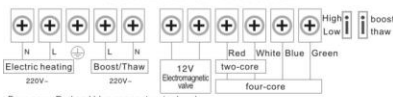


INSTALLATION OF COMPLETE INTELLIGENT TESTING AND CONTROLLING APPARATUS

1. Open the cover of junction box below testing and controlling apparatus.
2. Install bracket on the place sheltered from watering and convenient for observing. Fix it with screws.
3. Hang the testing the controlling apparatus on bracket. Connect electromagnetic valve, signal lines and connecting wire to the corresponding connection socket according to sketch map.
4. Connecting wire may be drawn from behind. Cover junction box. Playing well lock screw. Have a general check after installation, then power on for self-detecting.

SCHEME OF WIRING



Four-core: Red and blue connect water level. White and green connect water temperature.

INSTALLATION OF ELECTROMAGNETIC VALVE

1. Direction: Do not mix the water inlet and outlet of electromagnetic valve. The end with sieve is water inlet. Arrow on bottom is the direction of water flow.
2. Two-core connecting wire is connected to electromagnetic valve. Down-lead may be lengthened. Choose cable conductor of large diameter.
3. The electromagnetic valve of testing and controlling apparatus is equipped with non-return system. One-way check valve is not necessarily installed.
4. Pipes connected to water inlet shall be hose or other pipes easy for disassembly, for the convenience of removing obstructions on sieve. Have a general check after installation, then power on for self-detecting.

INSTALLATION OF WATER TEMPERATURE AND LEVEL SENSOR

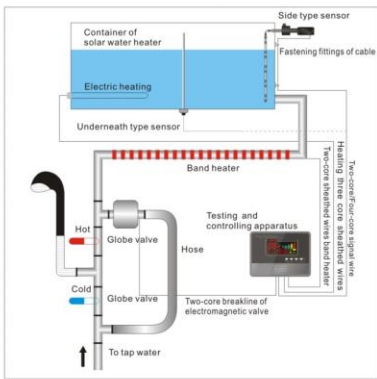
1. Insert sensor through overflow pipe and connect and fix the two-core signal wires according to the corresponding sensor junction box. Cover the box and adjust the position to fit it and tighten the sensor screws.
2. Draw the cable indoors. Fix the outdoor cable to avoid being rubbed.
3. Strictly avoid being wet or soaking socket during installation. Underneath type sensor is installed from the bottom of water tank. Fix and tighten screws. No water leakage is allowed (refer to the Scheme of Installation).

HARDWARE SETTING CAUTIONS

1. Boost unfreeze: If the user's water pressure is low, please pull the switch to the supercharging, as Boost/Thaw shows. Otherwise unfreeze. Factory setting is unfreeze, boost and unfreeze only can choose one.
2. Sensitivity: If the user's water quality is better, then with high sensitivity, please choose low sensitivity if water quality is poor. We strongly recommend to choose low sensitivity in water level measurement.
3. To protect solar water heater and water temperature and level sensor, water tank shall not be empty for long.
4. In case of mistaken operation or malfunction of power supply, or other unexpected conditions cause long-time overflow, electromagnetic valve and solar water heater must be installed where water will not leak indoors or spout out, causing danger. Reliable thunder-proof system must be installed.

5. The apparatus has power-leakage protection function. But there are in the installation of electric heat auxiliary heater solar water heater system, the user's home power supply must be safety grounding. Please ensure that shut down the electricity auxiliary electric heater when using water. Pull out the plug if necessary, in case of getting an electric shock accident.

SCHEME OF INSTALLATION



WARRANTY CARD	
User's name	User's Tel.
User's address	
Product model	Ex-works no.
Date of production	Date of Purchase
Dealer (stamp)	

INSTALLATION INSTRUCTIONS COMPLETE-INTELLIGENT TESTING & CONTROLLING APPARATUS



MAJOR FUNCTIONS

- Self test
- Beijing time
- Water temperature display
- Water-level display
- Water-temperature preset
- Water level preset
- Water shortage alarm
- Water affusion on shortage
- Timing mode
- Pipe thawing
- Compatible with two-core/ four-core sensors
- Pipe-explosion protection
- Memories-on with power off
- Auto overflow protection
- Low pressure water affusion protection
- Forced affusion
- Temperature-control affusion
- Water supply delay
- Constant-temperature heating
- Manual mode
- Intelligent mode
- Auto boost

Note: ● Mutual functions ● Optional functions

DEAR CUSTOMERS:

Thank you for choosing Excellent solar water heater. The Excellent solar water heater Complete intelligent controller is developed based on the latest customized single-chip technology, with new ideas and higher demands. Integration of smart phones, none of the solemn, let you into the digital world lifestyle from now on. Main features:

- ※ Extra large and colorful screen, ultra-thin appearance design.
- ※ With multi-protection functions such as Electric heating fire prevention, automatic over-flow protection, prevention of empty burning, pipe-explosion protection, low water-pressure protection, Beijing time display, memories-on with power off, more convenient to use, more stable.

MAJOR TECHNICAL INDEX:

1. Power supply: 220VAC power dissipation: <5W
2. Range of temperature measurement: 0~99°C
3. Precision of temperature measurement: ± 0.2°C
4. Precision of temperature controlling: ± 2°C
5. Water level: five levels
6. Controllable water pump or electric band heater power: ≤600W
7. Power of controllable electric heating: <1500W
8. Action-current of power-leakage: ≤10mA/0.1s
9. Parameter of electromagnetic valve: Direct current: DC12V (valve with or without pressure)
- Working pressure with valve with pressure: 0.02Mpa~0.8Mpa, available to direct water supply
- Working pressure with valve without pressure: 0.005Mpa~0.5Mpa, available to cistern supply or low-pressure water supply.
10. Extra large and colorful screen with low energy: <0.5W
11. Outline dimension: 135x190x40mm.

MAJOR FUNCTIONS:

1. Self test when power on: Full screen light up when power on for self test and issued a "di" beep, means the machine is in normal state. When the water level is lower than 50%, the water affusion immediately to 50%, when the water level is higher than 50% no water affusion.
2. Beijing Time: Show real Beijing time.
3. Water temperature indication: actual water temperature inside solar water heater
4. Water level indication: actual remaining water level inside solar water heater
5. Water temperature preset: Heating range 30°C~80°C.
6. Water level preset: preset water level to 50%, 80% or 100%
7. Water shortage alarm: when water level lowers or water in shortage, buzzer alarming four times and at the same time 20% of water level will light.
8. Water affusion on shortage: when water level lowers and water is in shortage, water will be auto-matically filled in 30 minutes to the preset level.
9. Pipe explosion protection: In the state of water shortage and water temperature higher above 90°C, all the functions of water affusion will end, which can prevent the pipes from exploding.
10. Memories-on with power off: When power is off, the apparatus will reserve all the preset parameters. When power is on, it can work again according to the previous preset working modes and functions.
11. Automatic prevention of water overflowing and Water affusion at low water-pressure protection: It will stop water affusion automatically when water overflows as a result of vacuum tube bursting or broken-down water-level sensor or other reasons. During the process of water affusion, if water level can not upgrade to another level within 30 minutes, it will stop for 30 minutes and then restart water affusion again and thus continue the repeating work. If water level can not upgrade to another level after three times water affusion continuously, otherwise no more water affusion today. Keep light display at the same time. Remove at 8:00am next day and start water affusion. In case to avoid the following severe results: 1. electromagnetic valve and water pump going for long will cause the water pump to burn down for racing. 2. Constant water affusion because of vacuum tubes bursting or other reasons for water leakage, thus causing water tank and roofs to overflow water for long. 3. After a sudden stop of water cut-off, when water supply resumes, the vacuum tubes may explode because of the solar water heater being long exposed to the sun without water and a over temperature water tank.

12. Forced water fill: when water level sensor is broken-down, press "Affusion" key to fill water forcibly. Buzzer will give indications every minute. Pay attention to water overflow. Water affusion will automatically stop in 8 minutes.
13. Temp-controlled water affusion: When water tank is not fully filled and water temperature is higher than the preset temperature of temp-controlled water affusion (when produced, it was set to 70°C), it will automatically fill water till a proper water temperature 10°C below the temp-controlled water. This function can prevent some unreasonable phenomena like low-water discharge and high water temperature. It has time function of controlling water temperature: 8:00~17:00. If set the Temp-controlled 00°C, then Temp-controlled function cancel.
14. Water refill delay: When used (water level changes), if open Temp-controlled water affusion, it will delay 60 minutes to start in order to avoid water affusion when customers are using water.
15. Constant-temperature heating: When water temperature in water tank is below constant temperature 5°C, it will start water heating immediately to preset constant-temperature to guarantee a constant water temperature in the tank. When water level is below 50%, it will start automatic water affusion and then water heating in order to prevent burning without water. Therefore water level shouldn't be below 50% and we suggest installing two pipes (one for water up and one for water down) so as not to influence you when you want a large amount of water. Press the key closed heating, then stop constant-temperature function 60 minutes. If set the Temp-controlled 00°C, then Temp-controlled function cancel. (It was set at 00°C when produced)
16. Pipe thawing: When the outdoor temperature is low in winter, press the "thawing" key to start electric band heater to prevent pipes from bursting. After thawing function working 15 minutes, stop the thawing time which users set, like this cycle. This function not only saves electricity, but also can prevent aging of fire or other malignant accidents because of the electric heating electricity keep power on for a long time. In the thawing process, can press the "thawing" key to close. The thawing time can be set (When it produced, it set 30 minutes, if set 00 minutes, the electric band heater will keep power on in a long time, it's in a heat preservation state, it need the users close in manual).
17. Auto boost: When water supply pressure is low, it can choose connection pumps auxiliary to increase the water affusion pressure. When water affusion, open the electromagnetic valve to start water pump for pressurized water supply at the same time. After water affusion, closed the two at the same time. Boost and thus functions only can choose one.
18. Electricity and screen saver: Instrument screen will be in the absence of buttons, delay 30 minutes automatically extinguished, can press any key to light (Automatic extinguishing, its functions are still running as usual).
19. Modes to choose: Three modes to choose: Hand, timing and intelligent.
 - Manual mode: It can start or close the water-affusion and water-heating manually. On operation, first it shows the preset water-level or water-temperature (Flashing three times), at the same time start water-affusion and water-heating. Start water affusion manually, if actual water level is greater or equal to the preset water level, the apparatus will automatically up-regulate one water level to guarantee customers' demand of water affusion. In order to heat water, if water level is low than 50%, you should start water-affusion to 50% first and then start water-heating. On water heating, if water level is low than 50%, it will be closed automatically to protect electric heating pipes. The preset water level is 100% when it produced, preset water temperature is 50°C. Customers can represent the parameter to meet user's demands in the manual mode. Suggested preset water temperature is below 60°C.
 - Timing mode: Preset timing water affusion and timing water heating three times each. When produced, the first timing water affusion was preset at 3:00am up to 50% and the second timing water affusion was at 9:00pm up to 100%. The third time water affusion time closes up. As to timing water heating, the first one was preset at 4:00am up to 50°C and the second one at 17:00pm up to 55°C. The third one closed. Customers can represent the time and its parameter to meet different demands.
 - Intelligent mode: Water affusion at 3:00am to 50% water level and water heating at 4:00am to 50°C to guarantee the washing water after getting up. After affusion at 9:00am to 100%. If customers use water on the way and the water level is below 80%, then the apparatus will start water affusion again at 15:00pm to 80%. The apparatus will start water heating at 17:00 to 55°C so that it can guarantee customers 80% water level and water temperature at 50°C. Under the intelligent all day mode, the time and parameters cannot be modified.

METHOD OF APPLICATION:

The Excellent solar water heater Complete intelligent controller run according to the intelligent mode, therefore you don't need to do any operations. If you want to adjust other working modes, please press the "Mode" key can directly to switch between the three modes (The selected mode indicates keep light, the factory default smart mode, set intelligent mode when it produced). If users want to change the setting parameters, you can do as follows:

Mode setting

- Manual mode
Adjustment the testing and controlling apparatus to "manual mode", when in "manual mode", the indicator lamp lights up. Press the "Mode" key about three seconds, after buzzer hint loosen the button to enter the setting state, press \blacktriangle / \blacktriangledown to use choosing the preset which in need. Press the "mode" key to enter the next option after preset.
1. Setting of preset water level (setting 100% when it produced):
 [F] Heating flashing, Water level value flashing, means it is setting preset water level, press \blacktriangle / \blacktriangledown to choose demand water level, press "mode" key to enter preset water temperature settings;
 2. Setting of preset water temperature (setting 50°C when it produced):
 [M] Heating flashing, Water temperature value flashing, means it is setting preset water temperature, press \blacktriangle / \blacktriangledown to choose demand water temperature, press "mode" key to exit the manual mode settings; Timing mode
 Adjustment the testing and controlling apparatus to "timing mode", when in "timing mode", the indicator lamp lights up. Press the "Mode" key about three seconds, after buzzer hint loosen the button to enter the setting state, press \blacktriangle / \blacktriangledown to use choosing the preset which in need.

PRODUCT WARRANTY

- Starting from the date of the purchase, the product warranty for one year, life-long maintenance.
- The following circumstance does not belong to the warranty scope, implement the paid service:
1. More than warranty period, altered or missing in the production of qualified tags;
 2. To alter the content for the warranty card or warranty card do not tally with the actual situation;
 3. No warranty card or no legitimate buyers notes;
 4. Damage caused by privately disassembly;
 5. Damage caused by a breach of product instructions;
 6. Damage is caused due to force majeure.

COMMON BREAKDOWNS AND THE WAYS TO DEAL WITH

Phenomena in common breakdowns	Causes	Measures
No self-test on start-up; nothing or random show while starting up	Voltage insufficiency or bad contact	Tear off the plug to examine the Voltage and then turn on the electricity once and press "Child/Reset" key to reset.
Water level and water temperature showing	The sensor failure or sensor test failure	First of all, please use short connect "red and blue" terminal blocks. If the connected wires and so on is poor contact sensor, that otherwise please change the instrument.
Slow affusion or can't	Low water pressure or electromagnetic valve sieve has some dirt and make the electromagnetic valve jammed or wires- broken or water supply being cut off or the burst of the vacuum pipes.	Affusion with increasing pressure or clean the electromagnetic valve sieve; check the connected wires and so on; wait for water or replace the vacuum pipes.
The design "heating" lightens while temperature doesn't go up or can't rise continually	Electric heating pipes are broken down (which has instalments of temperature-control)	Change for another electric heating pipes to reduce the setting for heating temperature.
Display electric leakage	Electric leakage protection	Check the electrical wiring