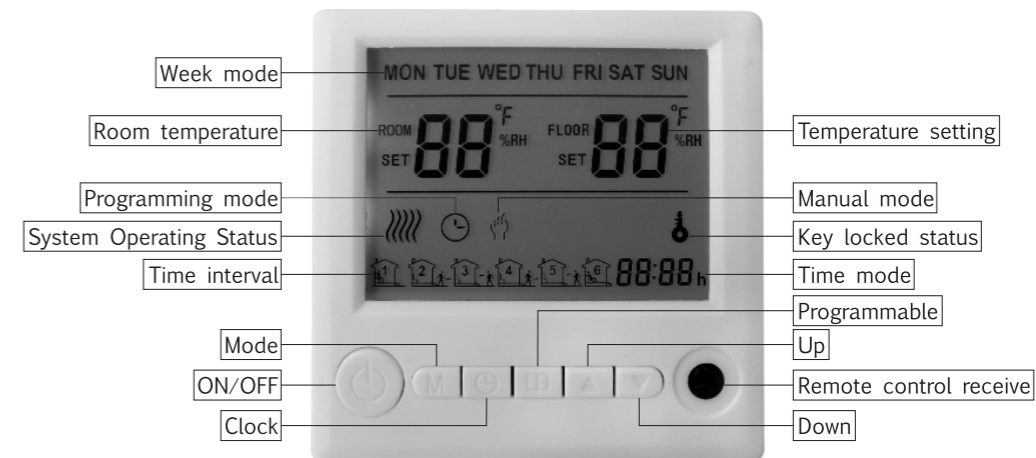


3. Clamping the controller and installation board together correctly.



4. Installation finish.

### Function Display and Instruction









- Manual mode, equipment running is controlled by current manual set temperature.
- Programming mode, temperature controller runs automatically according to setting time period & temperature.
- Temporary manual mode, switch to manual status temporarily in current programming control period, switch back to period control status automatically, while the coming of next period (the setting temperature will not be saved in temporary manual status) switch to manual mode by pressing “M” key.
- System Operating Status, power on & start warming when it's with display, of & stop warming when no display.
- Key locked status, to lock thermostat by pressing “▲” “▼” keys together more than 5 sec, unlock it by pressing them more than 5 sec.



### Keys Function and Operation

- ON/OFF keys, press keys to choose ON/OFF system status. LCD is with display when power on, thermostat is running with current mode: manual & programming. LCD is without any display when power off, operative mode & running parameter will be saved before power off. The heater will be in OFF status.
- Mode key, switch between manual mode & Week programming mode.
- Clock key, adjust time by press clock key when power on, adjustment sequence: Min → Hour → Week → Back to Original.
- Programmable key, adjustment sequence: The 1st period (Mon-Fri) time adjustment (Min) → The 1st period (Mon-Fri) Time adjustment (Hour) → The 1st period (Mon-Fri) timing temperature adjustment → The 6th period (Sat/Sun) timing temperature adjustment (See list below) → programmable key will be switched to next parameter setting after every parameter is set up, flicker to indicate parameter setting, adjusted by press UP/DOWN keys (Increase/Decrease MIN every 15 min).
- UP/DOWN key, set up increase & decrease of temperature & running parameter.

### Time Period Programming Time & Temperature Factory Default(List)

- period 1, morning get up
- period 2, morning out
- period 3, noon home
- period 4, noon out
- period 5, night home
- period 6, night sleeping

Time display	Weekday (Mon-Fri)		Weekend(Sat-Sun)	
	Time	Temperature	Time	Temperature
	06:00 get up	20°C	06:00 get up	20°C
	08:00 work	15°C	08:00 out	20°C
	11:30 afternoon rest	15°C	11:30 afternoon rest	20°C
	13:30 work	15°C	13:30 out	20°C
	17:00 off work	22°C	17:00 go home	20°C
	22:00 rest	15°C	22:00 rest	15°C

Enter the programming parameter settings, it shows in the panel top: the MON TUE WED, THU FRI, it shows  in low left, which is the first period from Monday to Friday programming, at this time minutes display flashing, press the arrow keys to adjust the minutes, press the programming key to adjusting the clock, the clock display flashing, press the programming key again to adjusting the temperature setting of that period, the temperature display flashing, press the arrow keys to set the temperature, press the programming key to enter the second period programming, it shows  in the bottom left, after the end of the sixth period from Monday to Friday programming, it shows SAT SUN in the top of the panel, which is Saturday and Sunday programming, also is divided into six sessions, the programming methods is the same with the programming from Monday to Friday (When it's programmed, if you don't set within ten seconds, the panel will return to normal working condition).

### Senior parameter option

During power off, pressing “M” and “⊖” for 5 seconds in to senior option setting. It includes temperature correction, dead zone temperature, overheating protection, weekend operation, locking setting. Then press “M” changeover into the relative item. At last, confirm it and turn on automatically.

Code	Option	“▲” or “▼”
1	Temperature compensation in internal sensor	-9°C~9°C
2	Dead zone temperature	1°C~5°C, When the set temperature is equal to or more than the set temperature plus dead zone temperature, heating equipment closes.
3	High temperature protection Settings	35°C~70°C, when down to Max 35°C, press “▼” when display “--” cancel this function.
4	Locking setting	0: Buttons are locked except On/Off button 1: All buttons are locked
5	Weekend setting	0 two-day weekend: 12 345 and 67 1 one-day weekend: 123 456 and 7 --: cancel week programming

### Cautions:

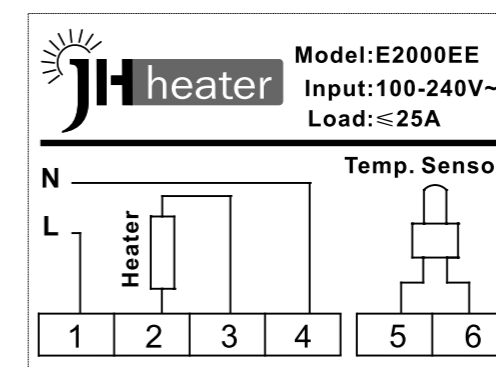
1. Connect wiring in strict accordance with circuit diagram.
2. Install properly in strict accordance with installation guide.
3. Don't pull wiring to damage it.
4. Don't press or scratch the LCD screen when install controller.
5. Don't knock against the component on the circuit board, don't fall the controller when install it.
6. If use hard plastic line to install controller, please bend it in advance with right angle.

### Simple exception handling

**Note:** Heater's maintenance only for professionals.

Problem	Solution
No display after power on	<ul style="list-style-type: none"> <li>• Check the L, N is correct or not, wiring is correct or not ;</li> <li>• Check the switch is flexible and effective or not ;</li> <li>• Replace the control board first, if not, replace the power board ;</li> <li>• Check the wire between LCD board and power board is loose or not ;</li> </ul>
LCD messy code	<ul style="list-style-type: none"> <li>• Back side shell has deformation when installation, loose one or two fixed screw ;</li> </ul>
Normal display without output	<ul style="list-style-type: none"> <li>• The wire which connect control board and power board is damaged ;</li> <li>• Replace control board frist, then replace power board ;</li> </ul>
Remote control failure	<ul style="list-style-type: none"> <li>• make the heater power off, then make it power on again ;</li> <li>• check the remote control battery is electric or not ;</li> <li>• replace the remote control ;</li> </ul>
Temperature display abnormal	<ul style="list-style-type: none"> <li>• Check the temperature probe connection is correct or not ;</li> <li>• Temperature is not corrected, correct the temperature by control board directly.</li> </ul>

### Connection schematic diagram



**Note:** The schematic diagram above just for your reference, with the practical situation, according to the back side schematic diagram of power box.

### After sales service

The guarantee period of this product is 12 months, since the date of selling. The products of our company could enjoy the lifelong after sales service according to the provisions. However, out of the guarantee period will be cost which depend on practical situation.

Warm and health!

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