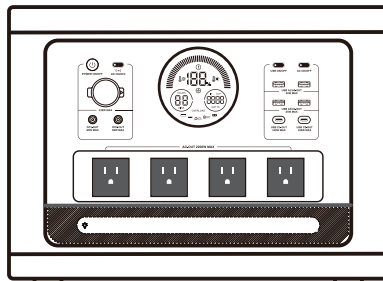


LESSO

Portable Energy Storage

P20 Pro



PRODUCT OPERATION GUIDE

Introduction

Before First Unpacking

The service life of this product is 1 years, and it's battery is able to support at least 1000 deep charge and discharge. Before first using this product or if you need to store it for a long time, please fully charge this product. For more tips and tricks to keep your battery healthy, see precautions for battery.

If you need to store this product for a long time, please fully charge it every 3 months and store it in a cool, dry place. If the above steps are not followed and the battery consequently is damaged, the product warranty will be invalid.

Safe Use Instructions

1. Never allow the product to contact any liquid, and do not immerse the product into water or make it wet. Never use the machine in rain or humid environment, or it may cause spontaneous combustion of the battery, or even cause explosion.
2. Use of unofficial parts is strictly prohibited. If replacement is needed, please contact the dealer for purchase. Any product incidents or malfunctions caused by the use of unofficial parts resulting in loss, will not be the responsibility of the manufacturer.
3. It may result in dangers when the temperature of product is over high (Above 60°C). If the temperature is too low (Below -10°C), performance of the product will be seriously degraded, or even the requirements of normal use may not be met, These product can be used normally after room temperatures restored.
4. Do not use the machine in the environment of strong static electricity or magnetic field, otherwise it may work abnormally. For example, some protective functions of the machine may fail, resulting in a serious failure of the machine.
5. Never disassemble or pierce the product with sharp objects in any way. Otherwise, it will cause product failure, fire or even explosion.
6. In order to ensure your personal safety, do not use the machine again after it is strongly dropped or is hit by external force.
7. If the product accidentally falls into water during use, place it in a safe open area and stay away from the product until it is completely dry. The dried product shall not be used again and shall be disposed of properly in accordance with local regulations. If a fire occurs in the product, it is recommended to use the fire extinguishing equipment as shown in the following order: Sand, fire blanket, dry powder extinguishing agent, carbon dioxide extinguisher.
8. Do not place the machine in a microwave oven or pressure cooker.
9. Do not use wires or other metal objects to cause short circuit of the product.
10. Do not impact the machine, and do not place any heavy objects on the machine to cause deformation of the product.
11. If there is any dirt on socket of the machine, please use a piece of dry cloth to clean it. Otherwise, it will cause poor contact, which results in energy loss or failure to charge.

12. The product shall be stored in a dry and ventilated place.

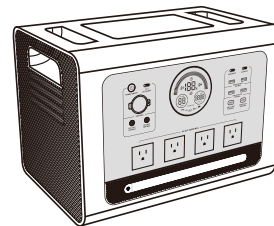
13. In humid environment (E.g. seaside and waterside environment, etc.), it is recommended to use it together with a moisture-proof bag to avoid it being soaked in water. If any water is found inside the product, do not use/turn on the product again, please take anti-electric shock measures before touching the product, immediately put it in a safe and waterproof open area, and immediately contact the local distributor and customer service for treatment.

14. It is not recommended to power personal safety-related medical emergency equipment by this product, including but not limited to hospital version CPAP (Continuous Positive Airway Pressure), ECMO (Extracorporeal Membrane Oxygenation), etc. In addition, a home version CPAP is intended for use in a home environment and can be used normally without continuous professional monitoring. Follow your doctor's advice and consult the manufacturer for restrictions on the use of the device. If it is used to power the general medical equipment, be sure to pay attention to the power condition to ensure that the power does not run out.

15. Power products will inevitably generate electromagnetic fields during use, which may affect the normal operation of implanted medical devices or personal medical devices, such as pacemaker, implanted cochlear, hearing-aid, defibrillator, etc. If any of these medical devices are used, please consult the manufacturer about the restrictions on their use to ensure that the product is working at a safe distance from implanted medical devices.(Such as pacemaker, implanted cochlear, hearing-aid, defibrillator, etc.)

16. The power source is connected to the load of the refrigerator in the conventional mode, which may automatically shut down the power source due to the fluctuating power properties of the refrigerator. When this power source is connected to the refrigerator used for storing drugs, vaccines or other high-value items, the user shall pay attention to the power on/off state and power loss.

Packing List



2200w×1



Instruction Manual×1



Ac Input Cable×1



Car Input Cable×1

Product Specifications

Product name: Portable Energy Storage
Output power: 2200W
Battery capacity: 43.2V; 51Ah; 2203.2Wh
Product weight: ≈21kg
Working temperature: 0~40°C (Charging)/-10~40°C (Discharging)

Product model: P20 Pro
Product volume: 420.00×288.00×303.00mm
Noise volume: 42.0dB Max

Charging Mode: Solar Input: Supports solar input of 18 and 36V, and can simultaneously charge by two XT60 ports (Max 400W+Max 400W) which can be fully charged in about 4~5 hours. (When the input power of a single port exceeds 400W, it may trigger the protection system of the product. Please select a solar panel that meets the specifications to charge,) Car Charging Input: Charged by an XT60 port.

(Max200W). AC Input: The device can be fully charged in about 1.67 hours by AC input that is transferring by bidirectional inverter.

LED Function: Medium lightness - high lightness - SOS - flashing - off (5-mode cycle).

HMI Display: Battery power progress bar, battery power percentage, battery alarm, charging/discharging power, remaining charging/discharging working time, port connection indicator, high/low temperature alarm, overload warning, and fan state.

USB-A Output(x4): 5V≈3A; 9V≈2.6A; 12V≈2A, 24W Max. Two ports shared 24W Max, four ports shared maximum 48W Max (Protocols supported: Apple2.4A; QC2.0/3.0; FCP; AFC; DCP; SCP)

USB-C Output(x2): 5V≈3A; 9V≈3A; 12V≈3A, 15V≈3A, 20V≈5A, 100W Max. (Protocols supported: Apple2.4A; PPS; PD3.0/2.0; QC4.0+/4.0/3.0/2.0; AFC; FCP; Low-voltage SCP/high-voltage SCP; PE2.0/1.1; SFCP)

AC Output (x4): Total 2200W



Wireless Charging Output: 15W Max Protocol supported: Qi)

Car Output: 13.2V≈10A, 132W Max


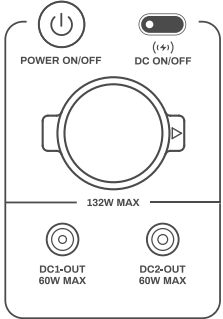
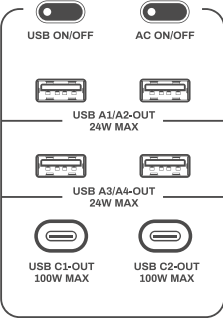
DC Output (5525x2): 13.2V≈5A

Car Output + DC Output (5525x2): 132W Max

Input Port Description

	<p>AC Input Socket: 110V single-phase input, L/N two-wire system. AC Input Voltage: 100V~120V/60Hz. Rated Input Power: 1800W.</p>
	<p>XT60 Input Port: DC input. Input Voltage Range: DC 11~46V (Rated: 18V/36V). Input Current Range: 12A Max (Rated: 11.2A). Rated Input Power: If using a solar panel with a rated voltage of 18V, the rated input for a single port is 200W. If using a rated voltage of 36V, the rated input for a single port is 400W.</p>

Output Port Description

	<p>AC Output Socket: Four electrical circuits with 110V AC uniphase output L/N two-wire system. AC Output Voltage: 110V/60Hz. Rated Output Power: Rated 2200W. Output No-load Test: After the output power is less than 5W for 60 min, the AC output is turned off.</p>
	<p>Car Output Port: 12V DC output. Output Voltage Range: 12.5V~13.8V (Rated: 13.2V) Max.DC current: 10A. Full-load Output Power: 132W.</p> <p>Wireless Charging Area: 5V≈1A; 12V≈1.25A output. Output Voltage Range: 5V~12V Socket Protocol Supported: Qi.</p> <p>DC 5525 Output Port: Two 5525 interfaces share power with the cigarette lighter socket, with a total power 132W Max. Output Voltage Range: 12.5V~13.8V. Rated Output Voltage: 13.2V.</p>
	<p>USB-A Output Port: 2 interfaces share 24W, while 4 interfaces share Max 48W. Output Voltage Range: 4.75V~5.25V; 8.55V~9.45V; 11.4V~12.6V. Socket Protocols Supported: Apple2.4A; QC2.0/3.0; FCP; AFC; DCP; SCP.</p> <p>USB-C Output Port: 100W Max (Single port independent). Output Voltage Range: 4.75V~5.25V; 8.55V~9.45V; 11.4V~12.6V; 14.25V~15.75V; 19V~21V Socket Protocols Supported: Apple2.4A; PPS; PD3.0/2.0; QC4.0+/4.0/3.0/2.0; AFC; FCP; Low-voltage SCP/high-voltage SCP; PE2.0/1.1; SFCP.</p>

Description of Product Features

Front view

Control switch for DC output/Wireless output

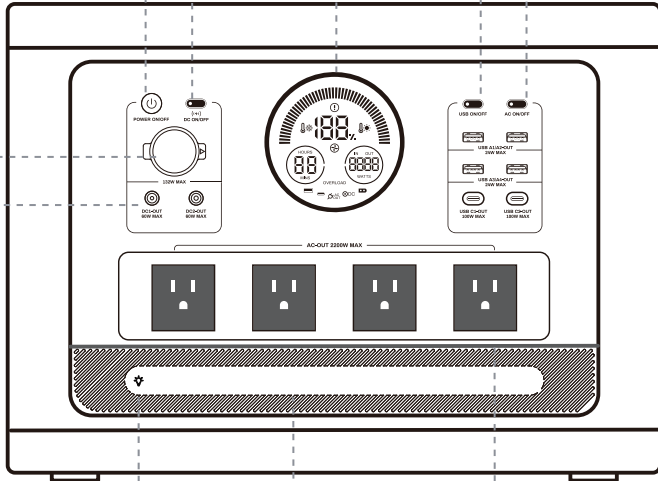
Power button

DC car output port

Display screen

USB output control switch

AC output control switch



LED light switch

DC 5525 output port

LED light

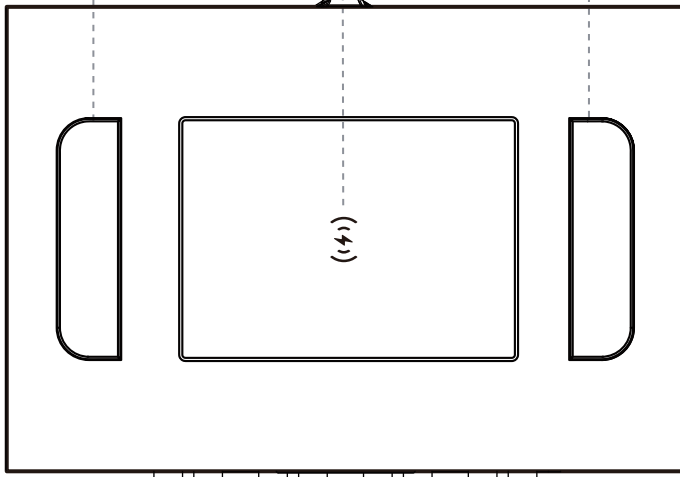
AC output Port

Top view

Handle

Wireless charging panel

Handle

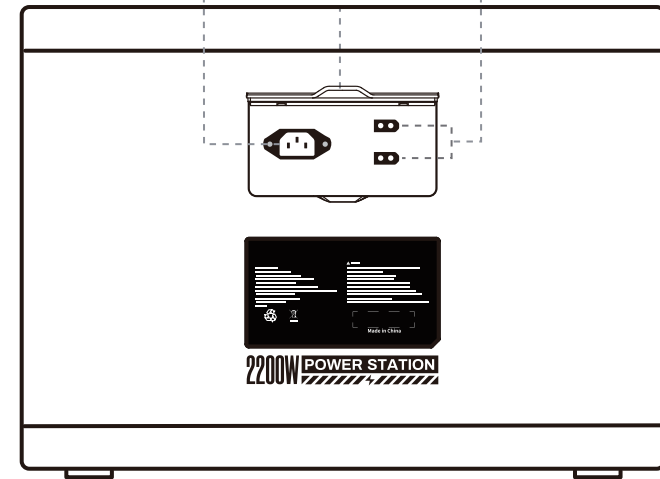


Rear view

AC input socket

Cover

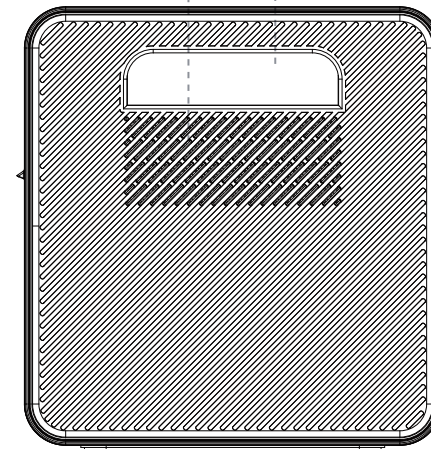
XT60 input port



Side view

Heat dissipation hole

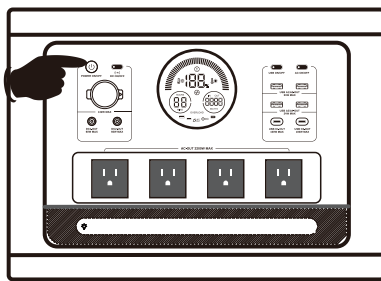
Handle



Button Operation

1. Power On/Off

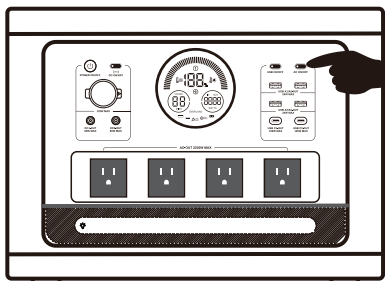
When the switch is pressed and held for 3s in power-off state, the device shall be turned on, the key indicator light shall be on, and the device shall enter the charging and discharging operation at this time.



2. AC On/Off

Short press once: AC output is enabled, and indicator light of this button is on.

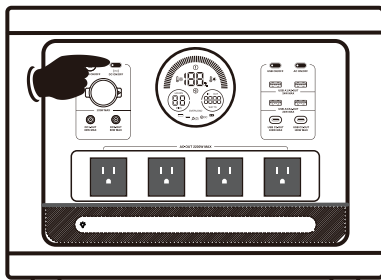
Short press again: AC output is disabled, and indicator light of this button is off.



3. DC On/Off

Short press once: DC output port is enabled, and indicator light of this button is on.

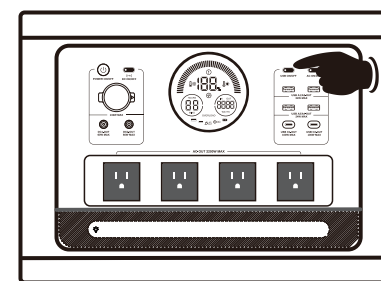
Short press again: DC output port and wireless charging output are disabled, and indicator light of this button is off.



4. USB On/Off

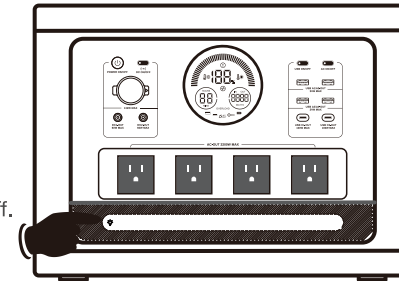
Short press once: USB port output is enabled, and indicator light of this button is on.

Short press again: USB port output is disabled, and indicator light of this button is off.

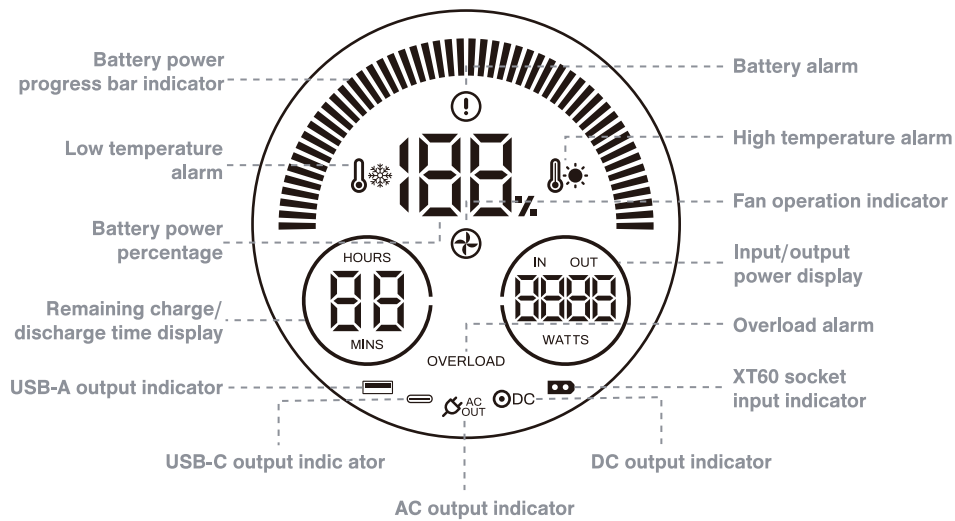


5. LED Light (On state of this product)

Short press once: The LED light is on.
When the LED light switch is pressed shortly the LED light will work in an order of medium brightness - high brightness - SOS - flashing - off.



Display Function Description



Energy-Saving Status Description

Front panel display sleeping mechanism: If no operation is done within 3min, the display will be turned off, and you can turn on it again by pressing any button.

AC sleeping mechanism: If the load is continuously below 5W or no load is detected within 60min, the load output will be automatically turned off.

DC sleeping mechanism: If the load is continuously below 2W or no load is detected within 120min, the load output will be automatically turned off.

USB sleeping mechanism: If the load is continuously below 2W or no load is detected within 120min, the load output will be automatically turned off.

General sleeping mechanism: After the outputs are not turned on again within 90min after being turned off, the product will be automatically powered off.

Port Indicator Description






	USB-A output indicator	This icon will be on when the USB output control switch is turned on.
	USB-C output indicator	This icon will be on when the USB output control switch is turned on.
	AC output indicator	This icon will be on when the AC output control switch is turned on.
	DC output indicator	This icon will be on when the DC/wireless output control switch is turned on.
	XT60 socket input indicator	This icon will be on when the solar panel or car output port is used for input.

* If no power output is detected after connection, check whether the port is improperly connected.

Digital Indicator Function Description

	Battery power progress bar indicator	The battery power progress bar is indicated by a total of 50 segments, each of which indicates 2% of the battery capacity. The progress bar will light up from the first segment to the last segment when charging and cycle repeatedly; The last segment of the battery power progressbar will flash when discharging.
	Battery power percentage	Percentage of remaining power during charging or discharging.
	Remaining charge/discharge time display	The time required to fully charge during charging, and the service time of remaining power during discharging. When HOURS is on, it indicates the remaining hours. When MINS is on, it indicates that the remaining time is less than 1 hour.
	Input/output power display (Power meter)	The current input/output power of the device is displayed. Input state: IN above the digit's will blink. Output state: OUT above the digit's will be always on. Pass-through charging state: When the input voltage is higher than the output voltage, the letters IN will light up; When the output voltage is higher than the input voltage, the letters OUT will light up. The power display shows the larger value between the current input and output.

Protection Prompt Description

	Battery alarm	When the battery alarm icon blinks, it indicates that the battery is seriously faulty and buzzes. Do not charge or discharge the device again.
	Low temperature alarm	When the low temperature alarm icon blinks, please check whether the ambient temperature is lower than -10°C and use the device in an environment ranging from -10°C~40°C.
	High temperature alarm	When the high temperature alarm icon blinks, please check whether the ambient temperature exceeds 40°C and use the device in an environment ranging from -10°C~40°C. In addition, check whether air outlet of the product is blocked by dust or the cooling system is faulty.
	Fan operation indicator	When the fan icon blinks, the heat dissipation system of the device is starting.
OVERLOAD	Overload alarm	When the overload icon is on, please check whether the power of the powered device exceeds the max. rated power of this product.
	Fault code (Power meter)	if the power meter displays fault codes E01~E80, the device fails to protect itself or start up. Please restart it again.

* If you still encounter other problems that you cannot solve during use, please contact your local dealer or our customer service. Please do not repair without permission or perform any operation that may void the warranty service.

Precautions

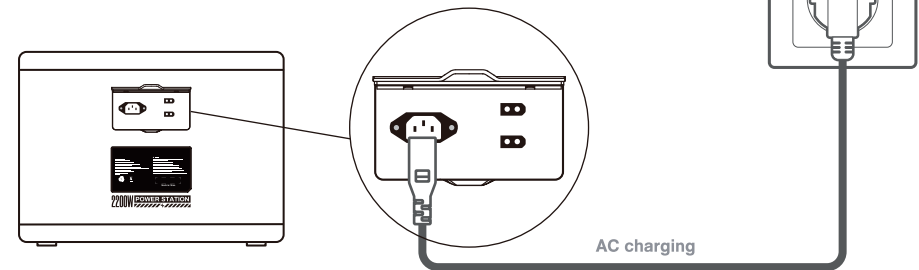
1. Please notice the displayed output power when using this product to charge other devices.
2. When powering a high-power device (Such as a microwave oven), the battery power will drop very quickly and may not be able to support output. Although this product is equipped with a high-efficiency inverter, there is still some energy lost in inversion, and therefore the battery fails to get the full rated capacity.
3. If this product fails to power other devices, you may need to check the power requirements of other devices, see the following Frequently Asked Questions for details.

Charging The Product

AC Charging

1. When charging with the charging cable in the accessories, current battery power is indicated by the battery power progress bar, the flashing battery segments indicate that the battery is being charged, and the power meter displays the charging power.
2. When fully charged, all the progress bar battery segments will be always on.

* When AC charging, this product does not support AC output.



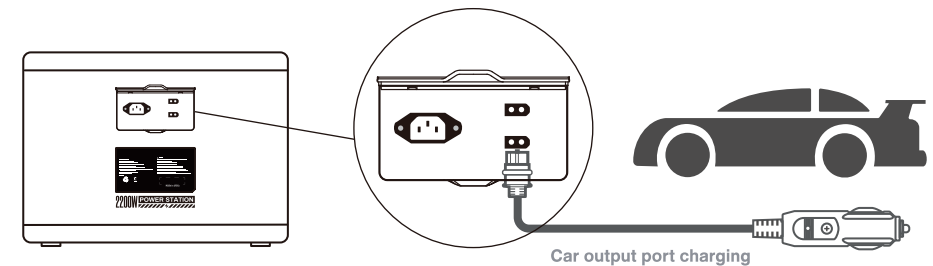
Charging voltage: 100~120V/60Hz
Charging port: 120V single-phase input, L/N two-wire system

Charging power: 1800W Max
Charging time: About 1.67 hours to be fully charged

Car Charger Charging

The port on the product that connects the car output is an XT60 port (For SOLAR/CAR INPUT)

1. When charging with the car output port charging cable in the accessories, current battery power is indicated by the battery power progress bar, the flashing battery segments indicate that the battery is being charged, and the power meter displays the charging power.
2. When fully charged, all the progress bar battery segments will be always on.



Charging port: XT60 port
Charging power: Rated 200 W (The actual application is affected by on-board output.)

PV Charging

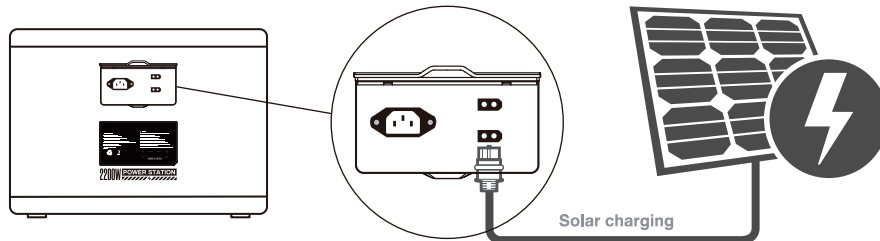


Warning

When using solar panels to charge this product, please note that the output voltage in the solar panel specifications is 11~46V DC and the total output power is within 400W. Charging this product with solar panels that do not meet specifications may cause serious damage to it.

The port on the product that connects the solar output is an XT60 port (For SOLAR/CAR INPUT).

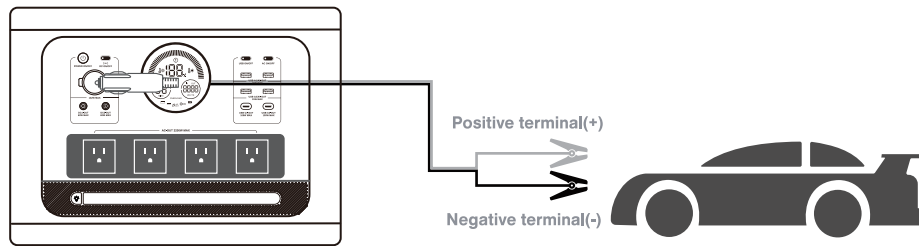
1. When charging, please expose solar panels to more direct sunlight.
2. During charging, the battery power progress bar on the display screen displays the current battery power, and the blinking battery segments indicate that the battery is being charged. When fully charged, all battery segments remain on.
3. If necessary, low-power solar panels can be connected in series and parallel to charge this product provided that the voltage and total power shall be within right specification ranges.



Car Emergency Charging Operation

Car emergency start procedure

1. Clip the red clip to the positive terminal (+) of the car battery and the black clip to the negative terminal (-).
2. Plug the other end of the emergency start cord to the car output port of this product and charge for about 10min.
3. Before starting the car, unplug the emergency start cord and remove the red and black clips.
4. Start the car engine as usual.



* This emergency start connection cable needs to be purchased separately.

FAQS

Q. What type of battery is used in this product?

A. It uses high-quality lithium-ion battery.

Q. How does I check the current battery power of this product?

A. You can press any key to light up the display screen and find the battery icon. The number of battery segments in the icon indicates the current battery power, this product can be used even if it is not fully charged.

Q. Can I carry this product on the plane?

A. No, you can't.

Q. How does I know if it is compatible with my electrical device?

A. Firstly, you need to determine the rated power of your electrical device. This may require you to read the instruction manual of the electrical device. Second, you need to check the max rated power of output ports in this product. For example, 2200W power supply is available for the port of this product under the control of inverter.

Q. How to store the product?

A. Before storing, please turn off the product first, and then store it in a dry, ventilated place at room temperature. Do not place it near water sources. For long-term storage, please discharge the battery to 30% and recharge it to 60% every three months to extend its battery life.

FCC Warning



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 under sired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limit s for a Class B digital device, pursuant to part 15 of the FCC Rules. These limit s are designed to provide reasonable protection against harmful interference in a, The equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following 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.

To maintain compliance with FCC's RF Exposure guidelines, The equipment should be installed and operated with minimum distance between 20cm the radiator your body: Use only the supplied antenna.

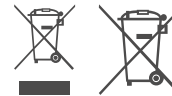
Declaration of Toxic and Hazardous Substances in Electronic Information Products

Part name	Hazardous substance or element					
	Pb	Hg	Cd	Cr(VI)	PBB	PBDE
PCB	X	o	o	o	o	o
Electrode	o	o	o	o	o	o
Battery	X	o	o	o	o	o
Enclosure	o	o	o	o	o	o

This form is prepared in accordance with the ROHS certification standard.

O: Indicate that the amount of the toxic and hazardous substance in all homogeneous materials of the part is below the limit specified in EN 62321:2012.

X: Indicate that the amount of the toxic or hazardous substance in at least one homogeneous material of the part exceeds the limit specified in EN 62321:2012.



This device shall not be disposed of together with ordinary wastes but must be recycled. This symbol indicates that this product shall not be treated as house hold waste, but must be handed over to the corresponding waste recycling station for recycling of electronic and electrical devices.



Warning Please strictly follow the operation instructions and precautions, otherwise it may cause fire, electric shock, damage or other injuries.

Product Qualification Certificate

Certificate of Quality

Quality Inspector: _____

Production Date: _____

The product is tested by our quality control and quality assurance department, is in line with the product standards and specified technical requirements and is ready to be shipped.

* Product qualification certificate: This certificate indicates that the product has passed the inspection

Warranty Card

Warranty period

The warranty period of the product is 1 year. This is calculated from the date of purchase; the consumer needs to provide the sales receipt for the first purchase as proof in order to determine the start date of the warranty period.

Warranty policy

We will provide warranty service for performance failures of products used normally by consumers within the warranty period. If the product is damaged due to improper use by consumers. The maintenance fee shall be properly charged.

Non-warranty regulations

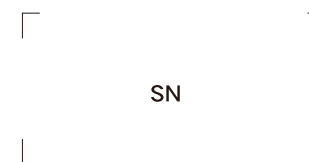
1. The product exceeds the warranty period specified by the Comp any.
2. Damage caused by unauthorized repair and unauthorized modification.
3. The original serial number label of the product is altered or forged.
4. Performance damage caused by improper storage, such as product being exposed to abnormal humidity and temperature for a long time.
5. Damage caused by artificial abuse and misuse without following the operation manual.
6. Exterior damage caused by abnormal use, damage due to man-made collision, damage caused by force majeure.

How to obtain warranty service

If an end user needs repair within the warranty scope, LESSO will cover the freight of the product using its designated Courier. If the product is transported by other couriers other than those designated by LESSO, the freight will be borne by the user. The user is responsible for paying for external repairs made after the expiration of the warranty period, round-trip freight, and maintenance.

- ①. Contact LESSO energy storage after-sales personnel to provide the following information: product model, product number (SN), order number, invoice information and reasons for non-conformity, as well as relevant photos and video files;
- ②. Help LESSO energy storage after-sales personnel troubleshoot it. If the problem cannot be resolved or fails to meet the provisions of this agreement, LESSO Energy Storage will arrange for the repair of the product;
- ③. After the product has been repaired, the warranty period will be subject to the original period specified in the contract;
- ④. After-sales service contact: +86 757 2338 4828;
- ⑤. E-mail: energy@lessosolar.com;
- ⑥. Address: Daba Industrial Park, Longjiang Town, Shunde District, Foshan City, Guangdong Province.

Please note that this one-year warranty is a voluntary manufacturer's warranty and the legal warranty period for the product may vary depending on your location. This one-year warranty provides rights in addition and separate to, not instead of, legal statutory rights of consumers provided by applicable law, including but not limited to those relating to non-conforming goods, and it does not exclude, limit or suspend a consumer's rights arising from applicable law. Please consult the laws of your country for a full understanding of your rights.



SN

LESSO

Guangdong Lesso Energy Storage Technology Company Limited

Contact Information: +86 757 2338 4828

E-mail: energy@lessosolar.com

ADD: Daba Industrial Area, Longjiang Town, Foshan City, Guangdong Province



Made In China