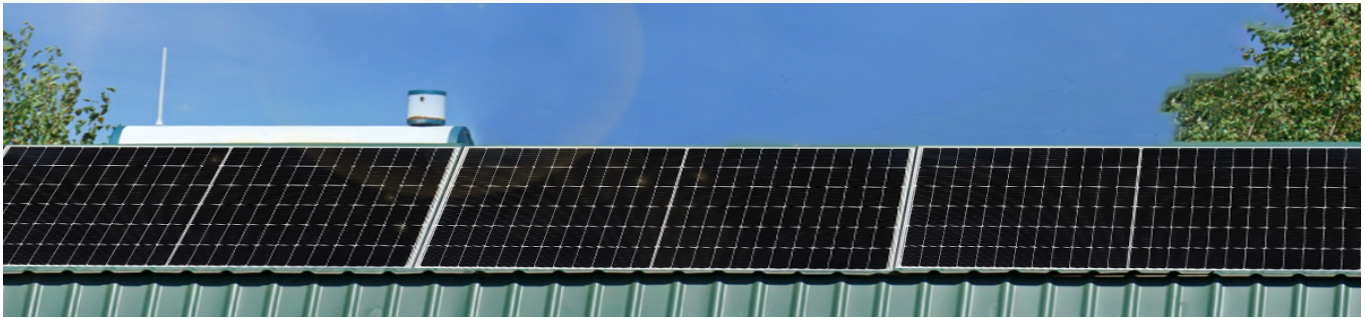


# PHOTOVOLTAIC SOLAR Water Heating System



## What is photovoltaic solar water heating system?

Installing a solar water heater is one of the easiest ways to get the sun to work for you and conserve our valuable natural resources.

Photovoltaic water heaters use the electric energy converted from sunlight to heat the water, and then through photovoltaic electric heating rods to supply hot water and keep warm.

And giving priority to use solar energy, and the commercial electricity as the supplementary. Solar heating in sunny days, commercial heating in rainy days, solar energy and commercial power can be intelligently and automatically switched according to the weather, which is both environmentally friendly and energy-saving.

It is an unparalleled substitute for traditional photothermal water heaters.

\* Improve the quality of life.

**SOLAR PHOTOVOLTAIC WATER HEATER**

# The advantages of photoelectric solar water heating system

**540W**  
**Warm a home**



*photoelectric solar water heater shown is not to be missed*

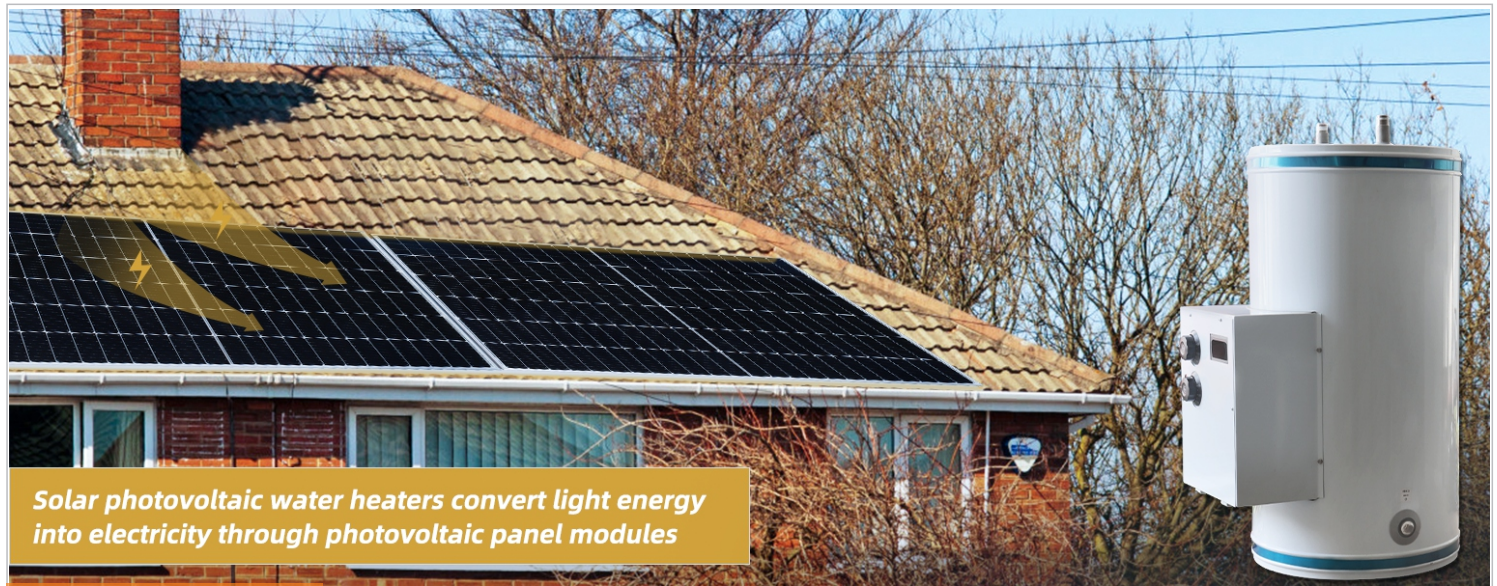
- 01** By providing up to 70% of a household's hot water through free energy from the sun. A photoelectric solar water heating system can reduce your annual energy bills.
- 02** Using more renewable energy from the sun rather than buying fossil fuels like gas or oil from a supplier will reduce your carbon footprint.
- 03** Other than the initial installation cost and a little maintenance, there are no running costs to budget for with a solar water heating system as it's free energy.
- 04** Solar thermal systems are very low maintenance. Aside from an annual check by you, your system should only need professional servicing every 3-5 years.



# APPLICATION SCENARIOS

**The solar water heating system are usually applied in three areas: residential, commercial and industrial occasions.** In different fields, you should choose diverse types of solar water heaters to fulfill your demand.

Photoelectric solar water heater converts light energy into electric energy through photovoltaic panel assembly. According to the natural transfer principle of heat up and cold down, the hot water tank adopts vertical structure with cold water in and hot water out. A photoelectric heater is installed at the bottom of the bucket body to realize photoelectric heating of the whole bucket water.



**Two heating modes: one is solar heating and the other is commercial heating.** The heating mode is solar energy priority and commercial power supplement. Solar panels generate electricity to heat water in good weather. And on rainy days, the control module will automatically switch to the mains heating mode to ensure that hot water can be used.



The connection between photovoltaic panel and water heater only needs two wires, which is convenient, simple, safe and guaranteed.

\* Improve the quality of life.

## 60L/80L Bill of materials:

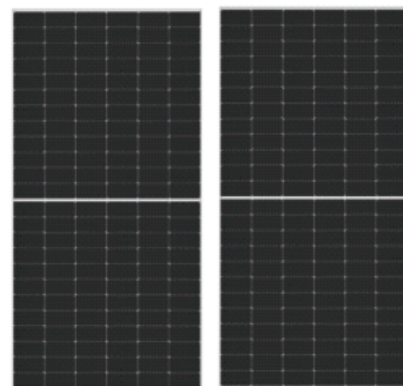
Type	Specifcation	Quantity	Remarks note
Solar panel	540W/41.62V 2279*1134*35m	2	
water heater	60L; 2-230V/50Hz Weight: 21kg 80L;2-230V/50Hz weight: 25kg	1	
Cable	photovoltaic system;red and black lines 1x4mm <sup>2</sup> ,20M each	1	photovoltaic connected solar water heater
	Brown/blue/yellow-green three-core cable, 3*2.5mm <sup>2</sup> , 1.5M, with ohmmeter plug	1	power grids is connected to a solar water heater
Packing box	Double pit; outer dimension; ;490*520*940mm; 6mm thick	1	
Middle box	Outer size;2295*1150*80mm; 6mm thick	1	

## Product diagram:



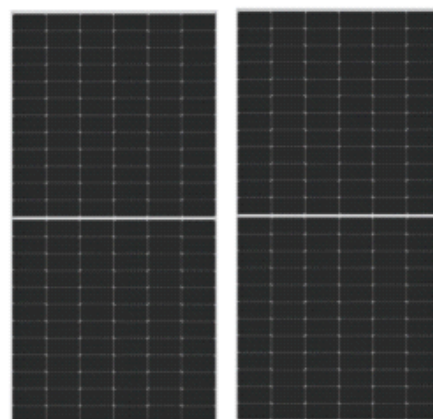
### Diagram 1 60L/80L

Horizontal solar water heater



### Diagram 2 60L/80L

Vertical type solar water heater





100L Bill of materials:

Type	Specifcation	Quantity	Remarks note
Solar panel	540W/41.62V 2279*1134*35m	4	
water heater	100L;2-230V/50Hz Weight: 30kg	1	
Cable	photovoltaic system;red and black lines 1x4mm <sup>2</sup> ,20M each	1	photovoltaic connected solar water heater
	Brown/blue/yellow-green three-core cable, 3*2.5mm <sup>2</sup> , 1.5M, with ohmmeter plug	1	power grids is connected to a solar water heater
Packing box	Double pit; outer dimension;490*520*1110mm; 6mm thick	1	
Middle box	Outer size; 2295*1150*115mm; 6mmthick	1	

Product diagram:



Diagram 1 100L

Horizontal  
solar water heater

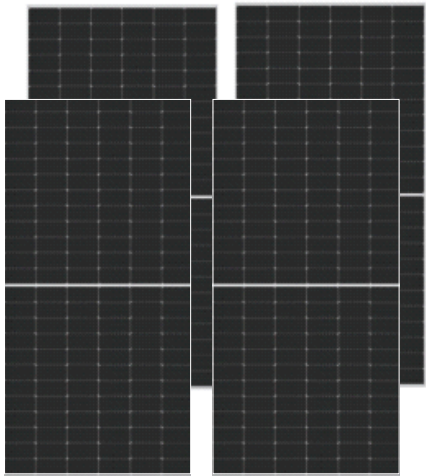
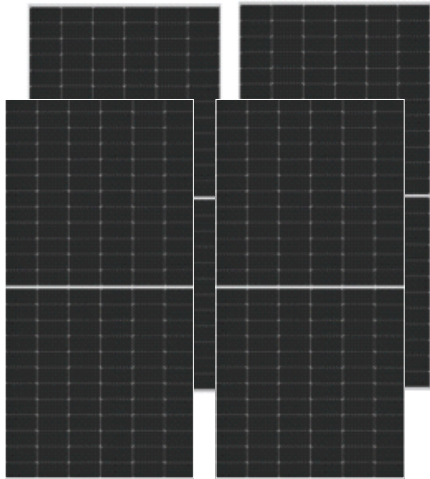


Diagram 2 100L

Vertical type  
solar water heater



\* Product data.

## Solar panel:

### Electrical parameter) | STC

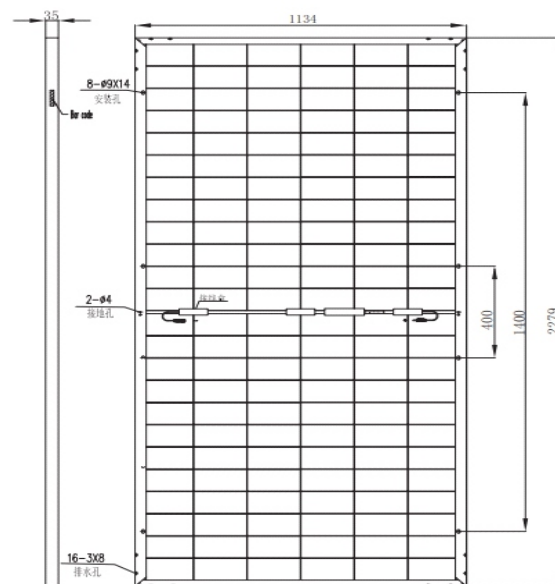
Rated Power	Pmax(W)	540W
Operating Voltage	Vmp(V)	41.52V
Operating Current	Imp(A)	12.98A
Open Circuit Voltage	Voc(V)	49.55V
Short Circuit Current	Isc(A)	13.89A
Module Efficiency	(%)	20%
Performance Tolerance	(%)	±5%
Operating Voltage	(V)DC	1500
Operating Current	kg	27.3
Open Circuit Voltage	(mm)	2279*1134*35

### Temperature characteristics:

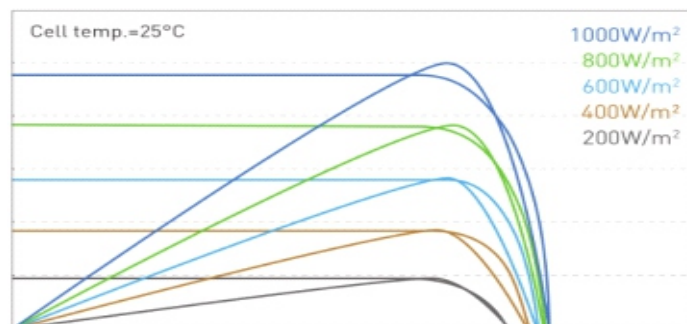
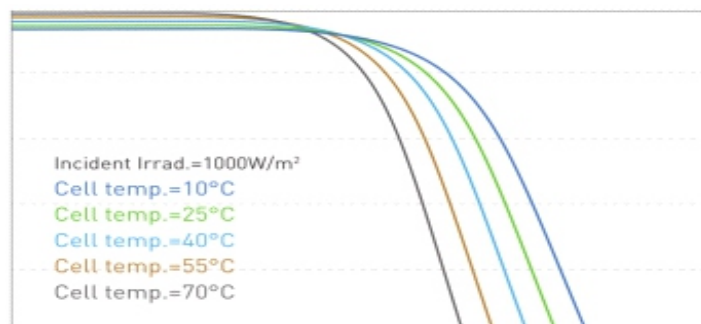
NOTC(Standard Test Conditions)	45±2°C
(Isc( Short Circuit Current Temp.)	+0.050%/°C
Voc( Open Circuit Voltage Temp.)	-0.30%/°C
Pmax (Max. Power Temp.)	-0.39%/°C

Operating Temperature	-40~+85°C
Max.System Voltage	1000V DC
Maximum diode current	10A

### Structural drawing:



### Output of different illumination intensity :



# Household water storage type electric water heater



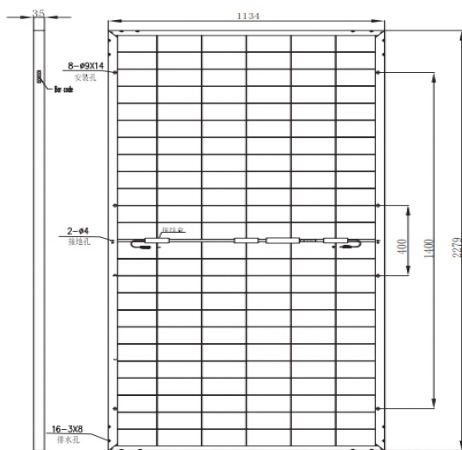
- Container grade special thickened stainless steel liner.
- Environmental protection polyurethane integral foam insulation layer.
- SECCN2 resistant fingerprint resistant electrolytic plate shell .
- Lngrid 800 stainless steel electric heating .(DC power supply 84V-2000W; AC power supply 230V-3000W)
- Germany EGO thermostat, super temperaturpipee circuit breaker.
- Temperature and pressure relief valve, check valve.

Model	Hanging across the wall	THA-60	THA-80	THA-100
	Straight wall	TVA-60	TVA-80	TVA-100
Rated capacity	L	60	80	100
Rated power	kw	3/4	3/4	3/4
Rated current	A	14/18	14/18	14/18
Power supply		2-220V / 50Hz		
The safety valve sets the pressure	MPa	1.0		
Maximum water supply pressure	MPa	0.8		
Water temperature adjustment range	°C		30-75	
Diameter	mm	432	432	432
Length	mm	720	880	1050
Inlet and outlet drain pipes	DN	15	15	15
Net weight	kg	22	25	30

## 60L/80L Installation manual

- Before starting the assembly, make sure you have all the necessary materials and tools for the installation, as well as the security measures necessary for this task.
- In the next assemblies, open the packaging of the solar panel without using sharp tools, since which could damage the components inside.

### Fittings:



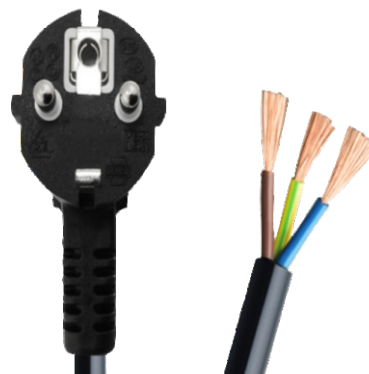
41.62V/450W Solar Panel: 2Pc



solar water heater- 60L/80L: 1Set



red and black lines 1x4mm<sup>2</sup>,  
20M each: 1Pc



brown/blue/yellow-green three-core cable,  
3x2.5mm<sup>2</sup>, 1.5M, with ohmmeter plug: 1 item



## Installation tool:



1.straight screwdriver



2.cross screwdriver



3.knife



4.wire cutters



5. Impact drill driver



6.Hex socket wrench



7.wrench

## Product Diagram:

### •Connection diagram

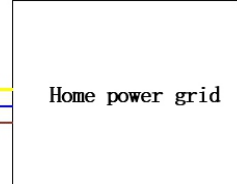
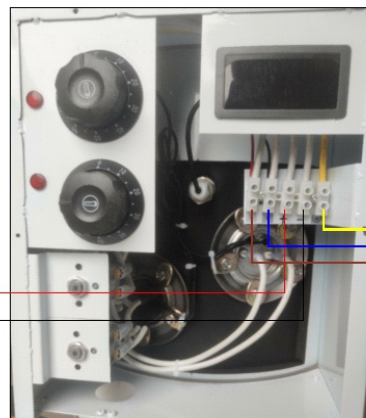
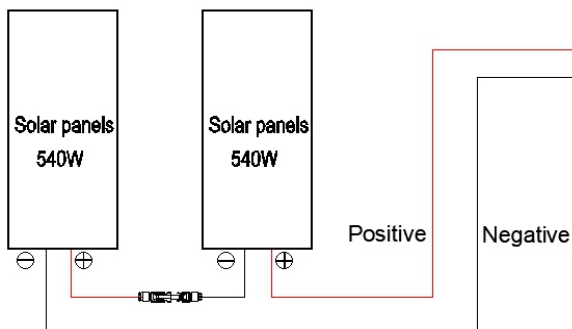
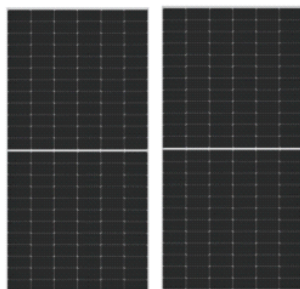
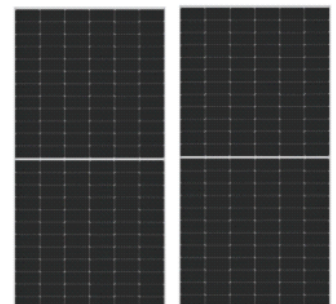


Diagram 1 60L/80L



Horizontal solar water heater

Diagram 2 60L/80L



Vertical type solar water heater

## Installation Guide :

**STEP 1:** Install the Solar panel and Select a Location to Fix the solar water heater.

(1)Install the Solar Panel

- Option A: The solar panels are mounted on portable stands;
- Option B: Hang the solar photovoltaic panel holder in a secure and fixed position.

(2)The solar water heater is installed in a fixed place indoors.

(3)Cautions: A: Check whether the line connection is correct

B: Install solar panel firmly, and ensure no shelter covered the install site , which can normally absorb the sunlight.

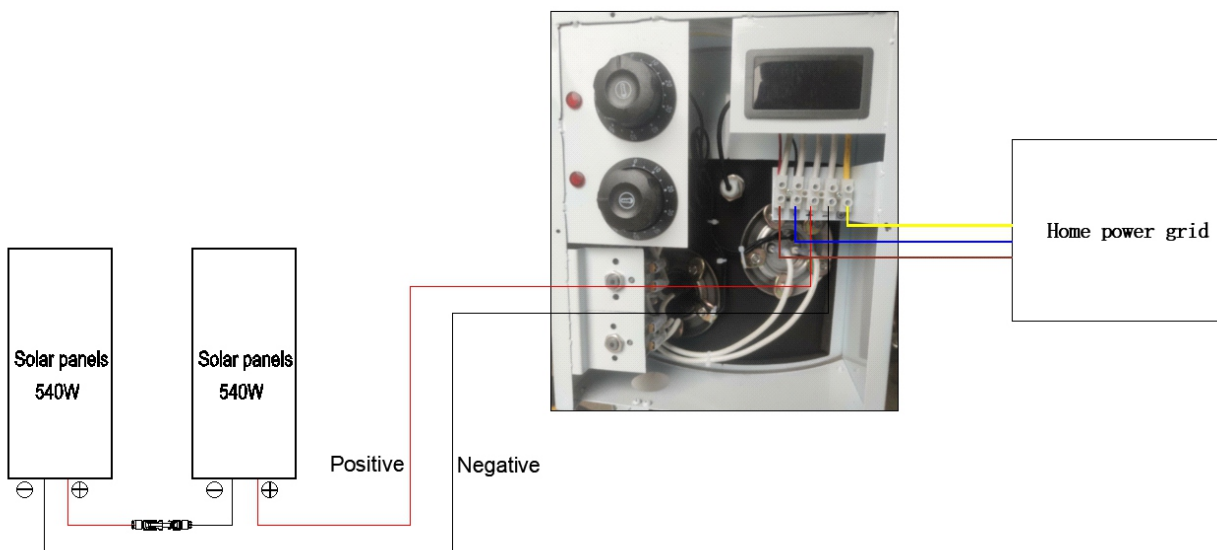
### STEP 2:

Connect the solar water heater to solar panels.



### STEP 3:

Connect the power switch on the grid side to the solar water heater.



#### STEP 4:

After complete the above steps, observe whether the system operates normally;

after the system is assembled, pay close attention to the working status. If there is any abnormality, please turn off the power switch, and check it immediately.

### Malfunction Analysis



(1) The solar water heater indicator light does not turn on:

Possible reasons:

- A. The AC input is not connected,
- B. The line connection is incorrect,
- C. There is leakage issue.
- D. The protection switch is trip.
- E. The Solar water heater is broken.

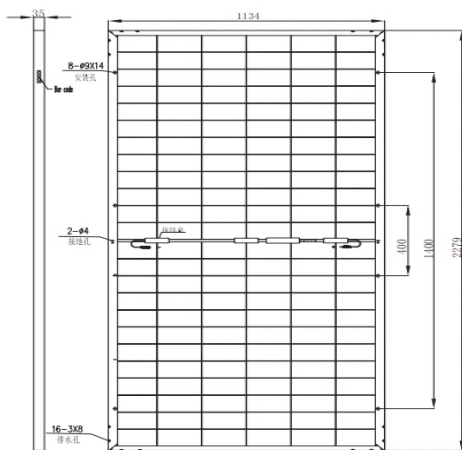
Firstly check whether the line connection is correct. If the above A-D reasons can be ruled out, maybe the solar water heater is broken.



# 100L Installation manual

- Before starting the assembly, make sure you have all the necessary materials and tools for the installation, as well as the security measures necessary for this task.
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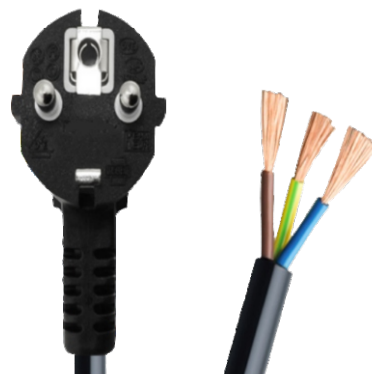
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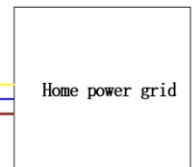
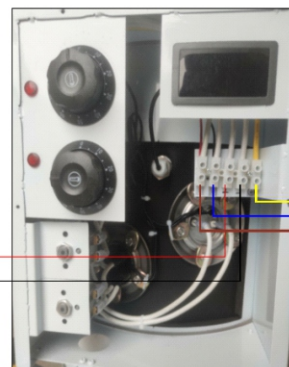
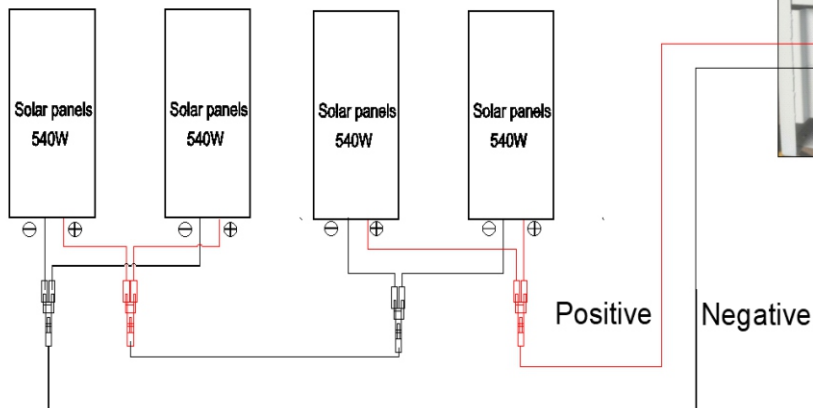
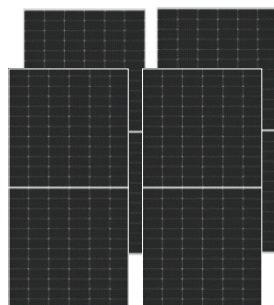
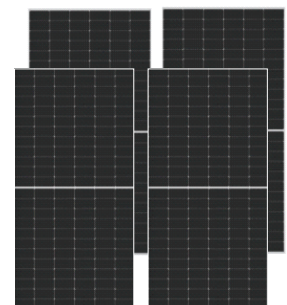


Diagram 1 100L



Horizontal solar water heater

Diagram 2 100L



Vertical type solar water heater

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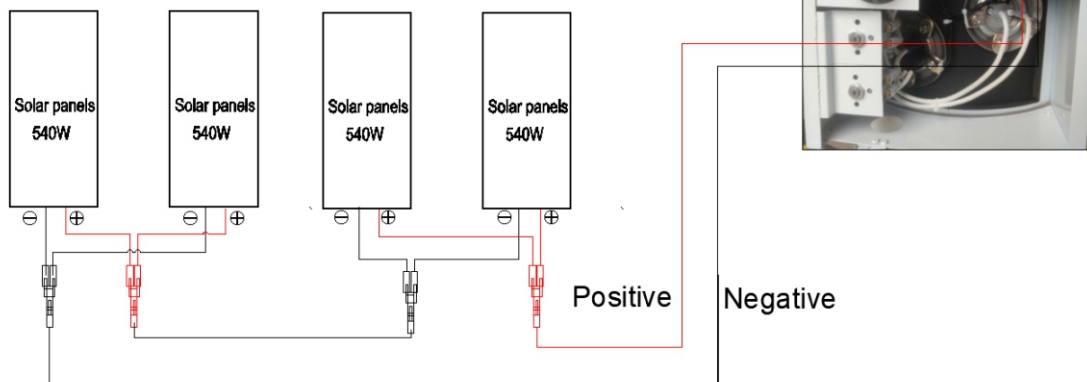
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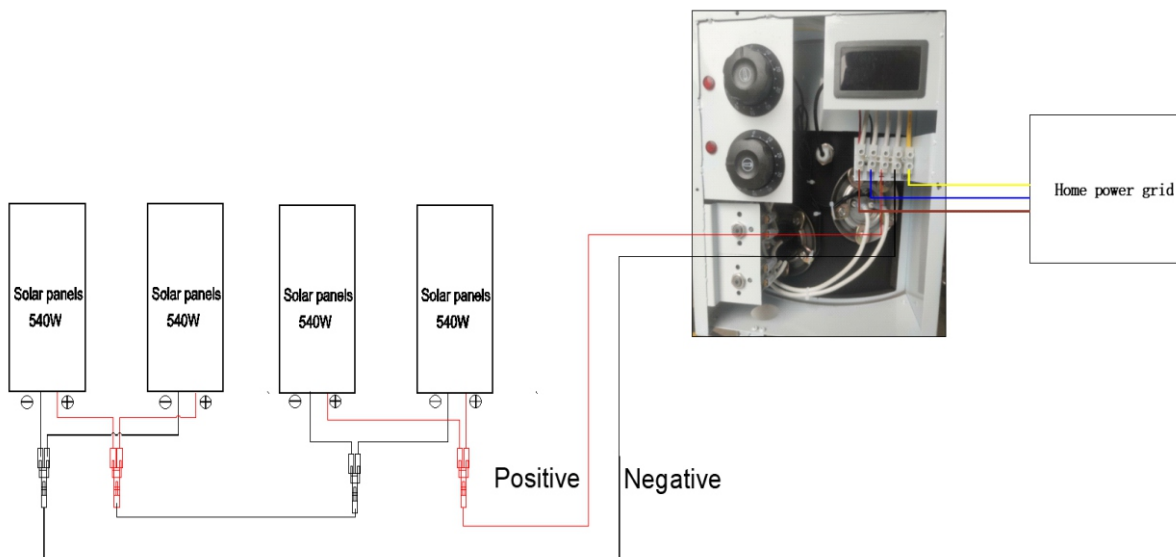
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### Malfunction Analysis



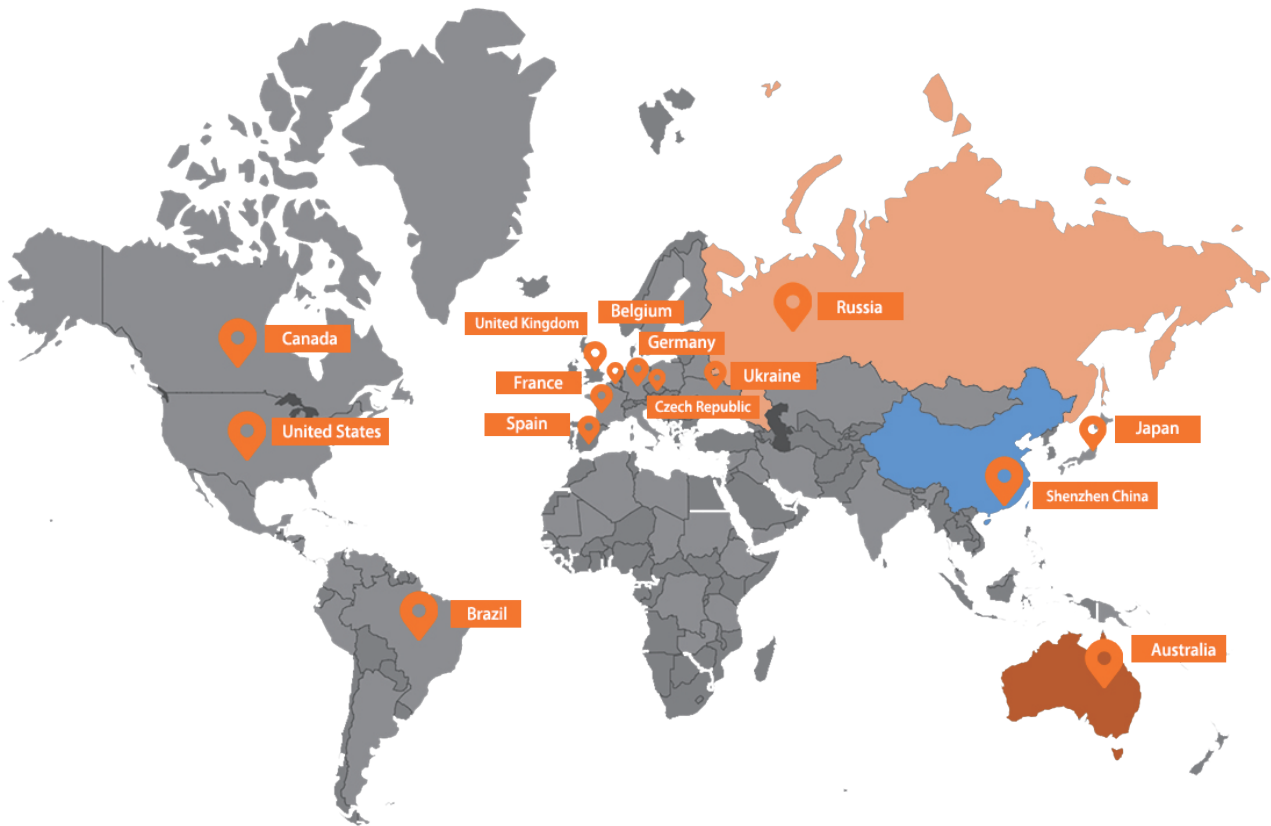
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- D. The protection switch is trip.
- E. The Solar water heater is broken.

Firstly check whether the line connection is correct. If the above A-D reasons can be ruled out, maybe the solar water heater is broken.

## Global Markets Distribution



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