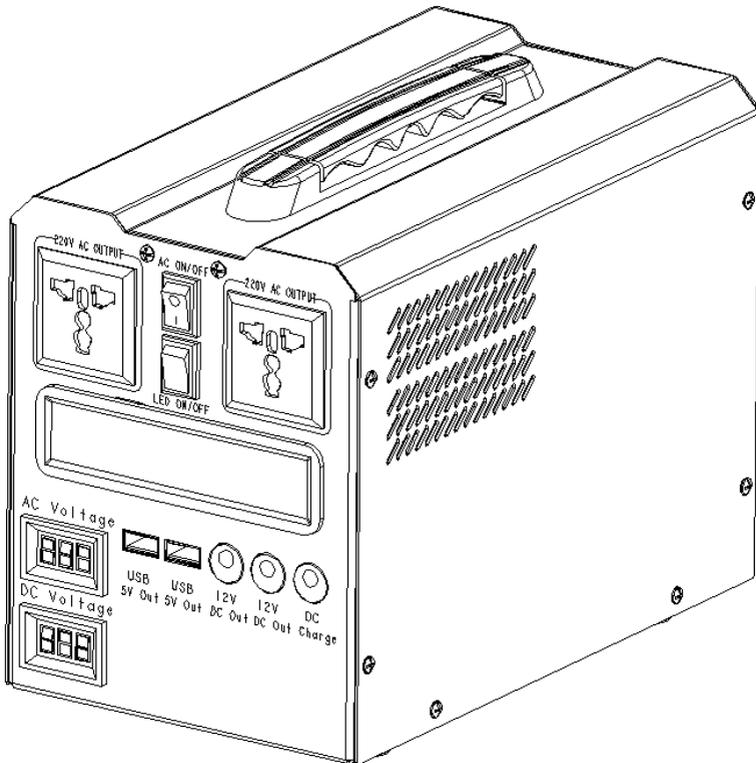




# User Manual

## Solar Inversion Power Supply System





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### Introduction

- ◆ This manual contains the installation, operation, and use of the device;
- ◆ Please read before installing the equipment. The operation of the equipment shall be undertaken by professionals in order to ensure the normal operation of the equipment;
- ◆ This manual should be kept properly, In order to run the equipment, it can be used as a reference at any time。

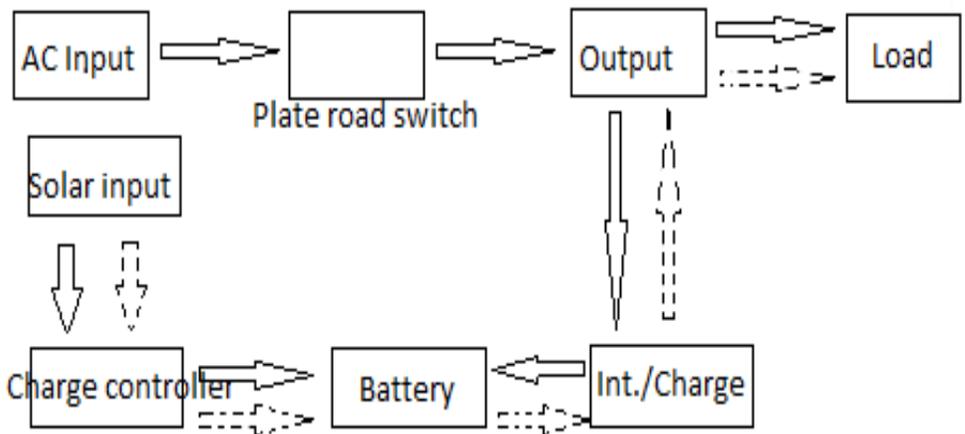
### Basic instructions

- ◆ Solar power inverter Combined PV Controller & Battery(It built-in inverter + solar controller + battery) rated capacity is from 100W to

1500W, another requirement product can be customized according to customer requirements;

- ◆ Except for special requirements of customers, the packing include products, user manuals and quality assurance cards. Please check carefully whether the products are in good condition and the accessories are complete when receiving the products;
- ◆ Solar power inverter combined PV Controller & Battery , Specific technical parameters are listed in "Appendix I, II Technical Specifications".

## I. Structure overview



Hybrid inverter structure

- ◆ **Characteristic**
  1. Pure sine wave AC output, strong capacity to adapt to the loads;
  2. Microcomputer (CPU) control technology, excellent performance
  3. Full protection function (overload, short circuit, over voltage, under voltage, over temperature);
  4. Reliable power frequency transformer inverter solution;
  5. Comprehensive digital LED display;

- 
6. Great power grid adaptability, suitable for use with the generator;
  7. Wide range, high precision, automatic mains switching
  8. Lead-acid sealed battery, gel battery, open and self-configured battery charging for options.

## **II、 Safety instructions**

### **◆ Equipment**

1. Please read the user manual carefully before use. Do not exceed the rated power.
2. Before connecting the equipment, please connect the ground wire and disconnect all load switches.
3. If the equipment fails, please cut off the power quickly and contact the dealer.
4. If there is a fire around the equipment, the power should be disconnected at first time, turn off the equipment and use a dry powder fire extinguisher. Using the liquid to extinguish the fire may cause a risk of electric shock.
5. Do not place the container filled with liquid on the top of the device so as not to pour it into the device and cause an internal short circuit, resulting in electric shock or fire hazard;
6. Do not open the device chassis by yourself. There is a danger of electric shock.
7. There is high voltage inside the equipment. To avoid personal injury, if you have any problems, please consult the dealer for professional help. Do not repair it without authorization.
8. This series of products are Class A interference radio products. Devices that are sensitive to electromagnetic interference (such as transmitters, receivers, radar, and metal detectors) should not be near

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this device.

 **Warning**

Our company considers the personal safety of the customer in the most important position. Therefore, the customer or the operator must read the relevant steps in detail before using the device and strictly observe the usage rules when using it. Even if all the switches are disconnected, there is still a danger of high voltage in the equipment. Any operation that requires the device to be moved or opened must be done by an Authorized Technician.

### **III、 Transportation and storage**

◆ **Transportation**

When the goods are sent, they have been thoroughly inspected. After receiving the goods, please check whether the packaging is damaged or not. If there is any damage or missing items, you must notify the dealer within 7 days after receiving the goods.

◆ **Unpacking**

To avoid damage to the equipment, special care should be taken when moving the equipment; when unpacking the packaging material, ensure that it is intact and stored properly for emergency use.

◆ **storing**

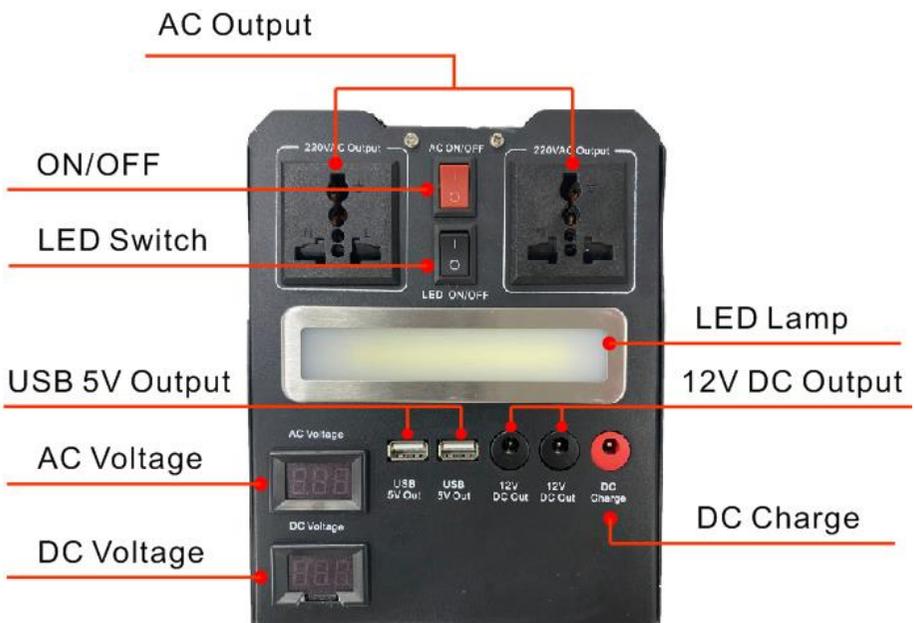
After the device is received, if it will not be used within seven days, store it in a clean, dry, room temperature (0°C to 40°C).

◆ **Transportation**

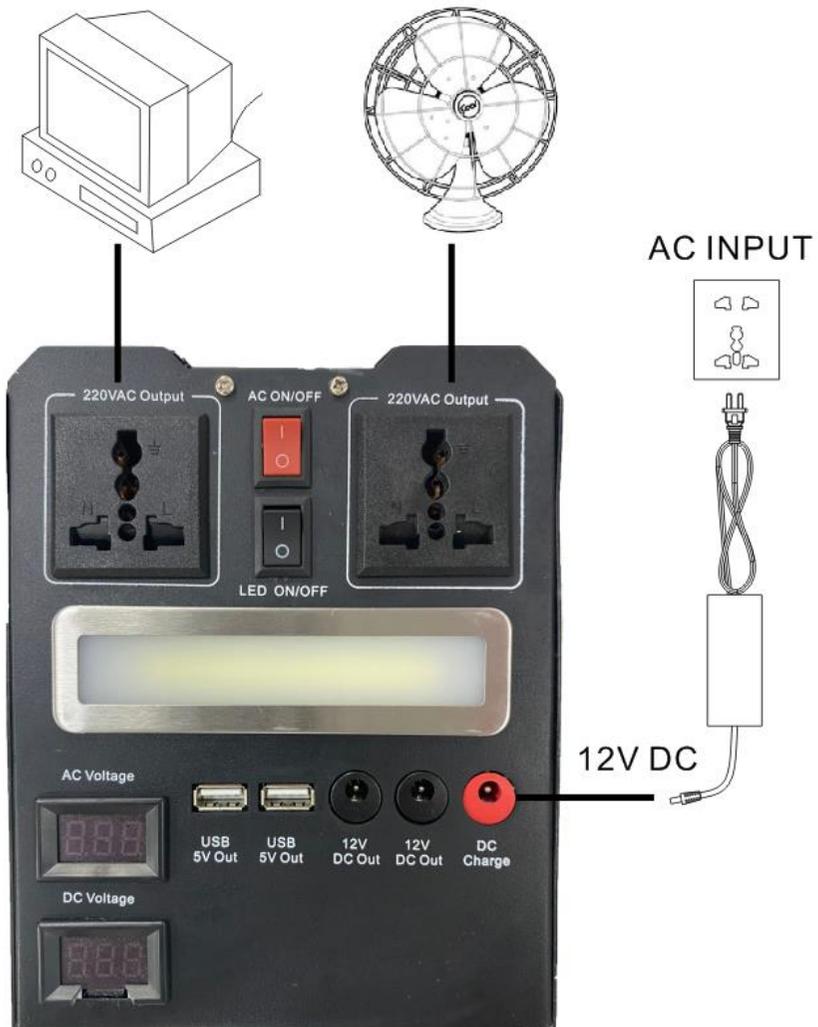
The equipment must be kept upright and handled with care. Any fall or

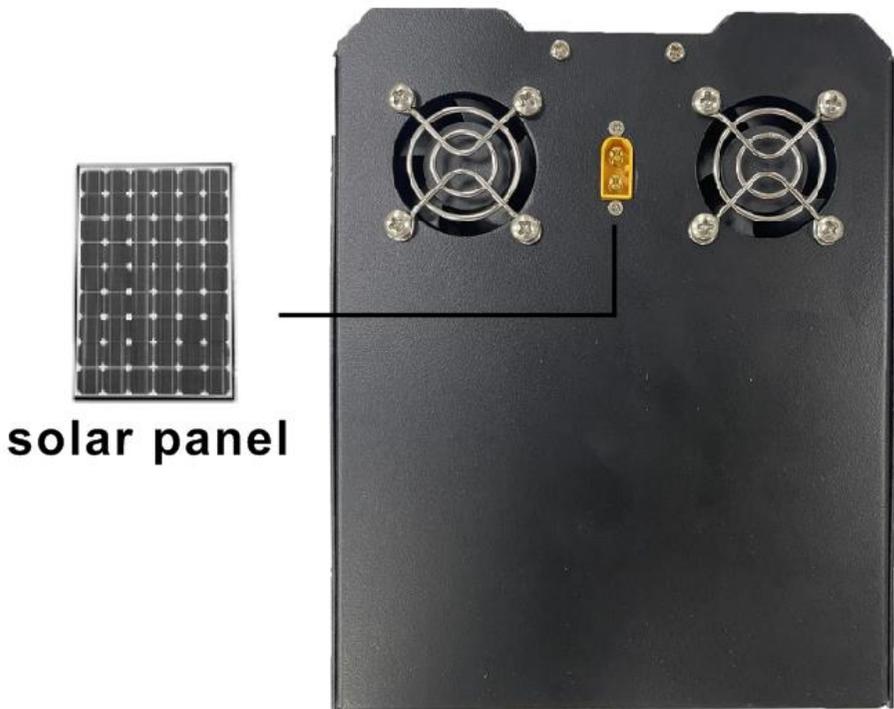
violent impact can damage the equipment.

#### IV、Panel indication



## VI. installation picture





**solar panel**

## **VII、 Installation**

1. Before wiring, make sure that all power is cut off in case of danger of electric shock.
2. Wire preparation: first determine the length of the wire, determine the location of the installation, reduce the length of the wire as much as possible to reduce the power loss.
3. First connect the battery, pay attention to the positive and negative, do

not reverse. If it is reversed, the machine will be damaged and it cannot be used anymore.

4. Connect the wires of the solar panel, pay attention to the positive and negative poles, do not reverse; if there is sunlight, the solar controller inside the machine will charge the battery, otherwise check the connection cable is correct.

5. Finally connect the load and then the city power line.

### **Warning**

Installation must be performed by qualified technicians with reference to relevant safety standards.

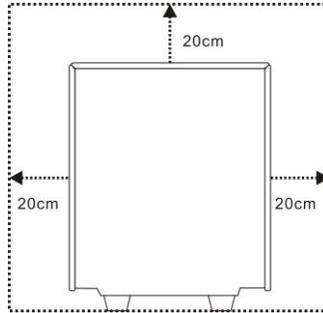
#### ◆ **Environment**

1. The equipment must be installed vertically on a horizontal shelf or on the ground. Do not stack objects on the equipment;
2. The ambient temperature range for equipment operation is 0°C to 40°C, and the ideal temperature condition is 15°C to 25°C; the air humidity is 0-95% without condensation; the battery life is defined at 20°C, starting from 20°C each Increasing 10°C will reduce the expected service life by 50%.

#### ◆ **Space size**

1. Placement of equipment

Leave 20cm space at the top and four sides of the device to keep the air pass unimpededly



1. Avoid direct sunlight;
2. Avoid overheating;
3. Avoid moisture and contact with liquids;
4. Avoid dust.



### External protection device

The external device of the product must be equipped with a suitable circuit breaker or fuse.

### **I** pay attention

The external connect battery box must be closer to the inverter cabinet, and an appropriate circuit breaker must be configured.

## VIII equipment operation

Read the equipment manual carefully before operating the equipment. The equipment should be in charge of the professional to ensure the normal operation of the equipment.

### **⚠** Danger

1. After the inverter connected to the mains (means city power), the inverter output may be in a live state (means will have electricity), even if the inverter is not manually turned on.
2. If the inverter output short circuit or overload, should immediately turn it off, cut off the power, check the load troubleshooting and then start the

inverter again to work.

3. After the installation of the inverter is completed, be sure to install the terminal cover to prevent the rat from entering the inverter to cause a short circuit board and to damage the machine.

### Appendix 1、 The specifications of the inverter

Model		500W/18V
Rated capacity		500W
Input	Voltage range of the city grid power (VAC)	170-240
	Frequency (Hz)	50±10%
Output	Wave	Pure sine wave
	Frequency (Hz)	Grid power Priority model: Same as Grid power Battery power priority model: 12±0.5
	Voltage (VAC)	Grid power Priority model: Same as Grid power Battery power priority model : 230±5%
	Shift time	Typical: 6ms (Auto shift)
Protection	Overload	The inverter will be shut down automatically and warn with light and sounds after 25 seconds when get overload by 105-130%, after 3 seconds when get overload more than 150%, after 1 second when get overload more than 200%
Battery	Type	LiFePO4 battery
	Battery protection	Intelligent battery management, protect the battery from overcharge and over discharge.
	Rated DC Voltage	12VDC

	Colidal battery capacity	500W 12V 27AH 1PCS
	Voltage of low battery and request charge	12.8VDC $\pm$ 3%
	Voltage of recovery from low battery	11.2VDC $\pm$ 3%
	Voltage for Battery over charge	14.6VDC $\pm$ 3%
	Voltage for battery recovery from over charge.	12.8VDC $\pm$ 3%
Dimensions	(mm) (L*W*H)	250*150*200
Diagram of the inverter panel		Refer to page 5
Remarks	All technical parameters are subject to change without notice.	
	Customer specific products is accepted by our company	

### Appendix 2. Solar controller specification

System voltage	18V
Solar controller charge current	5A
System charge current	5A
Solar input voltage	$\leq$ 20V
Over voltage protect	15V $\pm$ 1%
Working temperature	-20 to 60°C
Note	Specifications are subject to change without prior notice
	Our company accept special controller customized

