

PORTABLE POWER STATION

OPS Series User Manual



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I.Precautions For Use

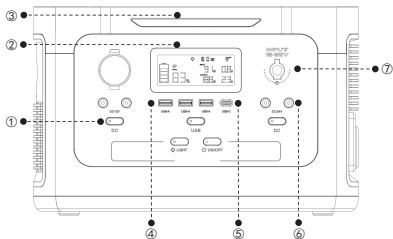
This manual records the important safety matters for correct use and maintenance of portable energy storage equipment to prevent personal injury or property loss to users and others. Please read the text on the basis of fully understanding the following contents (signs and icons), and be sure to observe the safety precautions recorded

In case of product damage, property loss and personal injury caused by non-compliance with the regulations, the manufacturer will not bear any legal liability. Do not use accessories not provided or recommended by the original manufacturer. You must strictly follow the guidelines to install and use the product, otherwise you cannot obtain free after-sales support. This guidance document contains instructions on safety, operation and maintenance. Be sure to read the user manual carefully!

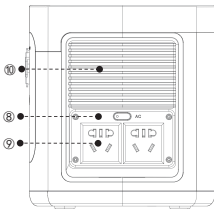
- Keep the equipment clean, dry, away from high temperature areas, and away from ignition sources.
- Do not shake the equipment greatly when handling, prevent personal injury caused by falling.
- Please place the equipment on a solid surface for use.
- Children, people who lack physical, sensory and mental abilities, and adults who do not understand the contents of this manual are not allowed to operate this product.
- Please recycle and discard products according to local laws and regulations.
- Do not disassemble, puncture or drop the product in any way, and do not expose the output interface for short circuit and other non-standard operations. The equipment must be changed or repaired by the manufacturer, maintenance department or professionals.
- The equipment must be changed or repaired by the manufacturer, maintenance department or professionals.
- Under certain circumstances, in order to protect the safety of the system and maintain the life of the battery pack, the device will automatically shut down, sleep and disconnect the output.
- If the device has not been started for more than 3 months, please charge and discharge the product once according to the charger within the specified parameter range.
- Do not touch the leaking battery. The leaking electrolyte will cause skin discomfort. If the electrolyte enters the eyes, please wash them with clean water as soon as possible. Do not rub the eyes, and go to the hospital quickly.
- If there is dirt on the machine interface, clean it with a dry cloth. Otherwise, it will cause poor contact, which will cause energy loss or failure to charge and discharge.

II. OPS Function Introduction

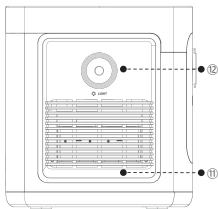
Front View



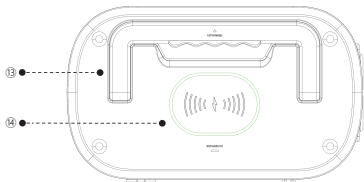
Side Right View



Left Side View



Vertical View



①	DC-12V Control button,(Cigarette lighter*1, DC output*2),DC-12V output indicator light
②	LCD display
③	Adjustable LED light
④	Fast Charge USB-A port*3
⑤	Fast Charge USB-C port*1
⑥	DC-24V Control button, DC output*2, DC-24V output indicator light
⑦	Foldable Solar Panel, adaptor, Cigarette lighter input interface
⑧	AC output control button, AC output indicator
⑨	220VAC output socket*2
⑩	Cooling fan ventilation cooling hole
⑪	Air inlet passage
⑫	Dimmable Spotlights & Rescue Lights
⑬	Handle
⑭	Wireless charging

● A. About DC12V output, (Cigarette lighter*1, DC output*2),DC-12V output indicator light

Press the switch button of DC 12V, when the DC12 is displayed on the screen, it means the output function has been started.

Press the DC12V button again, when the DC12V indicator icon disappears, it means the function off.

Press the switch button of DC 12V, then 12V DC output is started, 13.6V DC can be output from cigarette lighter output port and two DC5525 output ports. The maximum current is 10A, and the maximum output of the cigarette lighter is 120W, which can be used for general on-board electrical appliances.

If the car battery is out of power and cannot be ignited, you can charge the car's lead-acid battery for 10 minutes and then try to start the car.

(Note: It needs to be operated under the guidance of professionals. If the undervoltage of the car battery is too serious, this method is not applicable)

● B. About USB output (USB-A*3 output ,USB-C*1 output)

Press the switch button of USB output, when USB and TYPE-C indicator icons are displayed on the screen, it means USB-A and USB-C have started the output function.

Press the USB output switch again. When the USB and TYPE-C indicators disappear on the screen, it means USB-A and USB-C have turned off the output function;

After startup, USB-A * 3 port (18W * 3) can charge various devices, such as iPhone, tablet, speaker and other devices that use USB-A port for charging.

USB-C * 1 (60W), USB-C can charge MacBook Pro, Android phone and any other device using USB-C.

● C. About DC24V output (DC5525 *2) , DC24V output indicator light

Press the switch button of DC24V, when the icon of DC24V on the screen lights up, it means that the output function has been started.

Press the switch button of DC24V again. When the indicator light of DC24V goes out and the icon of DC24V disappears on the screen, it means that the output function has been turned off.

Two DC5521 output ports will output 24V DC. It supports a maximum output of 100W, which is used by 24V equipment within 100W.

● D. About LED light

Press the switch button of Light, and the front side lamp will light up.

When pressed a second time, the lamp on the left side will turn on.

Press the third time, the lamp and the spotlight will be on at the same time. Double click the key to enter SOS status;

Press the fourth time to turn off the light.

All lights have 8 levels of different brightness that can be adjusted (except SOS). Icons with different brightness will also be displayed on the screen. The brightness level adjusted this time will be remembered when the machine is turned off.

(LED lamp is 1W~3W)

● E. Explanation of main power switch and screen icon

Click the button ON/OFF to turn the system on or off

When the system is started, long press the power button to switch between environmental protection mode and sports mode. (Please refer to other pages for mode details)

In the environmental protection mode:

After 2 minutes without any operation, the display screen will automatically shut down, the power indicator will flash slowly, and the system will enter the sleep mode. If the sleep mode lasts for more than one hour, the system will automatically shut down and stop running.

In the motion mode:

When the machine does not perform any operation, the display remains open, and the power indicator remains on. When the machine does not perform any operation, the system will automatically shut down after more than 1 hour, and the machine will stop running.

● F. Input port

OPS Series Charging Support:

Support 12V~26V DC charging, maximum 100W~150W. When the voltage is different, the adapter will automatically adjust the input power of the voltage.

Support 18V/60W~120W solar panel charging and MPPT function.

Note: Please use a standard adapter to charge the device, and do not use a bad adapter or an excess voltage adapter to charge the device.

● G. 2个220V AC output port

Charge devices with 220V voltage, such as laptops, electric guitars, televisions, mini refrigerators, vacuum cleaners, etc.

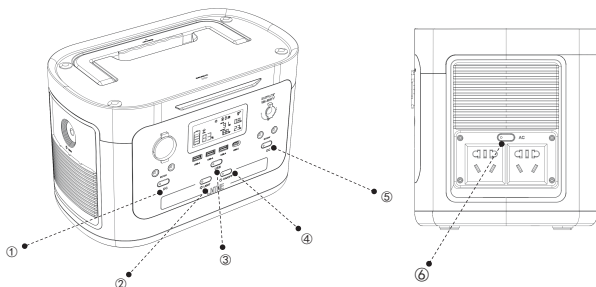
Resistive (heating) appliances above the rated power can also be used with reduced power, and those below 1500W can be used (not all excess appliances can be used, please test before using, so as not to affect your work)

●H. Wireless charging

15W wireless charging supports wireless charging of most mobile phones on the market;
When charging wirelessly, the 'Wireless' icon will be displayed on the screen

Support 5V/1.35A 9V/1.45A 9V/1.6A 9V/2A MAX:15W ,

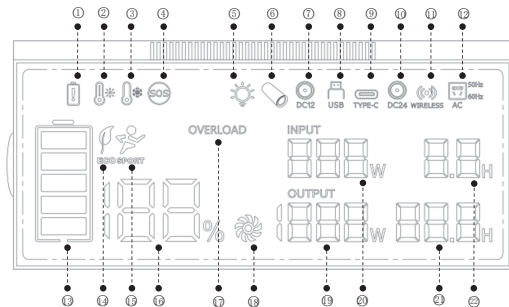
III.Function Of Buttons



Buttons	Operation Function Description
① DC12 Button	I.Click to turn on/off DC12V output function.
② LIGHT Button	I.Click once to turn on the front side lights. II.Click once again to switch the left spotlight. III.Click again to turn on the front side lamp and the left side spot lamp at the same time IV.Double click to switch SOS mode. V.Long press to adjust the brightness, with a total of eight brightness levels (except SOS mode)
③ USB Button	I.Click to turn USB-A/C output function on/off;
④ ON/OFF Button	I.Click Power On/Off. II.Long press the power button after power on to switch between environmental protection mode and sports mode.

	III. In the environmental protection mode : After 2 minutes without any operation, the display screen will automatically shut down, the power indicator will flash slowly, and the system will enter the sleep mode. If the sleep mode lasts for more than one hour, the system will automatically shut down and stop running. IV. In the motion mode : When the machine does not perform any operation, the display remains open, and the power indicator remains on. When the machine does not perform any operation, the system will automatically shut down after more than 1 hour, and the machine will stop running.
⑤ DC24 Button	I. Click to turn on/off DC24V output function.
⑥ AC Button	I. Click to turn on/off 110V/220V AC output function. II. When it is turned on, long press the AC button to switch 50Hz/60Hz frequency. Most devices support 50Hz~60Hz frequency power supply.

IV. LCD Display Explanation



Number		Icons explanation	Details
①		High and low voltage alarm icon	When the battery voltage is too low, the icon will flash
②		High temperature alarm icon	When the device is in a high temperature environment or the battery temperature is too high during operation, the icon will flash. And the system will start the protection mode to avoid damage to the equipment.
③		Low temperature alarm icon	When the ambient temperature of the equipment is too low, the icon will flash for warning. Corresponding control measures will be taken for the charging and discharging system to avoid damage to the equipment.
④		SOS display icon	This icon will light up when the system is in SOS international distress status.
⑤		Lighting display icon	When the lighting lamp is started, this icon will light up. When the lamp is off, the icon is off.
⑥		Spotlight display icon	When the spotlight is started, this icon will light up. When the spotlight is off, the icon is off. When SOS is on, this icon will flash with the light on or off.
⑦		DC-12V output display icon	Turn on the DC12V switch, and the icon will light up. Turn off the DC12V switch, and the icon goes out.
⑧		USB-A output display icon	When USB-A is output, this icon is on. When USB-A output is off, this icon goes out.
⑨		USB-C output display icon	When USB-C is output, this icon is on. When USB-C output is off, this icon goes out.
⑩		DC-24V output display icon	When DC-24V is output, this icon is on. When DC-24V output is off, this icon goes out.
⑪		Wireless Charging display icon	When the wireless output supplies power to the device, this icon will light up. When the wireless power supply to the device is stopped, the icon goes out.

12		AC output display icon	When the AC inverter is started, this icon will light up. When the AC inverter is turned off, the icon goes out. Long press the AC button to switch the frequency.
13		Battery electric power display	0.It means that the remaining power is 0% 1.It means that the remaining power is 1~20% 2.It means that the remaining power is 21~40% 3.It means that the remaining power is 41%~60% 4.It means that the remaining power is 61~80% It means that the remaining power is 81%~100%
14		Eco mode icon	When the system is in the environmental protection mode, this icon will light up. In the environmental protection mode, the system will control the battery power. The battery life can be longer if the equipment usually operated in the environmental protection mode.
15		Sport mode icon	In sports mode, the system will optimize the battery power. And make the battery in the optimal state for output.
16		Battery charge percentage display	Displays the percentage of battery.
17		Short circuit, over power, signal error, etc. icons for safety tips	The display icon is always on when the device is in error. When the DC/USB/AC port is over powered or short circuited, the icon will light up for 6 seconds. In addition, the system will take corresponding protective measures against equipment damage.
18		Cooling fan display icon	When the inverter is started, the cooling fan will start automatically. The speed of the fan will vary according to the temperature when the equipment is running.
19		Output power display	Display the total power output by the system. The unit of measurement is W.
20		Input power display	When the device is connected to an adapter, solar panel or vehicle charging line, the screen will display the current output power. When the device is not charged, the screen will display the battery temperature.

21		Duration of remaining power available	When the device is outputting, the system will automatically calculate how long the battery can be used after the device is fully charged according to the current output power of the device. 1.0H means 1 hour, 0.1 means 6 minutes.
22		Time required for full charge	When the device is charging, the system will automatically calculate the time required for full charge according to the input power. 1.0H stands for 1 hour; 0.1 represents 6 minutes;

VI.ECO & SPORT Mode Explanation

ECO Mode Output

When operating in the environmental protection mode, the system will control the battery according to the ambient temperature, greatly protecting the battery health and improving the battery life.

SPORT Mode Output

When the equipment is running in motion mode, the system will output energy at the highest power within the safe range.

Most inverters on the market can only use electrical appliances with rated power. Once they exceed the rated power, they will automatically cut off power due to overload protection, which makes such electrical appliances unusable.

However, when this AC inverter uses electrical appliances with rated power below 1500W, the power failure of overload protection will not occur, so customers do not need to purchase large capacity energy storage machines to reduce costs.

Note: Some devices with strict requirements on voltage and current do not support SPORT mode.

It is applicable to equipment like electric kettle, coffee maker, hair dryer, induction cooker, etc. that operates by heating.

OPS600W: The maximum power of the device shall not exceed 1300W in the motion mode.

OPS800W: The maximum power of the equipment shall not exceed 1500W in the motion mode.

OPS1000W: The maximum power of the equipment shall not exceed 1800W in the motion mode.

VII. Technical Performance Parameters

Specifications			
Model	Battery Capacity(±2%)	Net weight	Ah
OPS600W	519Wh/140400mAh	6.5kg	23.4Ah
OPS800W	732Wh/198000mAh	7.2kg	33.0Ah
OPS1000W	923Wh/249600mAh	8.2kg	41.6Ah
Executive Standards	Q/LN 001-2021 UN38.3 FCC ROHS CE PSE		

Output	
DC12V output	Max 13.6V Cigarette lighter: x 1 : dc/10A Max power: 120W DC5525 x 2 : Max Dc/5A
USB output	USB-A(x3) 5V/3A, 9V/2A, 12V/1.5A
	USB-C(x1) 5V/9V/12V/15V/20V/3A
DC24V output	Max 24.6V DC5525 x 2: dc/4A Total output: 100W
WIRELESS	5V/1.0A 7.5V/1A 9V/1.12A 9V/1.66A MAX:15W. As per Qi agreement.
OPS600-AC	ECO (max:500W) SPORT(max:600W) MAX(1300W) Full sine wave (non motion mode)
OPS800-AC	ECO (max:700W) SPORT(max:800W) MAX(1500W) Full sine wave (non motion mode)
OPS1000-AC	ECO (max:1000W) SPORT(max:1100W) MAX(1800W) Full sine wave (non motion mode)
LED	2W

Input		
OPS600-AC Adapter	24V/100W,(support 12V~26V)/4A	Charging time of standard adapter: 5H~6H
OPS800-AC Adapter	24V/120W,(support 12V~26V)/5A	Charging time of standard adapter: 5H~6H
OPS1000-AC Adapter	24V/150W,(support 12V~26V)/6.25A	Charging time of standard adapter: 6H~7H
Solar Panel	18V dc support 60W~ 120W solar panel.	
Car charger	12V dc/5A MAX 70W 24V dc/MAX 100~150W	

Battery	
Battery Type	Lithium Battery
Discharge Temperature	-18-60°C ±3°C
Charging Temperature	0-45°C ±3°C
Shelf Placement Time	1 year (full power state)
Battery Cycle Life	800 cycles of charging and discharging (80%).
Management System	BMS, overvoltage, overcurrent, short circuit, overcharge, overdischarge and other multi-level protection.
Size	32cm x 20.5cm x 18.7cm

VIII.Frequently Asked Questions

Application scenario	Outdoor activities: photography, video shooting, VR shooting, unmanned aerial vehicles, computers, car refrigerators, water boiling, cooking and other living electricity needs. Outdoor work: electric soldering iron, cutting machine, electric rotor, surveying and mapping exploration and other engineering power demand. Fishing enthusiasts: mobile phones, water bottles, lighting, leisure and entertainment, etc.
Equipment running time	If the power of the equipment used is 100W and the product capacity is 500WH, the power consumption time is about $500W/100W * 85\%$. The calculation result will also be displayed on the display.
How to use solar panels	Just connect the solar adapter connector on the machine. When the solar panel is used for charging, the battery icon on the screen will flash, which is somewhat different from charging with the adapter. Pay attention to adjusting the light angle of the solar panel to absorb more solar power.
Precautions during charging	The device will be automatically managed when charging, and will automatically power off when fully charged to ensure the safety of the device.
Charging precautions when the temperature is too high	The device has an intelligent management system, which will only allow charging and starting when it is safe, otherwise the device will start the automatic protection function.

Service life of equipment	The system will automatically calculate the service life of the equipment and make records. When the battery life decreases, the system will automatically adjust the output power.
Meaning of battery display icon	When the device is not charged, the current battery temperature and automatic shutdown time will be displayed on the screen.
Does it support filling while placing?	All OPS series products support discharging while charging.
About Waterproofing	Not waterproof! Always use it in a dry and ventilated environment.
About Auto Stop Output	Under different operating environments, the device will constantly adjust the output power according to the environment and the current operating conditions of the device, so as to achieve the best performance of the battery and extend the battery life.
About Input Power Display	When the device is not charged, the charging input power will automatically switch to the battery temperature display to control the device temperature in real time.
Meaning of the power icon when not charged	When the device is not charged and is not output, the remaining charging time on the screen will change to the device's automatic shutdown time. When the equipment is not in use, it will automatically shut down.

What these icons mean when they flash 	If these icons flash during operation. It means that the output is overloaded, overcurrent, or short circuited, and the system will automatically disconnect the output to ensure that the equipment is not damaged. Overload, overcurrent and short circuit belong to destructive tests, which cannot be operated continuously for more than 3 seconds. Frequent use of overloaded electrical appliances or poor operation will cause damage to equipment performance.
Meaning of Sun icon flashing	When the device uses the solar panel for charging, since the adapter and solar panel are the same interface, the system may fail to identify, and then unplug and reconnect to re identify successfully.
Meaning of fault code: LL	It indicates that the charging input voltage is too low, the system has self-protection, and can be recovered by unplugging the charging head.
Meaning of fault code: AA	It indicates that the charging input is over-current, and the system has self-protection. It can be recovered by unplugging the charging head.
Meaning of fault code: CM	The device will automatically display when it is turned on. If it is always on, the reconnection will disappear. If it cannot be eliminated and the charging is abnormal, please apply for the original factory to repair it.

When the system prompts that the battery temperature is outside - 18~60 °C	Disable output.
When the system prompts that the battery temperature is outside 0~45 °C	In this case, the device will perform automatic protection mode when charging, and the optimal charging temperature of the device is 20 °C~30 °C, which can greatly extend the service life of the battery.
About carrying products on the plane	It is not allowed to carry this machine on board.
About all icons on the screen at the same time	If the equipment is not used according to the specification, which causes abnormal power failure of the equipment, the equipment will automatically re detect for 30 seconds, and the keys are invalid during the equipment detection.
Other functions	Press and hold the DC24V button, release it after hearing the prompt tone, and the screen will display the number of battery uses. When the device is not charged, the display will show the battery temperature.

Packaging Instructions

Accessories	Number
Machine	1
User Manual	1

DC Charging Line	1
Color box (Containing pearl cotton)	1
Warranty Card	1
Adapters (adapters of different sizes are delivered according to different models)	1

X.Product Transportation, Storage And Maintenance

Product transportation, storage and maintenance	
Transportation	Power off is required for transportation
Storage	Please store the equipment in a dry place to avoid direct contact with water.To prolong the battery life, please keep the battery power at 30%~50%, then turn off the power and store it at a safe storage temperature.
Maintenance	Please use a dry non abrasive cloth to clean the machine surface and try to avoid dust entering the equipment.

