

DC 12V Series Lithium Battery

User Manual



Thank you very much for choosing our DC 12V Lithium battery!

Please read this manual carefully before using!

PRODUCT INTRODUCTION

This is a portable DC power supply with built-in lithium-ion battery. It has a safe lithium-ion battery, which is light in weight, high in capacity, high in power, and easy to carry. It provides you with a convenient mobile power solution. The main features are:

- ◆ 12V high power output, discharge range (9V-12.6V).
- ◆ Waterproof grade: IP65
- ◆ Battery power, voltage, internal temperature display function.

PRODUCT PARAMETERS

12V Series lithium battery parameters	
Nominal Voltage	DC 12V
Battery Cells	lithium ion polymer
Nominal Capacity	120AH
Maximum output voltage	12.6 DCV
Minimum output voltage	9 DCV
Overcharge protection voltage	12.75V
Protection recovery voltage	12.15V
Over-discharge Protection voltage	8.5V
Over-discharge recovery voltage	9V
Constant discharge current	25A
Peak discharge current	50A/3s
Charge current	20A
Working temperature	-20℃ - 60℃
Case Material	ABS material
Enclosure Protection	IP65
Size	355*272*166mm
Weight	8KG
Display	LCD intelligent monitor real-time electricity meters, voltage, internal temperature
Protection function	Overcharge, over discharge, short circuit, automatic equalization, temperature control protection
Remark	Pls charge the battery in time after using. The battery needs to be charged and discharged every three months during storage

OPERATION INSTRUCTION

1. How to use the lithium battery

Output operation:

Step 1: Click the display switch to check the remaining battery capacity, voltage, and battery internal temperature.

Step 2: Check the load operating voltage and power.

Step 3: Make sure that the load power does not exceed the rated power of the lithium battery.

Step 4: Connect the positive and negative terminals of the battery. Red is positive and black is negative.

Step 5: Connect the load device to the terminal output, and start the device. During the use, you can know the remaining battery capacity and voltage in real time through the LCD digital display.

Step 6: After using the power supply, first disconnect the cable from the terminal on the battery, and then disconnect the cable from the device. .

Step 7: If the power of the lithium battery runs out or the energy is low at this time, charge the battery in time.

(Remark: When you stop using the power supply, please be sure to tighten the cap of the terminal to prevent looseness and dust from entering, and place it in a ventilated environment.)

Please note:

1 Make sure:

A. The input voltage of the appliance must be the same as the battery.

B. The rated power of the appliance is less than the battery output power.

If the above requirements are not met, the appliance will not work or the battery will be damaged.

2. Do not short-circuit the output, otherwise it may damage the battery and electrical appliances and even cause a dangerous situation.

How to charge the Lithium Battery

1 AC charger charging steps:

Step 1: Disconnect all loads

Step 2: Connect the AC charging cable to the charging port and lock it

Step 3: Connect the charger to the mains city power supply.

Step 4: When it is in the charging state, the indicator light on charger is red. When it turns green, charging is completed.

Please note:

◆ The battery display showing 100% does not mean it is fully charged. Because of the CC/CV charging mode, the final charging time will take longer.

◆ It is normal for the charger to heat up during charging. For safety reasons, be sure to remove surrounding objects (such as newspapers, etc.) to avoid accidents.

2 Solar charging steps:

Step 1: Check and make sure the positive and negative connecting wires of the solar panel are correct.

Step 2: Connect the cable to the solar panel, and plug the other end to the DC input port of the battery

Please note:

◆ When using the solar panel to charge, please pay attention to the connection of the positive and negative, and prohibit reverse connection.

◆ The solar system needs to have solar panels and controller.

◆ Our products support the solar charging function, but this product does not include solar panels and accessories

INSTRUCTIONS FOR USE AND PRECAUTIONS.

1. Product Appearance Description:

- A. This product adopts intelligent LCD digital display, which can show the battery capacity, voltage, internal temperature.
- B. The switch on display only controls the power for display, and does not control charging and discharge of the battery. The battery is not affected by this switch when charging and discharging.
- C. The switch for discharging needs to be customized.
- D. The battery case is made by ABS high-strength plastic case. Please try to avoid dropping, bumping, pressing or violent shaking to avoid damages.
- E. The case and accessories are waterproof, but the battery cannot be immersed in water, otherwise the battery and accessories will be seriously damaged.
- F. It is forbidden to disassemble or modify without permission. Any disassembly voids warranty!

2. Capacity description:

The product have green high-energy environmental friendly polymer lithium battery Cells and battery management system. The theoretical working time: It can be calculated according to the battery capacity = discharge current * working time.

Due to the charging efficiency of the charger, the charging is not completely saturated.

The BMS also has an efficiency, which will protect the battery before it is fully discharged.

As the charging and discharging efficiency, the actual power used will be about 80-90% of the battery capacity.

Therefore, there may be discrepancies between theoretical and actual usage time, and only approximate working hours can be estimated;

3. Environment Description:

- A. In a clean, dry and ventilated environment where the temperature is -20 ~ 60 degree. And the relative humidity is not more than 75%.
- B. Avoid contact with corrosive substances.
- C. Keep away from fire and heat.
- D. Avoid use or contact with children.
- E. Don't immerse in the water or sea. When water enters the case, the battery should be stopped immediately and contact our technicians. It is forbidden to disassemble, modify or throw it into the fire.

4. Maintenance Descriptions:

- A. Use a qualified or original charger to charge it and remove it when it is fully charged.

Lithium batteries usually have a complete protection function and do not require too much charging time. However, it is not recommended to charge for a long time.

Pls use the original or qualified charger when charging, and operate and use according to the instructions, otherwise the battery may be damaged or even dangerous;

When charging the battery, do not include flammable and explosive items, such as newspapers and magazines.

- B. Before using the battery, check whether it meets the requirements of the load. If the voltage does not match or the current is too large, the battery will be damaged or its life will be shortened.

- C. For long-term storage, the ambient temperature and humidity should be between 10 degree to 30 degree, and the humidity should be between $65 \pm 20\%$.

The battery needs to be charged and discharged every three months during storage.

It should be stored at 90% charged, to avoid long-term storage without electricity or too much charged.

When storing, ensure that there are no flammable materials around, especially in a metal environment, that may cause short circuit.

When the battery emits smoke or burns due to some external reasons, it should be immediately treated with a fire extinguisher. The best way is to cover it with sand.

D. In order to prevent dangerous caused by short circuits during transportation, this product is generally not more than 70% capacity during transportation.

5. Lithium battery disposal suggestions:

When the lithium battery reaches the end of its life, the lithium battery must be recycled and disposed of in accordance with local laws.

6. After-sales service

The period of warranty is **12** months from the date of shipment. We guarantee to give a replacement in case of battery with defects due to manufacturing process instead of the customer abuse and misuse.

COMMON PROBLEMS AND SOLUTIONS

Problem	Cause	Solution
Press any switch, no indicator light	no output from the battery	charge the battery
When working, it suddenly cuts off and alarms	The load power exceeds the rated power, which causes the internal is overheat.	reduce load power and wait for the internal temperature to drop
While charging, but no increase in charging is shown	Poor contact of AC plug or charger damaged	Re-plug the AC plug several times or replace a new charger
Buzzer sounds (alarm)	The power is close to run out. The battery will stop working	charge the lithium battery
Can't be fully charged with solar panels	Low voltage	Replace high-voltage solar panel, And make the charging current less than charging current.
Overload protection	The power of the electrical appliance exceeds the DC lithium battery	disconnect the appliance to ensure output is less than the battery rated output