

6. INSTALLATION INSTRUCTION

1. install the sensor

fix the cable grant into the over fall pipe and then plug the sensor into the over fall pipe and draw the cable slightly to get connect to the entrance and then push the cable to the over fall pipe about 1cm. Then fix the cable by pressure plate and then lead the cable to the room. During the installation, please don't draw the cable roughly in order not to break it. The sensor not too much near to the electric heater inside the tank.

2. electric magnetic installation

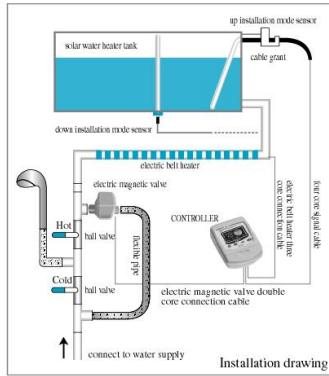
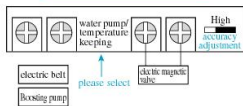
The electric magnetic valve has filter which is input water side, the button arrow is showing the direction of water (please don't make wrong for the installation for the input and output). The electric magnetic valve has check valve already and no need to install another. The input water side should install a pipe easy to take off for future clean the filter. The two core cable, if need more length, should connect with bigger one cable. If the electric magnetic valve install outside the house, please pay attention to keep the valve warm, detail installation as per the drawing.

3. controller installation

first please put the controller box at the place easy for handling and the sensor cable line should put into these clip where the color should match each other, green clip and then fix inside the slot. (please don't put the controller box at the bathing place) And then connect the electric valve cable in the same way. The boosting pump, electric belt heating should connect correct. Otherwise it will cause trouble of electricity. Please follow the connection installation as the drawing.

PLEASE CHOOSE TEMPERATURE KEEPING OR WATER PUMP.

CONNECTION DRAWING



TK-5 CONTROLLER GUARANTEE CARD

USER NAME: _____	TELEPHONE: _____
USE ADDRESS: _____	PURCHASE DATE: _____
PRODUCT MODEL: _____	
EXPORT DATE: _____	
REFERENCE NO: _____	SIGNATURE OF FACTORY _____

ZHEJIANG HAINING YINGTONG TRADE CO., LTD
 ADD: ZHEJIANG ELECTRIC INFORMATION INDUSTRY
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TK-5

SOLAR WATER HEATER MICROCOMPUTER WATER TEMPERATURE WATER LEVEL CONTROLLER

Installation and Use Instruction



- Water level preset
- Temperature control water loading
- Auto water loading
- Pipe temperature keeping
- Manual control
- Timer for water loading
- Auto control for boosting pump
- Low water pressure water loading

* Before use this machine, please read carefully this manual

Dear Guests:

Thanks for using this device Type TK-5 an equipment to solar-energy heater, is fully automatically controlled by micro computer inside as well as designed with human personality. Its sensor is adopted the advanced foreign technology which is avoid water leaking. Water temperature and water level is displayed with large-sized LCD. Loading water can be automatically operated by its own. Its main functions are water level preset, low level alarm, low water pressure loading, timer and manual control which makes this device safe convenient and practical.

1. TECHNICAL DATA

1. Temperature-detective range: 0-99C
2. Temperature-detective precision: +/-2C
3. Water level: 5
4. Power source: 110V-AC PL<5W
5. Electric heater belt and water pump power <500W
6. Electric magnetic valve: 12V-DC, pressurized and non pressurized value is alternative.



2. MAIN FUNCTION

1. Operation self-detective: when you start to use this device "DI" sound shows its normal working condition
2. Temperature display: it display the temperature inside the solar water heater.
3. Water level display: it display the water level inside the solar water heater.
4. Water level preset: can set water level from 25% 50% 75% and 100%.
5. Water insufficiency alert: when water level come down and become insufficient, the buzzer alert and 25% water level will shine at the same time.
6. Auto water loading: when water level come down and become insufficient, the controller will self-start to fill the storage tank after 15 minutes up to the water level preset.
7. Manual filling in the water to the tank: set the water level, press "water load/water level" button, it can fill water up to the set water level, then stop automatically when reached and can be by manual also
8. Impulsive filling water: when the sensor has problem, press "load water/water level" button to fill the water while the controller will beep every one minute to alert for if the water tank full or not, after 8 minutes it shut off automatically.
9. Low pressure water loading: when you will fill the water to the tank and if the water supply stop or water pressure too low,

the controller will shift to low pressure water loading mode (low pressure) on screen is highlighted and alert with beep. By this mode, then controller will start every 30 minutes to load the water. If after 30 minutes the water level still not go up to one level, then stop for another 30 minutes to make an circulation. In order not to any more beep and cancel the low pressure loading water, you can stop the beep alert by press "load water/water level" for several second until hear "DI" alert sound. The low pressure loading water stop.

10. Timer for water loading: use "timer" button can set the time of loading to achieve timer for water loading

11. Temperature control water loading: when the water in tank is not full and the temperature is high than 60C, it will fill water and enable the temperature to 50C automatically, it is a constant temperature function, the temperature inside the solar water heater can keep 50C-60C, when using water (water level change) or manual turning off the water, prolong 60 minutes start in order to avoid starting loading water when you using.

12. Automatic pressure boosting: when water supply at low pressure, you can choose the boosting function to start the boosting pump to increase the water supply pressure, when the tank is full, the pump will stop automatically also with the electric magnetic valve

13. Pipe warming keeper: during the winter, the outside temperature is low, can press "pipe warming keeper" to electric heater belt show in the screen with highlighted drawing. If press again, then it stop.

3. OPERATION

1. Press "water level" button preset water level make it shining quickly, there is 25% 50% 75% 100%, show the water level set, according to the beam degree, set water level at the best place to get the comfortable water temperature
2. When the solar water is leak of water, please prolong 15 minutes, start auto water loading function to preset water level:
 When start auto water loading, the buzzer will burst into a long sound and stop loading water, the buzzer will give out three short sound, above loading water is automatically, user needn't operate anything.
3. As per your need, press manual "load water" button can turn down the temperature to the preset water level then stop automatically, during loading water press "load water" can stop loading water.
4. Timer for water loading: you need timer for water loading, press "timer" button, order the time of timer for water loading, for example, it is 8:00am prepare for 11:00am start loading water, press "timer" button, turn the time to 03, that is after 3 hours it will start to load water, the timer pattern will light at

the same time, the time is near at fixed hour, the timer pattern shift quickly, after this order, it will start loading water at this moment everyday, if you need withdraw from the order, only press "timer" until hear a "DI" sound and the "timer" pattern die out.

Start timer for loading water function, temperature control function will be paused.

4. ATTENTION

1. Don't let the water directly pour on the controller.
2. The controller must be installed after the solar water installed in a correct way.
3. In order to protect the sensor, the tank should not be no way for a long time
4. In order to protection wrong operation and power source and controlling problem to cause the water fall from the tank for a long time, the solar water heater should installed at the place with no dangerous for the house and also avoid the lighting strike
5. If find the water loading too slow and the pressure is ok, it is possible that the electric magnetic valve has stuck for it filter, please open and clean
6. If long time use or the water quality is not good to cause the sensor accuracy down, the water tank is full while the display not show 100%, please open the controller and adjust the sensor accuracy to be high.

5. GUARANTEE

We guarantee for one year if it is not damaged by user and maintenance for lifetime.

Normal trouble shoot

Trouble	Reason	Solution
Show water loading or the water loading light not on from the screen	Electric magnetic valve stuck or water pressure low or water supply or solar tube or the electric magnetic valve time cut	Boost the water supply, clean the electric magnetic valve or wait the water coming or change the solar tube, check the time
When start the controller, no checking and display in wrong way or no display	No good connection or voltage low	Take off the power source plug, check the voltage, connect to the power source again
Display <25% water level 100% water level light on at the same time	Lightning strike, the plug has no good connection, line cut or plug in a wrong way	Check the sensor green mark and plug again or need change or maintenance or change the controller