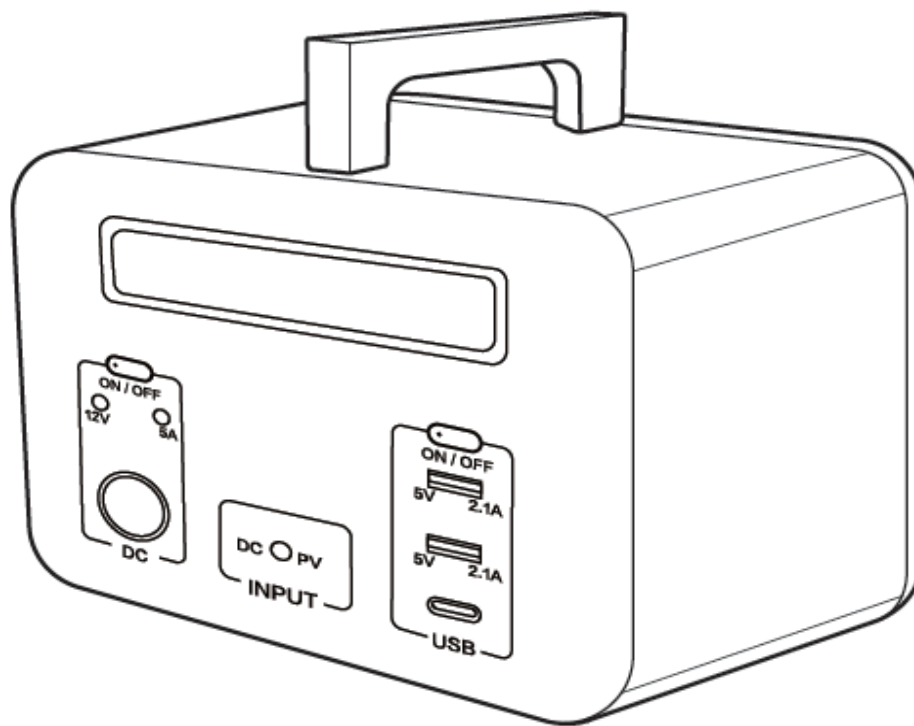


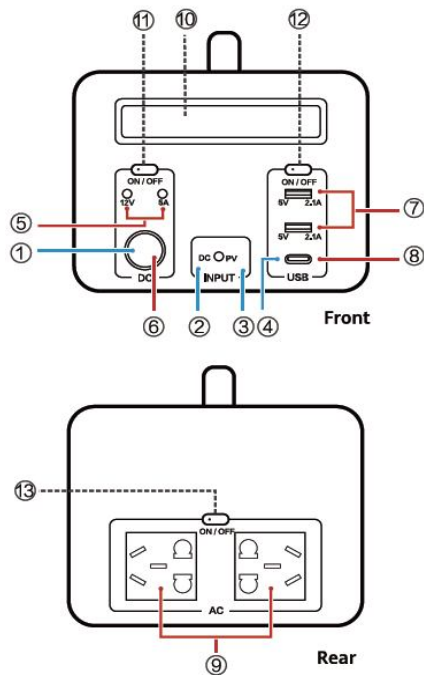
# Portable Power station

User Manual

PB-MN500W



## Overview



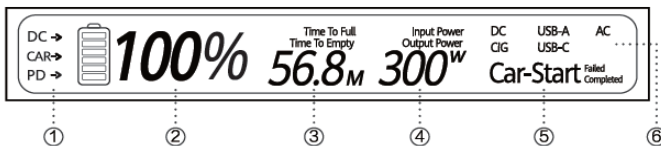
- Input**
- ① Car charging
  - ② DC charging
  - ③ PV charging
  - ④ Type-C charging
- Connects to grid power over the adapter and power cables
- Connects to PV panels over PV power cables.

- Output**
- ⑤ 12 V/5 A DC output
  - ⑥ Car charger output
  - ⑦ USB output
  - ⑧ Type-C output
  - ⑨ AC output

- ⑩ LED screen
- ⑪ DC output button
- ⑫ USB output button
- ⑬ AC output button

- Press and hold a button for about 1 to 2 seconds to turn on or off the output.
- Press the DC output button for two times, the Car-Start indicator will blink on the screen, and you can charge the car battery.
- Press a lit button for 3–5 seconds to power off the product.

## LED Screen Description



LED Indicator Icon	Description
①	DC indicates charging with an adapter or a solar panel, CAR indicates charging with a car charging port, PD indicates charging with Type-C.
②	State of charge (SOC) percentage.
③	Time To Full indicates the remaining time to a full charge. Time To Empty indicates the remaining time to a complete discharge.
④	Input Power indicates the input power. Output Power indicates the output power.
⑤	Car-Start indicates that the car battery is being charged. Car-Start Failed indicates that battery charging has failed. Car-Start Completed indicates that battery charging is completed.
⑥	DC indicates DC output, CIG indicates car charging output, USB-A indicates USB-A output, USB-C indicates Type-C output, and AC indicates 220V AC output.

## Technical Specifications

Item		Specifications
Backup power capacity		532.8Wh
Dimensions		194.8mm×210mm×180.9mm
Weight		Approx. 5.4kg
IP rating		IP20
Charge operating temperature		0~40℃（32~104 ℃）
Discharge operating temperature		-10~45℃（14~113℉）
Storage temperature		-20~45℃（-4~113 ℉）
Input	DC charging	20V=5A    MAX 100W
	PV charging	17.5-24VDC    MAX 120W（MPPT）
	Type-C charging	5V/9V/12V/20V=3A    MAX PD60W Supports the PD3.0 protocol
	Charging with a car charger	12.6-15V    MAX 100W
Output	AC output	Pure sine wave 300W, 220V/50Hz/60Hz
	USB output	USB x 2, 5V=2.1A
	Type-C output	5V/9V/12V/20V=3A    MAX PD60W Supports the PD3.0 protocol.
	DC output	DC（5521 plug）x 2, 12.6V=5A
	Car charger output	12.6V    MAX 10A

## FAQs

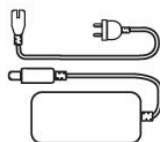
- ① Is the product safe without using a fan for heat dissipation?  
The product uses high-frequency resonance technology to halve heat emissions, and the alloy enclosure facilitates heat dissipation, making it quieter and safer without a fan.
- ② How long can the product be stored?  
The product can be stored for 6–12 months if it has a SOC of 50%. You are advised to charge and activate it every three months.
- ③ How long does it take to fully charge the product?  
  - If you use mains/solar power, car charger, and Type-C charging at the same time, the product will be fully charged in at least 3 hours.
  - If you use mains power, the product will be fully charged in approximately 6.5 hours.
  - If you use a car charger, the product will be fully charged in approximately 8.5 hours.
  - If you use Type-C charging, the product will be fully charged in approximately 10.5 hours.
  - If you use solar power from a 120 W solar panel under 750 W/m<sup>2</sup> or equivalent light intensity, the product will be fully charged in approximately 6 hours.

The preceding data is laboratory test data and is for reference only.
- ④ Can I charge the product with both solar power and a car charger?  
Yes. The charging duration will be halved.
- ⑤ Can the product discharge (for the output purpose) while charging?  
Yes. When the output power is greater than the charging power, the SOC gradually decreases and the output is turned off when the SOC decreases to the lower threshold.
- ⑥ Is the product equipped with temperature protection?  
The product is protected when the temperature is 45°C during charging or 60°C during discharging.
- ⑦ Will the product shut down automatically?  
The product automatically shuts down after deep discharging. However, in normal cases, it does not shut down automatically to ensure continuous power supply.
- ⑧ What about the engine displacements of cars startable by the product?  
The product charges the car battery to start the car. Cars using the 12 V system are supported, and there is no limitation on engine displacement.
- ⑨ What does SUS mean when it is displayed on the screen?  
If SUS is displayed on the screen, the charging temperature is too high or too low and the product cannot be charged.

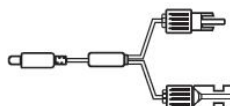
## Packing List



Power supply



Adapter and power cable (approx. 2 m)



PV transfer cable (approx. 1 m)



User manual

## Warnings and Precautions

### Usage Guide

- The product is set in accordance with local voltage standards before delivery. Before purchasing and using the product, consult your dealer or refer to the product user manual.
- Do not use a product with obvious damage. Do not use damaged wires or plugs to connect to the product, which may cause electric shock.
- Charge with the original adapter to avoid fire, explosion or other hazards.
- Select a solar panel based on the electrical parameters specified by the manufacturer. Voltages above the specified range may damage the product.
- View the specifications of the electrical equipment or consult the distributor of the electrical equipment before use. The startup power of some electrical equipment (capacitive or resistive load) may be more than three times the rated working power of the electrical equipment. Avoid product failures caused by excessive startup power of the electrical.
- To avoid unnecessary power consumption, power off the product immediately after using it. (When the AC output button is on, there is a self-loss of about 10 W, which continuously consumes battery power, resulting in a waste of battery power.)

### Operating Environment

- When the altitude is less than 2000 m, the product can operate with rated power. When the altitude is between 2000 m and 4000 m, you are advised to derate the product power by more than 50%.
- Keep the product dry. Do not use the product in dusty, damp, or dirty places to avoid internal circuit faults.
- Do not use this product during thunderstorms. Thunderstorms may cause product failure or electric shock hazard.
- Do not use the product in an environment with strong static electricity or magnetic fields. Otherwise, some protection functions of the product may fail and the product may fail.
- Do not place the product near heat sources or exposed fire sources, such as electric heaters, microwave ovens, baking ovens, water heaters, stoves, candles, or other places that may cause high temperatures.
- Use the product in the range of 0°C to 45°C. The product may fail if operating beyond this range.

### Children Safety

- This product and its accessories may contain small parts. Keep the product and its accessories out of reach of children. Children may inadvertently damage this product and its accessories, or swallow small parts, causing suffocation or other hazards. Children or persons with intellectual disability should be accompanied by a guardian to use this product.

### Product Safety

- The AC output of the product is 220 V. Do not insert your hand or metal conductors into the AC sockets.
- Do not short-circuit the positive and negative terminals of each output port.
- Do not disassemble or modify the product, insert foreign object into the product, or immerse it in water or other liquids to avoid leakage, overheating, fire, or explosion.
- If the product smells or heats up abnormally during charging or storage, stop charging immediately and place it in a safe open area. Do not use it again. After confirming that it is safe, contact the manufacturer or dealer.
- This product is equipped with a non-removable built-in battery. Do not replace the battery by yourself to avoid damage to the battery or the product, which may cause fire, explosion or other hazards.
- Do not drop, squeeze, or puncture the product. Avoid exposing the product to excessive external pressure, which can cause internal short circuit and overheating.
- If the product falls into water accidentally during use, place it in a safe open area and do not use it again.

### Storage and Transportation

- Storage or transportation of products should be kept dry. Protect from rain, water, and severe vibration.
- Do not place the product in a high temperature environment (more than 45°C) or near a fire source.
- It is prohibited to store or transport the product with keys, metal ornaments, or other metal objects.
- In the case of long-term storage (more than 3 months), the capacity cannot be lower than 50%. If stored for more than 6 months, charge and discharge the product 1–2 times to extend the battery life.

### Recycling

- Dispose of the product according to local regulations. Do not dispose of the product as domestic waste. Improper disposal of the product may result in explosion. Comply with local ordinances governing the handling of this product and its accessories and support recycling actions.



## Troubleshooting

Symptom	Solution
The product fails to start. The DC, USB, and AC ports have not output.	<ol style="list-style-type: none"><li>(1) Remove all the electrical equipment, charge the product for 5–10 minutes, and then start it again.</li><li>(2) Ensure that the product is used in the normal temperature range.</li></ol>
The product can be started, but the corresponding output ports (DC, USB, and AC) have no output.	<ol style="list-style-type: none"><li>(1) Check whether the SOC of the product is too low. If so, charge it in time.</li><li>(2) Check whether the output power of the electrical equipment is higher than that of the product. Remove the equipment and start the product again.</li><li>(3) Check whether the output of the product meets the power requirements of the electrical equipment.</li><li>(4) Check whether there is a short circuit between the output port and the electric equipment. Remove the equipment and restart the product.</li><li>(5) Connect the equipment to another power supply and check whether it works properly. The product may not be compatible with certain equipment.</li></ol>
The product is shut down accidentally during use.	<p>The product is shut down because the internal protection system starts due to events such as overcharge, overdischarge, high temperature, low temperature, overcurrent, and short circuit.</p> <p>To quickly resolve the problem, remove all the electrical equipment, keep the product in the normal temperature range, and charge it for 5–10 minutes. Also check whether the electrical equipment is faulty. Then start the product again.</p>
The product fails to charge.	<p>Check whether the charging electrical parameters are within the charging range of the product.</p> <p>Check whether temperature protection is triggered for the current equipment because the temperature is too high or too low.</p>