

Multi-application - LiFePO4 Power

CE UE-1250N-T500W

Issued Date > 2017-06-28

Issued Version > V00

PORTABLE POWER STATION



1. General Information

The portable solar power station is all-in-one system, combining the solar controller, inverter, lithium ion batteries and BMS. It is developed for power shortage remote mountain area, health care, agriculture and animal husbandry, military, outdoor camping, scientific investigation and disaster emergency applications, etc. It is simple operation and convenient carrying, it could be used for household and office appliances, electrical equipment in public place and rescue stations, including television, audio, electronic games, lighting, fans, laptops and mobile phone, etc.

2. Product Structure Diagram



1. Handle
2. Front door cover
3. Status indicators
4. Capacity indicators
5. DC charge ports
6. Solar charge ports
7. AC adapter charge port
8. DC 12V car cigarette lighter ports
9. DC 12V output ports DC12V
10. DC 12 output ports DC12V
11. AC 220V output socket
12. 12V battery car engine start port
13. Dual DC 5V output ports
14. Power switch
15. AC output control button
16. DC output control button
17. Communication interface



3. Product Structure Description

Handle

Easy to carry.

Front door cover

Please close the door cover when not in use to prevent water and dust.

Status indicators

The light is blinking green when charging the product. The light is green when the system is running. The light is orange when using the engine starting function. The light is red when the system fails.

Capacity indicators

The five lights means the capacity of battery. One light means 20% of original capacity, two lights mean 40% of original capacity, in turn, followed lights means 60%, 80% and 100% of original capacity.

DC charge port

Charging the products after the car engine starting. Please connect the car charge cable (which comes with the product) to car cigarette lighter port and this charge port, the product could be charged when starting the car.

Solar charge port

This port is for charging this product by solar panel. Please well note the positive and negative when connecting of solar panel.

AC adapter charge port

When this product is charged by AC charge, please connect the special AC adapter (which comes with the product) to this port to charge the product.

DC 12V car cigarette lighter port

This port is mainly used for powering DC 12V car refrigerator.

DC 12V Output ports

This port is connected to DC12V low power LED lighting.

AC 220V Output socket

When using 220V electric appliances, connect the input plug of electric appliance into this socket.

12V battery car engine starts port

When the car can not be started due to low power of car battery, you can use this port to help 12V battery car start engine.

Dual USB DC5V output ports

The output voltage of this port is DC 5V, it is used for digital products, such as, mobile phone, and so on.

Power switch

Control the operation or shutdown of the system. This system could be charged normally when this switch is off.

AC output control button

This button controls the output and turn off of 220V AC power. Press this button to turn on the AC output, press once more to turn off the AC output.

DC output control button

This button controls the output and turn off of DC 12V and DC 5. Press this button to turn on the output of DC 12V and DC 5V, press once more to turn off.

Communication interface

This interface communicates with computer via RS485.



4. Specification (@Initial temperature 25±5°C)

NO.	Item	Criteria
4.1	Nominal Capacity	50Ah
4.2	DC Charge	Voltage: 13.5V-18V Current: 5A
4.3	Solar Charge	Voltage: 18V Current: <10A
4.4	AC Adapter Charge	Voltage: 13.5V Current: 6A
4.5	AC Output	Max. Continue Output Power: 400W/500W Output Voltage: AC220V±10% Output Waveform: Pure sine wave Output Frequency: 50Hz
4.6	DC12V Output	Output Voltage: DC12V±5% Max. Output Current (Imax): 8A
4.7	USB DC5V Output	Output Voltage: DC5V±5% Max. Output Current (Imax): 2A
4.8	Overheating Protection	>65°C
4.9	Automobile Emergency Start	12V battery car engine start
4.10	Heat-Dissipating Method	Air cooling
4.11	Heat-dissipating Method	Charging over current protection, low-voltage protection, over-voltage protection, overload protection, short circuit protection, overheating protection
4.12	Dimension	38.5cm*28cm*15cm
4.13	Weight	9.2Kg
4.14	Operating Temperature Range	-10°C~45°C
4.15	Storage Temperature Range	0°C~45°C
4.16	Enclosure Protection Class	Close position: IP55 Working position: IP30



5. BMS Management System

Over current protection

Status indicator light is red when charging current is greater than 10A.

Low-voltage protection

When the battery voltage is lower than 9.2V, BMS automatically close all output function, status indicator light turns red. You need to turn off the switch, and then turn on the switch to make the product recover to normal.

Over-voltage protection

When the battery voltage exceeds 12.5V, BMS automatically close all input.

Overload protection

When output power or start power of device is too large, BMS automatically turn off the device, status indicator light turns red. You need to turn off the switch, and then turn on the switch to make the product recover to normal.

Short circuit protection

When AC output protection, BMS automatically turn off the device, until the next boot after 5 seconds delay, the AC output start up automatically; When DC output protection, BMS automatically turn off the device, green light turns red, until the next boot after 15 seconds delay, the DC output start up manually (Note: make sure the load is without short circuit, and then turn on the product).

Overheating protection

When internal temperature is over 149°F or 65°C, BMS automatically turn off the device, status indicator light turns red. You need to turn off the switch, and then turn on the switch to make the product recover to normal.

6. Warning

Please read the following content carefully before using this product, because it will damage this product and the related electrical equipment if operated improperly or used this product with unmatched electricity equipment. Please check whether the power and voltage of electric equipment is suitable for this product before using.

- Please use required voltage or the built-in adaptor of this product to charge when you adopt AC charge. It is forbidden to charge by unmatched voltage or make a short circuit when charging.
- It is forbidden to touch the internal metal of OUTPUT or make the short-circuit of output artificially.
- It is forbidden to connect the AC output of this product with grid.
- Do not shower or immerse the product into water; It should be placed in a cool and dry environment when not in use.
- It is forbidden to put this product into fire, heater or hot heat source.
- It is prohibited to knock or throw the product.
- It is prohibited to use the product in places of strong static electricity and strong magnetic. Otherwise, it will damage the safety protection device of the product.
- This product has perfect protection function, but please be careful when used and try to avoid wrong connections and short circuit operation to prevent accidental damage.
- Non-professional personnel shall not open the products and remove parts, otherwise it's at your risk.
- Due to the large output power of this product, the large load plug or short circuit may cause a slight spark in the output state, so it is forbidden to use the product under the environment of flammable and explosive gas.

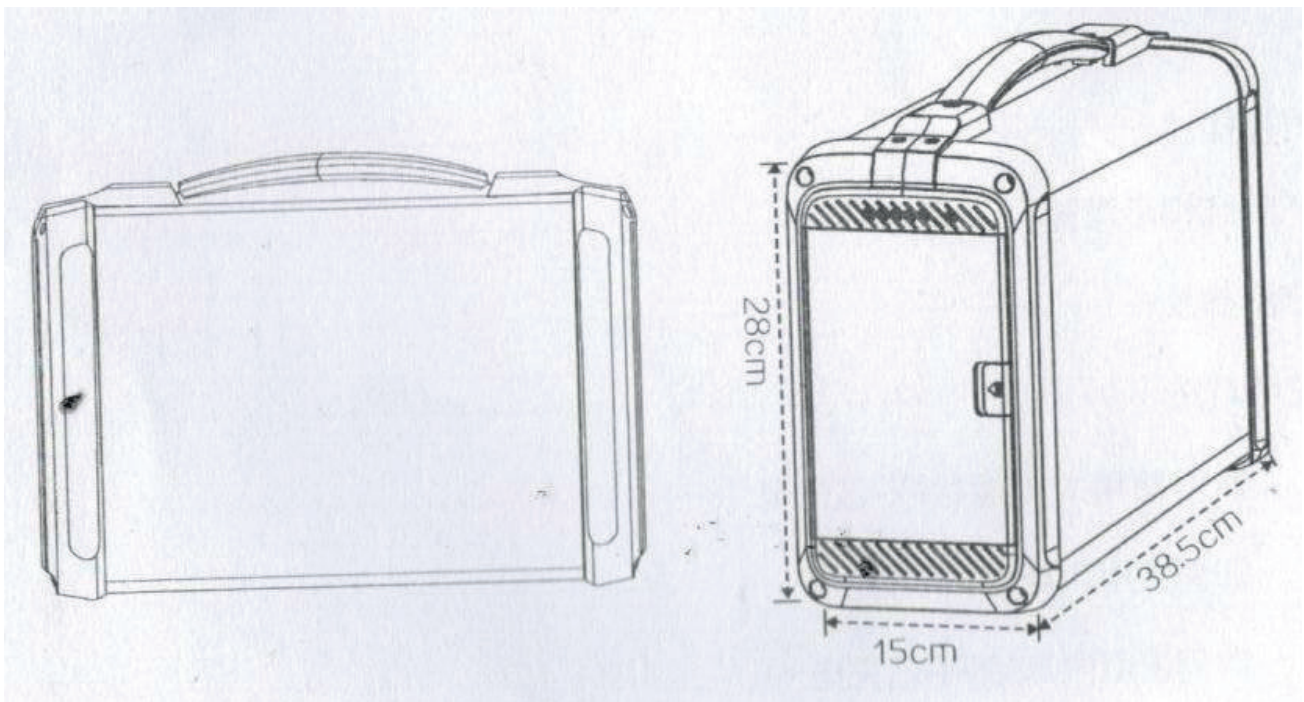


- When using the car engine start function, it is prohibited to connect the red clip with black clip or inverse the positive and negative electrode of car battery by conductive metal in the process of operation, to prevent the danger of short circuit of battery.
- Please turn off the power switch when it is inconvenient to use this product for a long time. Please charge the equipment periodically (within three months) to prevent the battery aging.
- The AC output of this product is standard 220V sine wave voltage, it must be treated carefully and avoid electric shock.

7. Working Environment

- This product should be used in a dry, clean and ventilated environment.
- Avoid using under the environment of exposure, heat, rain, damp, dust and fog.
- It is prohibited to use in the environment of flammable and explosive atmosphere to guard against flames and sparks.
- Applicable to external environment temperature $-10^{\circ}\text{C}\sim 45^{\circ}\text{C}$.
- Air relative humidity is not more than 85% ($25^{\circ}\text{C}\pm 5^{\circ}\text{C}$).

8. Dimensional Drawing



9. Storage & Transportation

- Battery should be stayed in the warehouse $-20^{\circ}\text{C} \sim 35^{\circ}\text{C}$ where it's dry, clean, shade and well-ventilated.
- The battery should be stored in 50% SOC during transportation.
- The battery need to be charged every 6 months if out of use.
- Keep the battery against dropping, turning over and serious stacking during loading.



10. Warning & Tips

Please read and follow the specification and caution remarks on battery surface before use the battery. Improper use may cause heat, fire, rupture, damage or capacity deterioration of the battery. MASTER BATTERY, S.L. describes is not responsible for any accidents caused by the usage without following our specification.

- The battery must be far away from heat source, high voltage, and avoid to be exposed in sunshine for long time.
- Never throw the battery into water.
- Do not put the battery in a charger or equipment with wrong terminals connected.
- Never connect the positive and negative of battery with metal.
- Avoid excessive physical shock or vibration. don't hit, fall, stamp on the battery.
- Without the permission of the manufacturer and guidance, forbidden to remove or to assemble the battery.
- Do not mix the battery with different types or different models or from other manufacturers.
- Keep the battery against high temperature. Otherwise it will cause battery heat, get into fire or lose some function and reduce the life.
- When battery run out of power, please charge your battery timely (≤ 15 day).
- Please use the matched or suggested charger for this battery.
- If battery emit peculiar smell, heating, distortion or appear any abnormality during working or storage, please stop using and take it out from device.
- If the battery leaks and get into the eyes or skin, do not wipe, instead, rinse it with clean water and see doctor immediately.
- Please far away from children or pets.
- Do not put disuse battery into a fire or water.

11. Battery Operation Instruction

- Charging current: Do not exceed the largest charging current that specification stipulated.
- Charging voltage: Do not surpass the highest limited voltage that specification stipulated.
- Charging temperature: Within temperature scope that specification stipulated.
- Charge with constant current, then with the constant voltage, no reverse charge, which is dangerous.
- Special note: Short time doesn't affect the use of the battery overcharge too, but for a long period of time over discharge or over charge can affect the function of the battery failure, or the battery can't use permanent, appear serious safety hazards, need long time floating please use the recommended floating model specification. Battery when not in use for a long time, because of its own self-discharge characteristics can also cause discharge, to prevent the occurrence of a discharge, battery should maintain a certain capacity, maintain the voltage at 50% state of SOC.

12. Other Chemical Reaction

Because batteries utilize a chemical reaction, battery performance will deteriorate over time even if stored for a long period of time without being used. In addition, if the various usage conditions such as charge, discharge, ambient temperature, etc. are not maintained within the specified ranges, the life expectancy of the battery may be shortened or the device in which the battery is used may be damaged by electrolyte leakage. If the discharge time is much shorter than the normal after full charged, even battery is charged correctly, and this may indicate it is time to change the battery.

