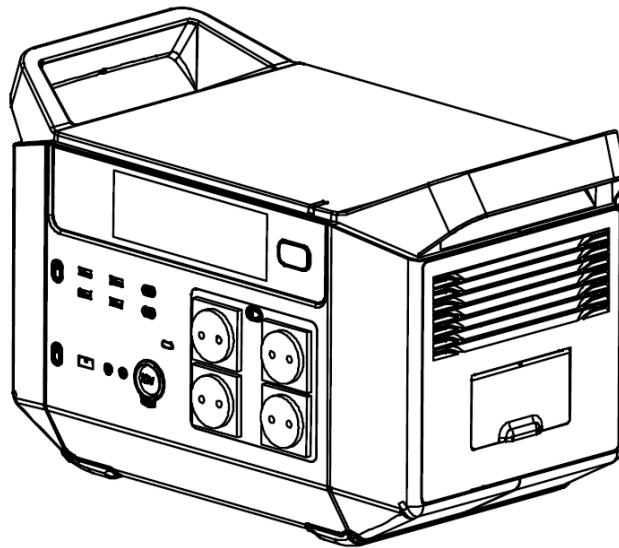


## User Manual

### SP2500 Potable Power Station



Please read the user manual carefully before using the product and keep it for future reference .

## Respectfully inform

Dear users,

Thank you for choosing our products and services. Before using the product, please read the user manual of this product carefully to ensure that you can use it smoothly on the basis of correct understanding. Once you use this product, it is deemed that you have understood, recognized and accepted all the terms and service contents of the product manual, and the user has to promise to be responsible for his own actions and all consequences.

If this product is not operated correctly, it may cause unnecessary harm to yourself or others in the wrong operation process, or cause damage to this product and loss of property. All accidents and losses caused by this may have nothing to do with our company. Correspondingly, the service warranty terms promised to you will automatically become invalid.

In compliance with laws and regulations, our company has the final right to interpret product-related documents. If there is any update, revision or termination, no further notice will be given. Our company strives to ensure the accuracy of information such as product functions and features described in the user manual, but does not assume the responsibility for any errors, omissions or subtle differences between the user manual and the product.

If you still have questions, please visit our official website to get the latest product information.

# 1. Safety Guide

## ■ Safety items

1) Do not immerse the product in liquid or water, or make it absorb moisture. If there is dirt on the surface or sockets, please wipe it with a dry cloth.

2) It is strictly forbidden to approach this product to extreme heat, fire source or heating furnace, so as to avoid overheating and damage of the product and danger.

3) It is forbidden to use it in strong static electricity or strong magnetic field environment. This situation may cause the product to work abnormally or the protection function to fail, which may easily lead to accidents.

4) Do not disassemble the product, use the lithium-ion battery cell for other equipment, even connect the battery cell to the socket, repair and weld the battery cell, etc. Do not pierce the product with sharp objects.

5) Do not use unofficial parts or accessories. If you need to replace it, please go to the sales channel designated by our company to inquire about the relevant purchase information.

6) It is forbidden to stack more than 30kg weight on the product; Don't put it with metal items such as necklaces, coin hairpins, etc. And do not insert conductive parts into the input and output ports of the product..

7) Use this product under the specified conditions. Excessive temperature may cause product failure even permanent damage. If the temperature is too low, the performance of the product will be seriously reduced, such as battery capacity, and the use requirements may not be met. It can be used normally after being restored to normal temperature.

8) Do not hit or throw the product, please avoid falling, external impact and violent vibration. In case of serious external force impact, please immediately turn off the product and stop using it.

9) If the product accidentally falls into the water during use, please place it in a safe open area, and stay away from the product until it is completely dried. After drying, it should not be reused, and it should be properly disposed of according to local laws and regulations.

10) If the product catches fire accidentally, it is recommended to use fire extinguishing equipment in the following order: sand, fire blanket, dry powder and carbon dioxide fire extinguisher.

11) If the product is seriously damaged, don't touch the leaked battery cell. For safety reasons, please place the product in an open area, away from combustible materials and people, and dispose of it according to local laws and regulations.

12) When using the product, don't place the vent against the wind, or forcibly block the fan; Do not place articles within 5cm of the vent, and do not let the product be in an unventilated or dusty space.

13) Please store the product out of the reach of children and pets.

14) There are lithium batteries in the product, so you can't carry them on board. According to international shipping conventions, carrying lithium batteries on board can't exceed 100Wh. This product exceeds the prescribed boarding limit.

#### ■ Disposal



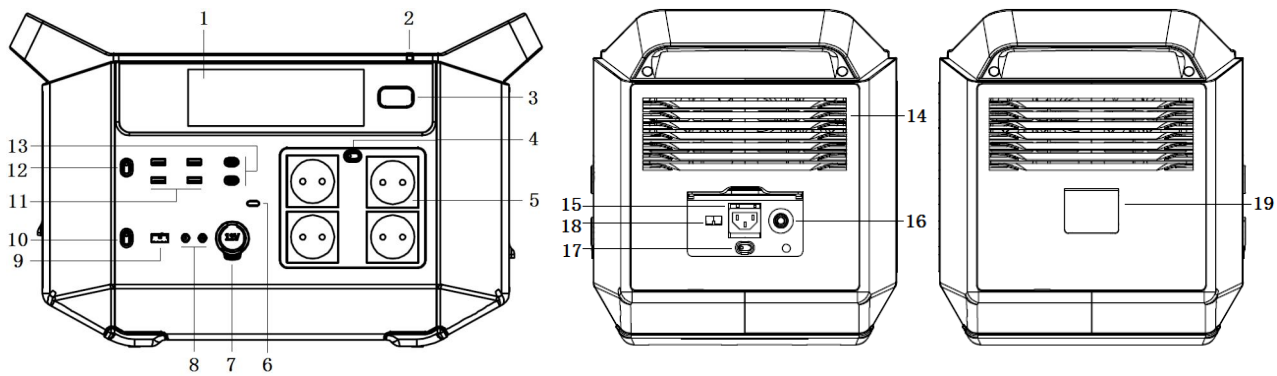
1) The product life is exhausted or the battery can't be started due to over-discharge, so it is no longer of maintenance value. If conditions permit, please confirm that after the product is completely discharged, it should be placed in the designated recycling box for disposal, or handed over to a professional recycling agency for batteries.

2) The product is scrapped due to accidental damage or its own fault, and the battery can't be discharged completely. Please don't directly discard the battery in the battery recycling box, leaving a potential safety hazard. You should contact a professional battery recycling agency.

## 2. Production Introduction

This portable power station product adopts the LiFePO<sub>4</sub> battery with the highest safety factor in the industry at present, and has a long cycle life. Provide abundant output power supply ports and input charging ports. The product adopts all-digital control technology, and has a variety of intelligent working modes, including EPS power supply, auto-charging mode, smart car-charging and super load mode. At the same time, it supports super fast charging mode, which can greatly shorten the charging time, and also supports a variety of external charging modes, including utility power charging, solar charging, car-charging, and DC adapter charging.

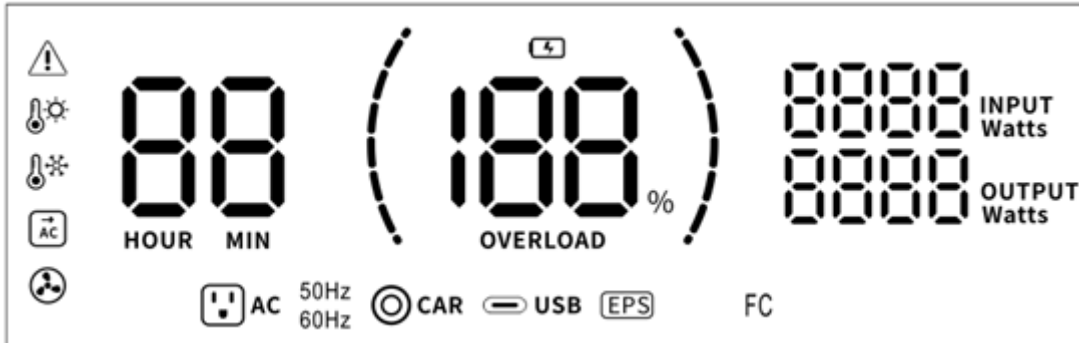
### ■ Appearance and keys



1.Screen	2.Power indicator light	3.Power switch	4.AC output switch
5.AC output port	6.key tone switch	7.Cigar lighter output port	8.DC5521 output port
9.Anderson output port	10.DC output switch	11.USB-A output port	12.USB output switch
13.Type-C output port	14.Vent	15.AC input port	16.AC input reset button
17.Fast charging switch	18.DC input port(Anderson)	19.Extra battery port(Not enabled)	

## ■ Interactive interface

### 1) Screen display



Icon	Icon description	Icon	Icon description
100%	Percentage of battery capacity	88 HOURS MIN	Charging/discharging remaining time
AC	AC output on	⚡ ( )	Charging. Rolling display ( ).
50Hz 60Hz	AC input/output frequency	FC	Fast charging on
CAR	DC output on	USB	USB output on
8888 INPUT Watts	Charging power	8888 OUTPUT Watts	Discharging power
EPS	EPS mode on	Fan	Fan working
OVERLOAD	Flashes as AC output over rated power, is always on as overload.	Warning Fan	Fan failure
Warning ( )	Battery failure	Warning CAR	DC output has failure and is off.
Warning USB	USB output has failure and is off.	Warning AC 50Hz 60Hz	AC output has failure and is off.
Warning FC AC	AC input is abnormal.	Warning FC	DC input is abnormal.
Warning High-temp AC	High-temp alarm for power devices when all flashing. Output is off.	Warning Low-temp AC	Low-temp alarm for power devices when all flashing. Output is off.
Warning High-temp ( )	High-temp alarm for battery when all flashing. Output is off.	Warning Low-temp ( )	Low-temp alarm for battery when all flashing. Output is off.

### 2) Power indicator light

When the battery power is above 20%, it is green, and when the battery power is below 20%, it is red.

## ■ Specifications

Item	Specification	Remark
Basic specifications		
Rated AC output	2500W	230V 50Hz, pure sine wave
Battery energy	2496Wh	48V LiFePO4 battery
Battery cycle Life	4000 cycles	25℃, 70% capacity left
Dimension	51.5*29.2*32.2cm	
Weight	about 25.5kg	
Total input power	1400W max	AC 1400W max, DC 800W max
Charging temperature	0~40℃	
Discharge temperature	-20~45℃	
Storage temperature	Short-term(<3 months): -20~45℃ Long-term(3~12 months): 0~25℃	The product not used needs to be charged once every three months.
Smart functions		
EPS	Start-up time ≤30ms	Start when AC input is interrupted.
Smart car-charging	Smart recognition for car-charging	The function is not available when the car engine is not working.
Auto-charging	Maintain 90% capacity	Auto-charging when the machine is long-term connected to utility power.
Super load	Rated power of load <3900W	Supports loads exceeding the rated power of the machine. Except inductive load.
Output specifications		
AC Output (×4P)	Rated 2500W peak power <4500W	Total power of 4 ports < 2500W. Max power of one single port is 2500W.
USB-A port (×4)	5V-3A,9V-2A,12V-1.5A; max 18W	Switched by USB output switch.
Type-C port (×2)	5V/9V/12V/15V-3A, 20V-5A; max 100W	
Cigar lighter port (×1)	13V-10A max; 130W	Switched by DC output switch. Total current of the three ports is 15A max.
DC5521 port (×2P)	13V-3A max; 39W	
Anderson port (×1)	13V-15A max; 195W	
Intput specifications		
AC input	1400W max	Charging time is about 2.4H.
DC input (car-charging)	13.2V, max 8A	Charging time is about 26H.
DC input (solar charging)	18V~40V, max 22A	Fastest charging time is 3.5H.

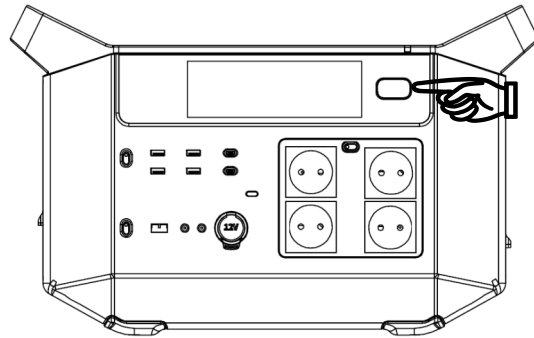
## 3. Use of products

### ■ On-off and output

#### 1) On-off

The power switch button is the control button for turning on and off the machine.

- ① Press the power switch briefly to start the machine;
- ② Press and hold the power switch for 2 seconds in the start-up state, and turn it off.
- ③ Press the power switch briefly in the start-up state, and the screen display will switch back and forth between on and off.

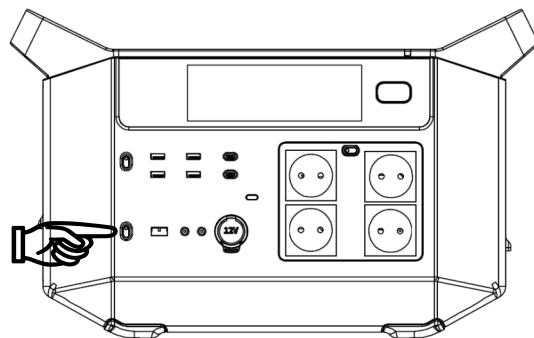


When the machine is turned on, the screen lights up, and the power indicator light at the top of the machine lights up. When there is no operation for 5 minutes, the screen will automatically go out.

#### 2) DC output

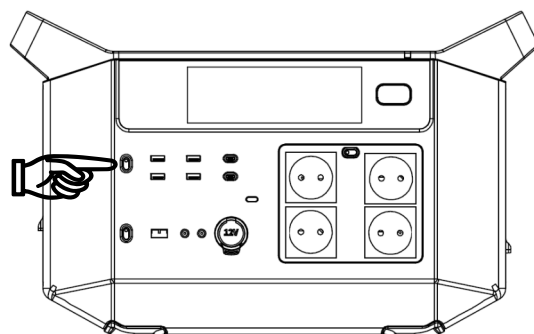
① Press the DC output switch button briefly in the start-up state, and the DC output will be turned on. The cigar lighter port, DC5211 ports and Anderson output port can output power supply, while the DC output switch indicator lights up. A suitable device can be plugged into the port to power the device.

② Press the DC output switch button again, the DC output will be turned off, and the DC output switch indicator will be turned off.



#### 3) USB output

① Press the USB output switch button briefly in the start-up state, and the USB output will be turned on. The USB-A output ports and Type-C output ports can output power supply, while the USB output switch indicator lights up. A suitable device can be plugged into the port to power the device.



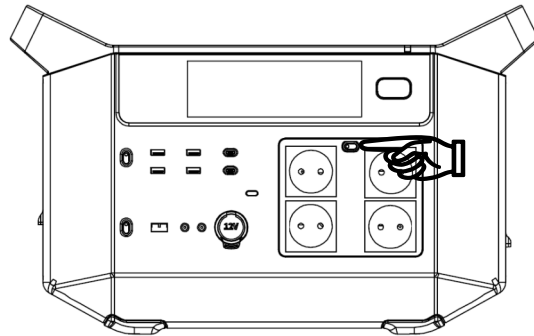


② Press the USB output switch button again, the USB output will be turned off, and the USB output switch indicator will be turned off.

#### 4) AC output

① Press the AC output switch button briefly in the start-up state, and the AC output will be turned on. The AC output ports can output power supply, while the AC output switch indicator lights up. A suitable device can be plugged into the port to power the device.

② Press the AC output switch button again, the AC output will be turned off, and the AC output switch indicator will be turned off.



When the AC input port is connected to the utility power, the EPS(Emergency Power Supply) mode is turned on. The AC output ports will take power directly from the AC input port, and at this time, the AC output power cannot exceed the limited power of the AC input, otherwise, the AC input will be powered off for protection. When working in EPS mode, once the power cannot be supplied due to abnormal AC input, the machine switches to battery power supply immediately, and the switching time is within 30ms.

AC output is supported during DC charging.

Note: The peak power of the load equipment connected to the AC output must not exceed the maximum instantaneous power of the AC output of the machine, otherwise it will cause power failure protection or even damage.

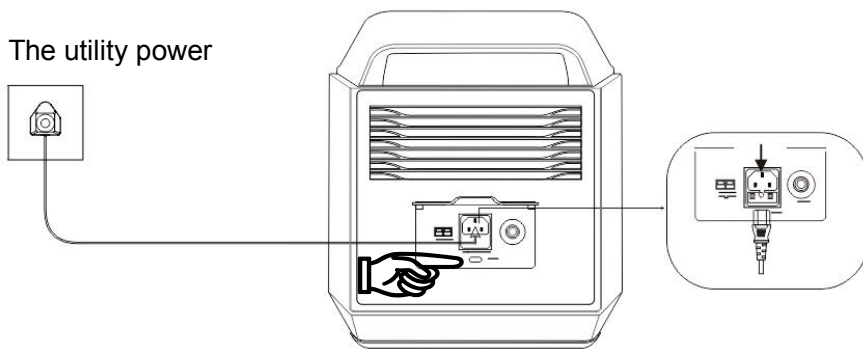
### ■ Input(Charging)

#### 1) AC input

After connecting the AC input port to the utility power through the AC power cord:

① The machine charges the battery according to the set charging power. If the machine is turned off, the machine will be woken up first and then charged.

② The machine is set with two charging powers: standard charging which is default and fast charging. Standard charging takes about 3.3 hours to fully charge and fast charging takes about 2.4 hours. You can switch between standard charging and fast charging through the fast charging switch. Fast charging does not work in EPS mode.



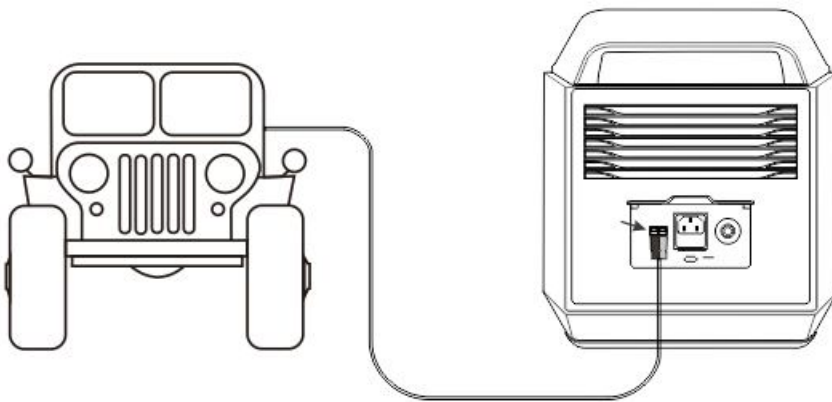
## 2) Input from car (car-charging)

After connecting the DC input port to the cigar lighter output port of the car:

① The machine automatically recognizes car-charging input and charges according to the set limit current. If the machine is turned off, the machine will be woken up first and then charged.

② The machine can be charged and discharged simultaneously.

Note: The machine has smart car-charging function, which can intelligently identify whether the engine of the fuel vehicle works or not in addition to automatically identifying the car-charging input. If the engine is not working, in order to protect the 12V battery of the car, car-charging will be unable. It can't be normally until the engine works.



## 3) Solar charging

After connecting the DC input port to solar panel:

① The machine automatically recognizes solar charging input and automatically tracks the maximum power point (MPPT). If the machine is turned off, the machine will be woken up first and then charged.

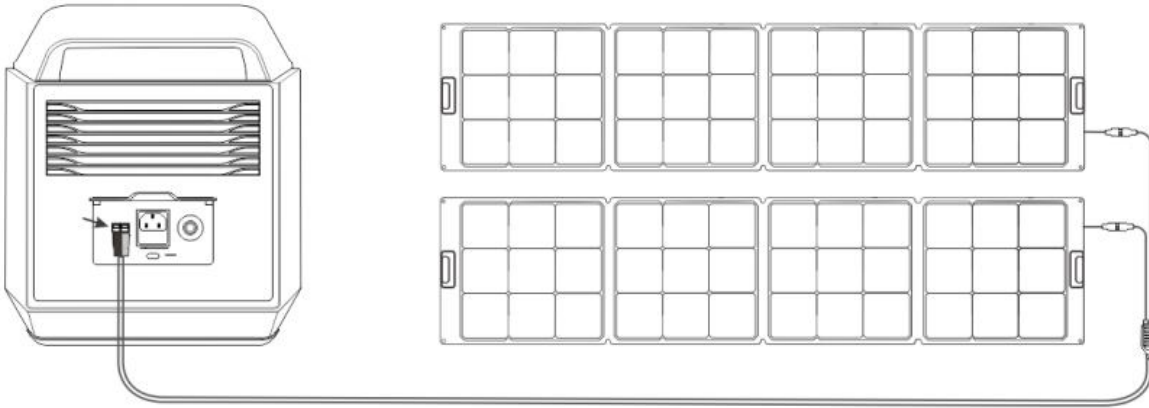
② The machine can be charged and discharged simultaneously.

Note:

① Solar panels are light and temperature sensitive devices, and the fluctuation of charging power is a normal phenomenon during solar charging.

②Please use the solar panel with proper configuration, otherwise it may cause damage.

③Our company will not be responsible for product damage caused by improper use of solar panels and improper operation.



## ■ Smart functions

### 1) EPS mode

EPS mode is a working mode in which AC output takes power from AC input first and batteries stand by.

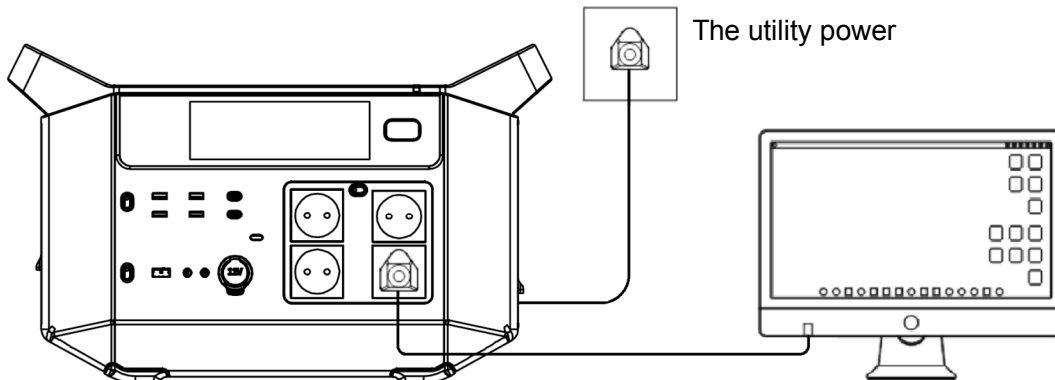
①After the AC input is connected to the utility power, the AC output is switched from the battery to the utility power lines to get power when the AC output is turned on.

②When the AC input is abnormally unable to supply power, the machine will switch to battery power supply immediately to maintain power supply of AC output, and the switching time is within 30ms.

Note:

①EPS mode power supply has switching time and cannot replace professional UPS products. When using, please confirm whether it meets the power demand of devices.

② In EPS mode, the output power of the machine cannot exceed the limited power of AC input, otherwise the AC input will be cut off for protection.



## **2) Auto-charging**

In order to make the machine have enough power for reuse after long-term non-use, the AC input port of the machine can be connected to the utility power all the time, and the machine will automatically charge. When the power is lower than 90%, the machine will automatically detect and supply power from the utility power.

## **3) Super load**

Supports AC loads with rated power up to 1.56 times that of the machine.












Note:

① When the rated power of the load is greater than the rated output power of the machine, the machine keeps the output power unchanged and reduces the output voltage.

② This function may fail for inductive loads. Careful use of inductive loads such as air conditioners.

The instantaneous peak power of the air-conditioning compressor is far greater than the rated power. It may cause power-off protection or even damage to the machine.

## 4. Failure handling and recovery

Failure Icon	Failure description	Recovery action
OVERLOAD	Flashes as AC output over rated power, is always on as overload.	Manually press the output switch to recover after the fault is removed.
	Fan failure. Output is off.	Manually press the output switch to recover after the fault is removed.
	Battery failure. Output is off.	Manually press the output switch to recover after the fault is removed.
 CAR	DC output has failure and is off.	Manually press the output switch to recover after the fault is removed.
 USB	USB output has failure and is off.	Manually press the output switch to recover after the fault is removed.
 AC 50Hz 60Hz	AC output has failure and is off.	Manually press the output switch to recover after the fault is removed.
 FC AC	AC input is abnormal.	In case of grid voltage problem, the machine will return to normal after the voltage is normal. For over-current protection, press AC input reset button manually to restore it.
 FC	DC input is abnormal.	The machine will return to normal after the DC input is normal.
 AC	High-temp alarm for power devices when all flashing. Output is off.	Manually press the output switch to recover after the fault is removed.
 AC	Low-temp alarm for power devices when all flashing. Output is off.	Manually press the output switch to recover after the fault is removed.
	High-temp alarm for battery when all flashing. Output is off.	Manually press the output switch to recover after the fault is removed.
	Low-temp alarm for battery when all flashing. Output is off.	Manually press the output switch to recover after the fault is removed.

### Note:

- ① If the above recovery action cannot solve the problem, please shut down the machine and restart.
- ② If the machine can't be started, please try to charge the machine first.

## 5. Maintenance

1) The machine should be used and stored in a suitable temperature, low humidity and non-corrosive environment, away from heat sources, water sources and metal conductive articles.

2) In order to prolong the service life of the battery, it is recommended to use this product in the temperature environment of 20°C to 30°C.

3) Do not short-circuit, over-charge or over-discharge the machine.

4) If the power of the machine is lower than 1% after use, please charge it to more than 60% capacity before storing it. If it is placed for a long time under the condition of serious shortage of electricity, the battery cell will be irreversibly damaged and the service life of the product will be shortened.

5) Before short-term storage (< 3 months), the power of the machine should be charged to more than 30% capacity, and before long-term storage (3~12 months), it should be charged to more than 60%.

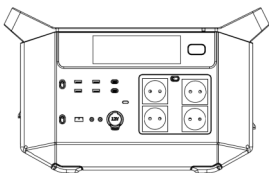
6) If the machine has not been used for a long time or the power is seriously insufficient, it needs to be recharged before it can be used again.

7) Because the transportation safety machine cannot store too much electricity before delivery. Due to the consumption of the machine itself during the storage period, the machine delivered to the client can't be completely guaranteed to enter the working state immediately. The machine may need to be recharged before continuing to use.

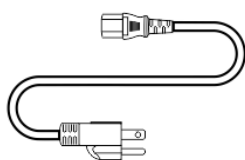
8) During the transportation and handling of the machine, severe vibration, impact, exposure to the sun and rain should be prevented.

## 6. Packaging content

1) Machine



2) AC Charging line



3) Manual

