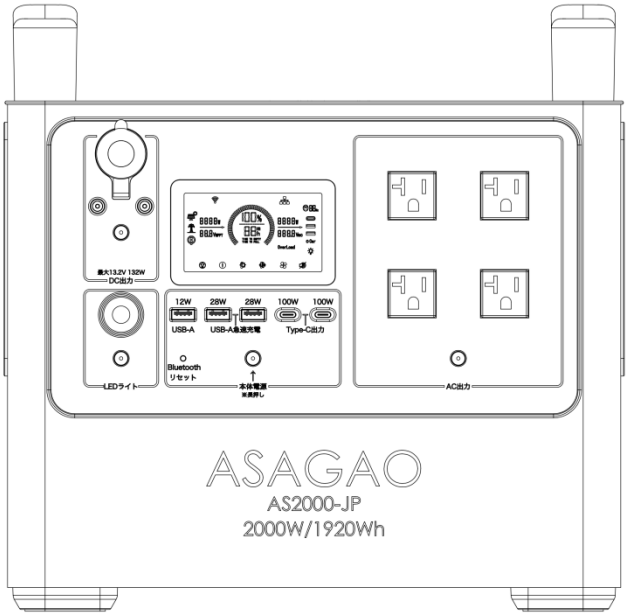


The ASAGAO Series

User Manual

Version V1.0

目录

About this document 1
Introduction 1
symbol interpretation 1
01 Safety instructions 2
02 Product Introduction 3
2.1 Open-package inspection 3
2.2 Operator Panel Description 4
2.3 User interface introduction 7
2.4 Introduction of socket type 8
03 Product use instructions 9
3.1 Storage and transport 9
3.2 Product Charging 10
3.3 Battery Discarded 10
04 Product Usage 11
4.1 Power on, power off and LCD on 11
4.2 Use 12V output 11
4.3 Use the reading light 11
4.4 Use AC output 12
4.5 Silent charging 12
4.6 Use of uninterruptible power supply 13
4.7 Smart Drive 13
4.8 AC, on-board, solar charging 14
1) Schematic diagram of solar charging monolithic board connection ... 14
2) Schematic diagram of parallel connection of 2 solar charging boards 15
05 fault and maintenance 15
5.1 Troubleshooting 15
5.2 maintenance 19
06 Technical parameters 20
basic parameter 20

About this document

Introduction

- ASAGAO portable energy storage series is designed and tested in strict accordance with relevant safety regulations. However, as an electronic device, users need to follow the safety instructions in this manual. Please read the complete user manual before operation and familiarize yourself with the functional features of this product before operation. Improper operation will cause serious injury and property loss to the user! Chuzhou New Energy does not assume any direct or indirect responsibility. By using this product, you are deemed to have understood, acknowledged and accepted all the terms and contents of this document. The user undertakes to be responsible for his/her actions and all consequences arising therefrom.
- Please use the parts provided or recommended by Chuzhou New Energy. You must strictly follow the guidelines of Chuzhou New Energy to install and use the products. Otherwise, you will not be able to obtain the after-sales service of Chuzhou New Energy. This manual contains instructions for safety, use and maintenance. Before assembling, installing, or using the product, be sure to carefully read and follow all instructions and warnings in the user manual.
- Specifications in this document are subject to change without notice. We make every effort to keep this document complete, accurate and up to date. However, the equipment manufacturer may need to make some improvements in some cases without notice. The equipment manufacturer shall not be liable for any damages arising out of this document, including but not limited to omissions, typographical errors, arithmetical errors or listed errors in this document.
- You can get the latest product information from the official website of Chutai New Energy (ieetek.com).

symbol interpretation

Symbols that may be found in this document are defined below.

symbol	Name	Description
	Attention	Failure to follow the instructions may result in property damage and minor injury.
	caution	Failure to follow instructions may result in property damage and serious injury.
	Warning	Failure to follow the instructions may result in property damage, major accidents and serious injury.
	Wait	Wait five minutes after the power is removed to ensure that the capacitor

		discharges to a safe voltage.
	recovery	It shall not be discarded as ordinary garbage and shall be recycled through special channels.

01 Safety instructions

Warning

- Do not disassemble the battery or puncture the battery with sharp objects in any way without the official authorization of Chuzhou New Energy. Otherwise, Chuzhou New Energy will not be responsible for the spontaneous combustion of the battery or the harm to the human body.
- Battery damage may result in electrolyte leakage. If the electrolyte leaks, do not touch the leaked electrolyte and volatile gas, and immediately contact the after-sales service center for assistance.
- If the product accidentally falls into water during use, after taking the product out of the water, place it in a safe open area until the product is completely dry. Do not use it again after drying. Discard it according to the disposal method in this manual.
- In case of fire, please use the fire extinguishing equipment according to the following recommended sequence:Water or water mist, sand, fire blanket, dry powder, carbon dioxide fire extinguisher.

Caution

- This product contains batteries. Do not put this product near heat sources, such as fire or heating furnace, otherwise the battery will spontaneously ignite and may even cause explosion.
- This product should not be in contact with any liquid. Do not immerse this product in water or wet it. Do not use this product in the rain or wet environment.
- Do not use this product in strong static electricity or strong magnetic field environment, otherwise, some of the machine's protection functions may fail.
- Do not use parts or accessories that are not officially provided. If you need to replace it, please go to the official sales channel of Initial New Energy to inquire about the relevant purchase information.
- Please do not hit, fall or step on the equipment. In case of severe external impact, please immediately turn off the power supply and stop using it.
- If the product is seriously damaged, please keep it away from combustibles and people,

and ensure that the surrounding safety is guaranteed, and scrap it according to local laws and regulations.

Attention.

- Excessive temperature may cause the battery to catch fire;If the temperature is too low, the product performance will be seriously reduced and may not meet the requirements for normal use. When using this product, please strictly follow the operating environment temperature specified in this user manual.
- If there is dirt on the interface of this product, please use a dry cloth to clean it, otherwise it will cause poor contact, resulting in energy loss or failure to charge.
- Do not stack other heavy objects on this product.
- Avoid using the product in dusty places, otherwise it will cause fan blockage.
- Please keep this product out of the reach of children and pets to prevent accidents.

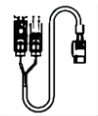
02 Product Introduction

2.1 Open-package inspection

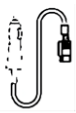
After receiving the product outer package, please check whether the product delivery is complete according to the packaging information. If there is any abnormality, please contact the after-sales service center as soon as possible.

Energy storage power supply

AC charging line



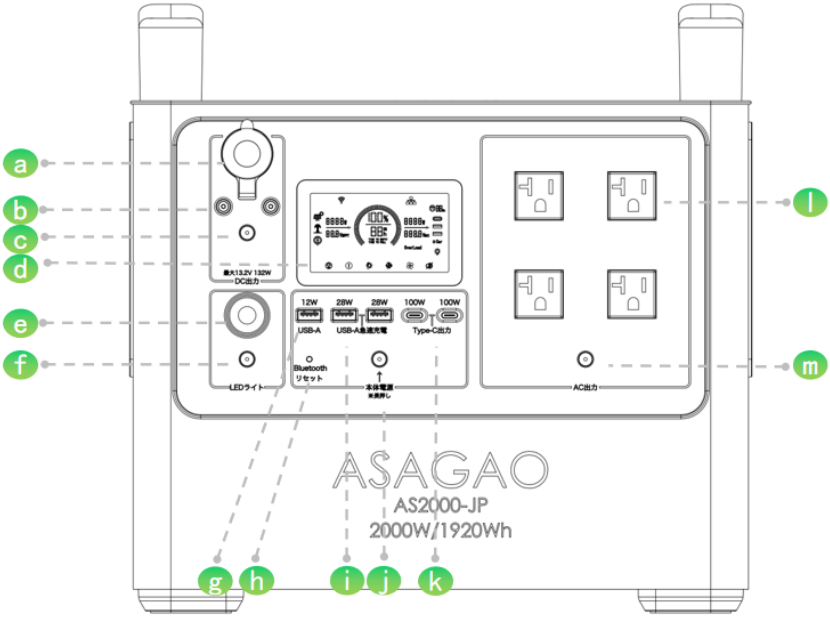
Solar charging line



Car charger input line

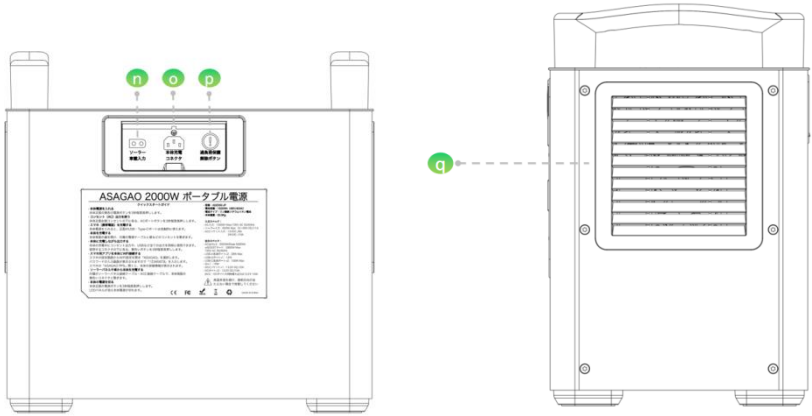
User Manual & Warranty Card

2.2 Operator Panel Description



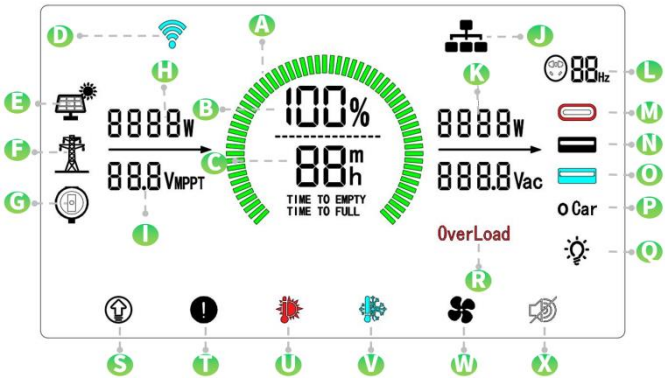
serial number	Name	Description
a	Cigarette lighter output	It can be used for general on-board electrical appliances, and can also charge the 12V lead-acid battery of the car (please operate under the guidance of professionals).
b	DC output port	It is possible to charge devices that are charged through the DC 5525 port.
c	DC port output button	Short press DC ON/OFF to turn the ASAGAO DC power on or off. This button controls the output of two DC 5525 outlets of ASAGAO, the output of cigarette lighter
d	isplay screen	Product use status prompt
e	reading lamp	Provide and read lamp lighting
f	lamp switch	The light switch is divided into three gears, high light, low light, and SOS rescue signal light
g	USB-A	To charge a device through the USB-A 12w port, the USB-A

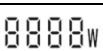
		output indicator icon on the display will automatically light up when the USB-A port is in use.
h	WIFI reset key	In case of failure of the WIFI function, the WIFI function can be restored to the default factory setting. How to use: With power on, press the hole with a paper clip or other sharp object for 3 seconds and then release.
i	USB-A quick charge	To charge a device through the USB-A 28w port, the USB-A output indicator icon on the display will automatically light up when the USB-A port is in use.
j	Main power switch	To turn ASAGAO on or off, press and hold for 3~5 seconds ON/OFF to turn it on, and press and hold for 3~5 seconds ON/OFF to turn it off.
k	Type-c quick charge	You can charge devices that are charged through the Type-c port. When the Type-c port is in use, the Type-c output indicator icon on the display will automatically light up.
l	AC socket	AC output available
m	AC power button	Short press AC ON/OFF to turn AC power on/off while the main power is on.



序号	名称	说明
n	PV/car charging port	Maximum support 200W solar charging;The car charger can support the input of 12V/24V maximum 10A vehicle power supply (be sure to start the car when using it, so as not to cause the car battery to fail to start).
o	AC Charging port	The input port is connected to the AC, and the other end is plugged into the AC power supply.
p	overload protection switch	When the input current is continuously greater than 15A during charging, the AC charging port will be protected (represented by the protection button popping up). After confirming that the machine has no fault, press the protection switch to reset to resume charging.
q	cooling fan	The cooling fan prevents the ASAGAO from overheating.

2.3 User interface introduction



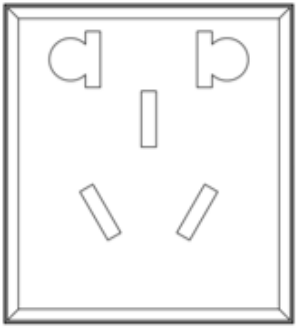
序号	图标	说明
a		Battery status bar. The status bar changes as the battery is charged and discharged.
b		Displays the percentage of battery remaining.
c		Remaining chargeable/dischargeable time. Determine the remaining charge/discharge time of ASAGAO based on the current power consumption, accurate to minutes.
d		Displays the WiFi connection status. The icon will be displayed when the WIFI is connected, and will not be displayed when it is not connected.
e		This icon is displayed when the PV is connected for charging.
f		This icon is displayed when AC is connected to charge.
g		This icon is displayed when the vehicle charger or DC is connected to charge.
h		Displays the current input power. Displays the ASAGAO's current input power level in watts.
i		。Displays the ASAGAO current MPPT value in voltage. This icon will only be displayed when charging with PV.
j		This icon flashes when the intercom fails.

k	8888W 8888.8Vac	Displays the current output power and AC voltage.
l	88Hz	This icon will light up when AC is output, indicating the corresponding output frequency.
m		Displays the Type-c port usage status. The corresponding color is green.
n		Displays the USB-A port usage status. The corresponding color is white.
o		Display the usage status of the fast charging port. Corresponding color blue.
p	o Car	Displays the current cigarette lighter and DC outlet usage status.
q		Display the current reading lamp usage status.
r	OverLoad	Output overload indication icon.
s		Device mute operation icon. When the function is enabled through the APP, no sound will appear when the device is clicked.
t		The BMS has failed and this icon is displayed.
u		When the temperature of ASAGAO machine is too high, the high temperature warning icon will appear on the screen to warn the machine that the temperature is too high. Please pay attention to cooling the machine.
v		When the temperature of ASAGAO machine is too low, the low temperature warning icon will appear on the screen to warn the machine that the temperature is too low. Please heat the machine properly before use.
w		When the cooling fan is turned on, the icon will rotate dynamically.
x		Silent charging mode, press and hold AC ON/OFF to manually turn on and turn off silent charging.

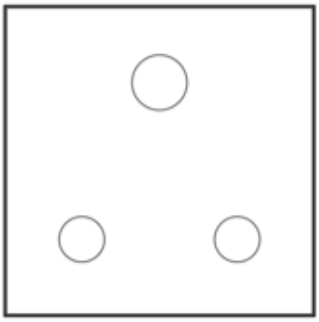
2.4 Introduction of socket type

The type of outlet varies from region to region, subject to receipt.

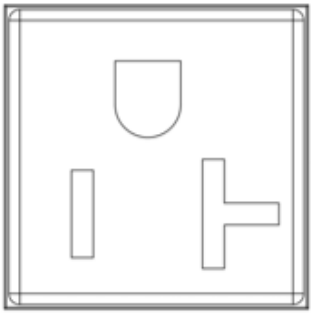
Universal European Standard (Type F)



Mainland China (Type A & I)



South Africa Standard (Type M)



USA Standard (Type B)

03 Product use instructions

3.1 Storage and transport

- Keep out of reach of children. If a child swallows parts, seek medical attention immediately.
- If the machine indicates low battery after use, please charge it before storing.

Otherwise, prolonged storage may damage the battery in the interior of the product. If the battery is seriously low and idle for too long, the battery will enter deep sleep mode. it is necessary to charge that battery and wake up the product function to recover from the sleep state.

- Store the product in a dry environment. Do not place the product where it may come into contact with water.
- When storing this product, seal it with outer packing bag to avoid dust entering and blocking the fan port.
- It is forbidden to store or transport the machine together with metal necklaces, glasses, watches, hairpins or other metal objects.
- If the machine is idle for a long time, its performance will be affected.
- Please fix it properly during transportation to avoid vibration and impact.
- Do not place the product near a heat source, such as a car in direct sunlight, a fire source, or a heating furnace.
- Do not transport products with more than 30% battery charge.
- Do not carry this product on board.
- Do not store the machine at room temperature above 60℃ or below -20℃.

3.2 Product Charging

- ASAGAO must use the charging cable officially designated by Chuzhou New Energy for charging. Chuzhou New Energy will not be responsible for any damage and all consequences caused by charging without using the charging line of Chuzhou New Energy.
- When charging, please place the machine on a level ground and ensure that there are no inflammable and explosive materials around. Please arrange someone to watch the product while charging to prevent accidents.
- After the machine is continuously discharged at full load, if the product battery is in high temperature state, it is recommended to wait until the product temperature drops to room temperature before charging, otherwise the battery high temperature protection function may be triggered and charging is prohibited. The temperature range over which the product can be charged (0° C to 45° C). In the ideal charging temperature range (15° C ~ 35° C), the battery life can be greatly extended.

3.3 Battery Discarded

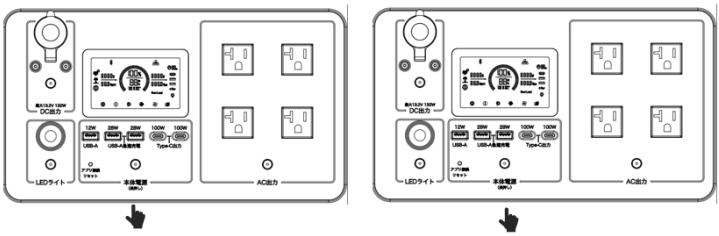
- The machine battery must be completely discharged before it is placed in the designated battery recycling bin. Batteries are dangerous chemicals and are strictly prohibited from being placed in ordinary dustbins.
- Be sure to comply with local laws and regulations regarding battery recycling and disposal.

04 Product Usage

4.1 Power on, power off and LCD on

◆ Three wake-up modes:

1. When the equipment is in the shutdown state and the Type-C socket detects that there is a load access, the power supply is automatically turned on and the display is on.
2. Press and hold the power button for 3~5 seconds, and the display will light up.



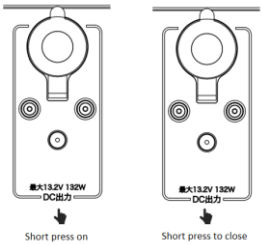
3. When AC/solar/car charging input is connected, the display will be lit.
4. Press and hold the main power switch for 3~5 seconds, and the product will shut down.

Note: When the product does not have any operation for half an hour, the display will automatically go out. The display will automatically light up when there is an operation change.

The product will enter the sleep mode after 1 hour without input charging and without any load access.

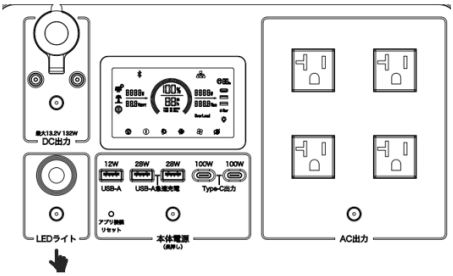
4.2 Use 12V output

◆ After the main power is turned on, press the DC output power switch for a short time to turn on the DC output. Short press the DC output power switch again to turn off.



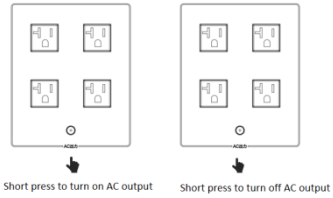
4.3 Use the reading light

◆ After the main power is turned on, please press to turn on the strong light;Press again to turn on the dim light; press again to turn on the SOS flash. Press the last button to turn off the reading light.



4.4 Use AC output

- ⚠AC output has four specifications: 110V/120V/220 V/230V, the specific subject to the receipt of the physical, the specifications are set before the factory, can not be changed. Before using the equipment, please check the voltage level of this product in advance, and use the electrical appliances in a standardized manner to avoid damage to the equipment and personal injury.
- After the main power is turned on, press the AC output power switch for a short time to turn on the AC output port. Short press the AC output power switch again to turn off.

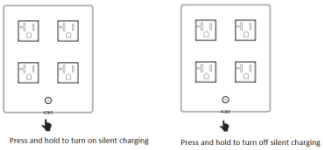


- When the AC output power switch is turned on, if you want to shut down, please turn off the AC power switch first.

  Note: When not using the AC output, please turn it off in time to avoid battery power loss.

4.5 Silent charging

- Silent charging, when this function is enabled, it will run at 0.2C charging power during charging.
- Manual switch: long press AC ON/OFF to start/exit silent charging.

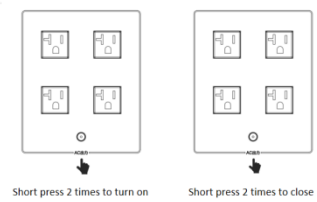


4.6 Use of uninterruptible power supply

- ASAGAO system has UPS function. When AC socket is connected to mains power supply (AC power comes from power grid instead of battery), ASAGAO acts as bridge function. Power grid supplies power to load through bypass relay, and can charge ASAGAO battery at the same time. When the battery is fully charged, charging will automatically terminate.
- When a power failure occurs, the battery output will automatically start to continue to supply power to the electrical equipment. The switching time of the battery power supply is only 10 milliseconds, which ensures uninterrupted power supply to the consumer.

4.7 Smart Drive

- When the load power is greater than the rated output power, the intelligent drive mode will start! When ASAGAO recognizes that the power required by the load is greater than the rated output power, it can still supply power to the load. So that you can use more types of electrical appliances, so that you can get an extraordinary experience!
- This product starts the intelligent drive function by default.
- Manual on: Press AC ON/OFF twice to turn on and off.

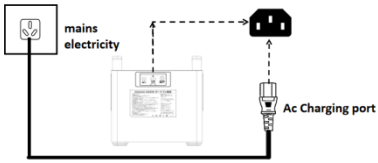


- When using the smart drive function, please note the following:
  1) This product cannot be connected to the grid for power generation.
  2) Smart drive mode is not available in the charging state.
  3) Intelligent drive mode is designed for resistive load, suitable for heating equipment, not for all electrical appliances, recommended to use heating electrical equipment, such as hair dryer, electric kettle, electric heater, electric saw, induction cooker and other equipment. Some appliances with voltage protection (e.g. precision instruments, etc.) are not suitable for intelligent drive mode.

4.8 AC, on-board, solar charging

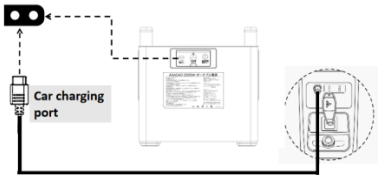
AC charging

The inverter has the function of bidirectional current conversion, which can output AC power or charge the battery with mains power. See the figure below for connection mode.



Car charging

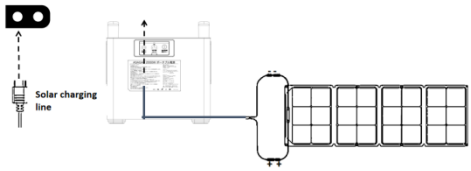
You can use the cigarette lighter on the car to charge this product, the connection is shown in the figure below. It is necessary to use the car charger after the car is ignited to avoid the failure of the car battery to start. At the same time, please make sure that the cigarette lighter plug of the car cigarette lighter and the car charger input line are in good contact. The Company shall not be liable for any loss caused by non-compliance with the standard operation.



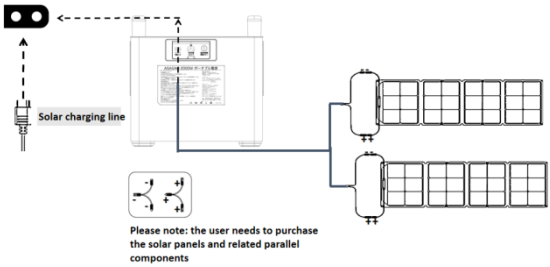
solar charging

Users can use their own channels to purchase universal solar panels with MC4 interface standard to power ASAGAO, as long as the voltage and current (10-36V 10A MAX) meet the requirements of ASAGAO can power ASAGAO. Please pay attention to the connection sequence of the positive and negative poles at the interface. The wrong connection will cause the risk of damage to the equipment.

1) Schematic diagram of solar charging monolithic board connection



2) Schematic diagram of parallel connection of 2 solar charging boards



05 fault and maintenance

5.1 Troubleshooting

The display will show the reason for the protection of the equipment by means of different icons and combinations.

icon	failure analysis	Solution
	Battery charging overvoltage	Input arrow icon flashes, battery charging overvoltage, disconnect charging, automatic recovery.
	Charging high temperature protection	The input arrow icon and the high temperature icon flash together. Please cool the battery properly and then restore the power supply.

	Charging low temperature protection	The input arrow icon and the low temperature icon flash together. Please heat up the battery properly and then restore the power supply.
	high temperature protection	Output arrow icon and high temperature icon flash together. Please wait for the battery to cool down before resuming power supply.
	discharge low temperature protection	The output arrow icon and the low temperature icon flash together. Please put it in a warm place and the battery can be restored after heating up.
OverLoad	Charging overload protection	During the charging process, the input arrow icon and the OVERLOAD icon flash together. Pull out the plug, restart the machine, and then re-insert it. If this problem still exists, please contact us through the after-sales service center.
OverLoad	discharge overload protection	During discharge output, the output arrow icon and OVERLOAD icon flash together. Pull out the electrical appliance and restart the machine to recover. The electrical appliance must be used within the rated power.
OverLoad	USB overload protection	The USB output port icon and OVERLOAD icon flash together. After pulling out the appliance, it can automatically resume operation after 10 seconds.
	Communication between main control board and AC fails	The parallel operation icon flashes. If the machine is restarted, please contact us through the after-sales service center.
OverLoad	Inverter output overload	AC icon, OVERLOAD icon flashing, 10 seconds after the restart ON/OFF can be restored, please note that the electrical appliances must be guaranteed to use within the rated power.
	Inverter over-temperature protection	AC icon, high temperature icon flashes, after the interface cools down, turn on the AC ON/OFF switch again, and the operation can be automatically resumed. If there is no recovery, please contact us through the after-sales service center.

Car OverLoad	DC output overload	The Car icon and the OVERLOAD icon flash together, and the machine can be restarted to recover. If there is no recovery, please contact us through the after-sales service center.
	DC high temperature protection	Photovoltaic charging icon and high temperature icon flash, and can be restored to normal use after the interface cools down.
	fan	The fan icon is always on, check whether the fan is stuck by foreign matter, and restart the machine to recover. If there is no recovery, please contact us through the after-sales service center.
TIME TO EMPTY	battery undervoltage	The TIME TO ENPTY icon and the AC icon flash at the same time, which means that the battery enters the first-level undervoltage alarm, and the AC will stop outputting. Please charge the battery in time.
TIME TO EMPTY	Battery secondary undervoltage	TIME TO ENPTY icon and PD icon flash at the same time, which means that the battery enters into Level II undervoltage alarm, PD/DC12V stops output, please charge the battery in time.
TIME TO EMPTY	Battery undervoltage protection	The TIME TO ENPTY icon and USB icon flash at the same time, which means that the battery enters undervoltage protection. All ports (including AC/DC/USB) stop outputting. Please charge the battery in time.
F01.	Inverter BUS soft start failure	
F02.	Inverter output short circuit fault	
F03.	Inverter BUS undervoltage fault	

F04.	Inverter BUS overvoltage fault	The output voltage shows the fault icon, there are two solutions: 1 No operation is required. After waiting for five minutes, it will return to normal. 2. Press and hold the main power supply to shut down, wait for one minute and then start again, then it will return to normal. If the problem still cannot be solved, please contact us through the after-sales service center.
F05.	Inverter BUS short circuit fault	
F06.	Inverter output overcurrent fault	
F07.	Overhigh DC component fault of inverter	
F08.	Over-temperature fault of inverter	
F09.	Inverter discharge overcurrent fault	
F10.	Inverter charging overcurrent fault	
F11.	Inverter current sensor fault	
F12.	Over-undervoltage/over-under frequency fault of inverter output	

F13.	AC load short circuit	The output voltage displays the fault icon: 1. Unplug the AC load and wait five minutes before returning to normal. 2. Unplug the AC load, press the power button POWER button to force the shutdown, wait for one minute and then start, and then return to normal. If the problem still cannot be solved, please contact us through the after-sales service center.
F14.	Inverter mains relay fault	The output voltage shows the fault icon, there are two solutions: 1 No operation is required. After waiting for five minutes, it will return to normal. 2. Press and hold the main power supply to shut down, wait for one minute and then start again, then it will return to normal. If the problem still cannot be solved, please contact us through the after-sales service center.
F15.	Inverter fan fault	
F16.	Inverter DSP and main control MCU communication fault	

5.2 maintenance

maintenance item	maintenance cycle
Clean the enclosure and output (including:DC output/AC socket/USB output port)	Three months.
Battery charge and discharge once, discharge to 20% power off after the full charge.	Three months.

06 Technical parameters

basic parameter

Model	Singo 2000		Singo2000 Pro	
Battery Input	110V	230V	110V	230V
Capacity	1440Wh(48V/40Ah)	1440Wh(48V/40Ah)	1920Wh(48V/40Ah)	1920Wh(48V/40Ah)
Battery type	Lithium iron phosphate battery			
Battery cycle life（@25℃，1C discharge）	2000			
weight	17Kg		20.5Kg	
size (W * H * D)(mm)	380*280*220			
Cooling mode	forced air cooling			
Operating temperature range	0～40℃（charging），-15～40℃（discharge）			
Operating relative humidity	0～95%，noncondensing			
waterproof grade	IP20			
noise	＜65dB			
Input Specification				
AC Charge Input	1200W Max/90～140V AC 60Hz	1200W Max/180～270V AC 50Hz	1500W Max/90～140V AC 60Hz	1500W Max/180～270V AC 50Hz
PV Charge Input	500W Max 10～50V DC/10A			
DC Charge	240W Max/12～24V dC /10A			

Input				
Output specification				
Max Total Output Power	2000W			
USB-A Output （×1）	5V/2.4A 12W			
USB-A QC Output（×2 ）	Each port（5V/9V/12V）2.4A,Total：56W			
USB-C PD Output（×2 ）	Each port（5V/9V/12V）3A,20V/5A,100W,Total：200W			
AC Output（×4）	110V AC/60Hz,Total：2000W	230V AC/50Hz,Total：2000W	110V AC/60Hz,Total：2000W	230V AC/50Hz,Total：2000W
DC Output	13.2/10A DC Power socket/5525（（×2）Total：132W			
Other functions				
LED lamp	3W			

FCC Warnning:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection againstharmful interference in a residential installation. This equipment generates, uses and can radiateradio frequency energy and, if not installed and used in accordance with the instructions, maycause harmful interference to radio communications. However, there is no guarantee thatinterference will not occur in a particular installation. If this equipment does cause harmfulinterference to radio or television reception, which can be determined by turning the equipmentoff and on, the user is encouraged to try to correct the interference by one or more of thefollowing measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1)This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.