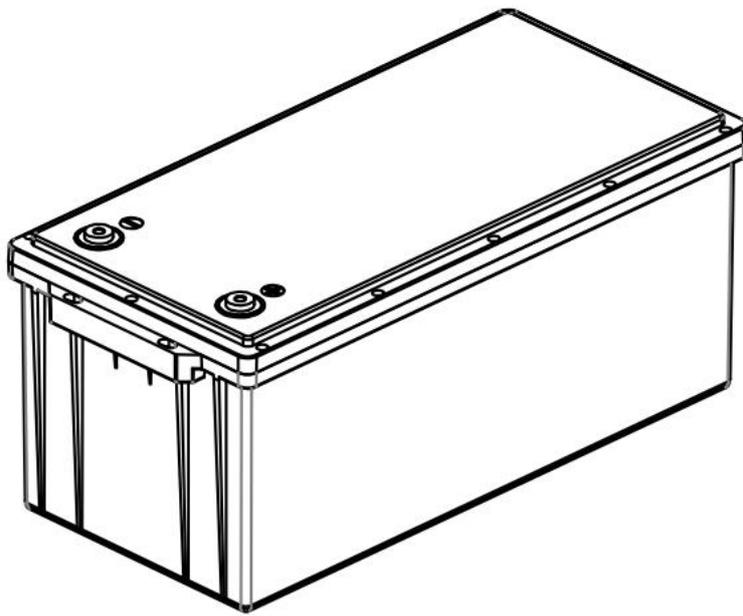


# **USER MANUAL**



**Deep Cycle LiFePO4 Battery**

**25.6V100Ah**

# CONTENT

1. Scope .....	1
2. General Specification .....	1
3. Products Performance Test.....	2
4. Product storage and transportation.....	3
5. Handling Precautions.....	3
6. Battery does not charge to 100% SOC.....	5
7. Warning .....	5
8. BT download and installation.....	6

## 1. Scope

The product is a lithium iron phosphate (LiFePO<sub>4</sub>) battery equipped with an integrated BMS, which supports overcharge protection, over-discharge protection, over-current protection, short-circuit protection, over-temperature protection, and cell balancing.

## 2. General Specification

<b>Deep Cycle LiFePO<sub>4</sub> Battery</b>	
Battery Style	25.6V100Ah
Nominal Voltage	25.6V
Rated Capacity	100Ah
End-of-charge Voltage	29.2V
End-of-discharge Voltage	20.0V
Standard Charge Current	30A
Max. Charge Current	50A
Standard Discharge Current	30A
Max. Discharge Current	50A
Max. Peak Current	60A
Communication	BT
Charge/ Discharge Interface	M8 Terminal
Communication Interface	/
Shell Material/ Color	Plastic/ Black
Size (mm)	522*242*220
Weight (KG)	Appr. 22.5
Work Temperature Range	Charge: 0°C-45°C Discharge: -15°C-55°C

### 3. Products Performance Test

NO.	Items	Test condition and method	Criterion
1	Self-Discharge Performance	After standard charging, store at $20 \pm 5$ °C for 30 days, and then use 0.2C current discharge to 20.0V discharge cut-off voltage	The discharge Capacity:should not less than 85%of Initial Capacity
2	Over Charge Test	Battery charged at 0.5C current with a voltage limit of 29.2V.charging is continued for 3 hours.	No explosion,No fire
3	Over Charge Test	Battery discharged continuously at the constant current of 0.5C to 29.2V,then discharge the battery with a current of 0.2C to 20V	No explosion,No fire
4	Vibration test	Let the battery subjected simple harmonic motion with an amplitude of 0.8mm (1.6mm total maximum excursion].The frequency is to be varied at the rate of 1 hertz per minute between10 and 55hertz, The battery is to be tested for 30min in each mutually perpendicular directions.	No explosion,No fire
5	External Short-Circuiting Test	Fully charge, Short circuit by connecting the positive and negative terminals with a circuit load having a maximum resistance load of $100m \Omega$ , until its temperature has fallen by $10^{\circ}C$ from the peak point ,the testis over .	No explosion,No fire
6	Humidity and heat test	A charged battery is placed in a box for 48hours where the temperature is $40^{\circ}C \pm 2^{\circ}C$ and the relative humidity is 90%~95%	No explosion,No fire
7	Impact test	After the battery is fully charged, place the battery on a flat surface, place a steel rod with a diameter of 10mm in the center of the battery, and drop a 5kg weight onto the battery from a height of 50mm.	No explosion,No fire

## **4. Product storage and transportation**

### (1) Product Storage

If the battery is stored for more than 6 months, the battery must be placed in an environment with a temperature of  $20\pm 5^{\circ}\text{C}$  and a humidity of  $65\pm 20\%\text{RH}$ , and the storage voltage of the battery must be kept at 25-29V. Please activate the battery every 3 months. Once, the specific method is as follows: after standard charge and discharge, set aside for 5 minutes, and charge to 29.2V at 0.2C.

### (2) Product Shipping

The battery is in a half-charged state during transportation, so avoid severe vibration, extrusion, sunlight and soaking.

## **5. Handling Precautions**

### (1) Charge

The battery must be charged within the ambient temperature range of  $0\text{C}\sim 45\text{C}$ , and the charging current shall not exceed the maximum charging current specified in this standard. The charging voltage shall not exceed the rated voltage specified in this standard, 29.2V is the maximum charging voltage limit, and the design of the charger shall meet this condition; reverse charging is prohibited, and the charging time shall not exceed 20h

### (2) Discharge

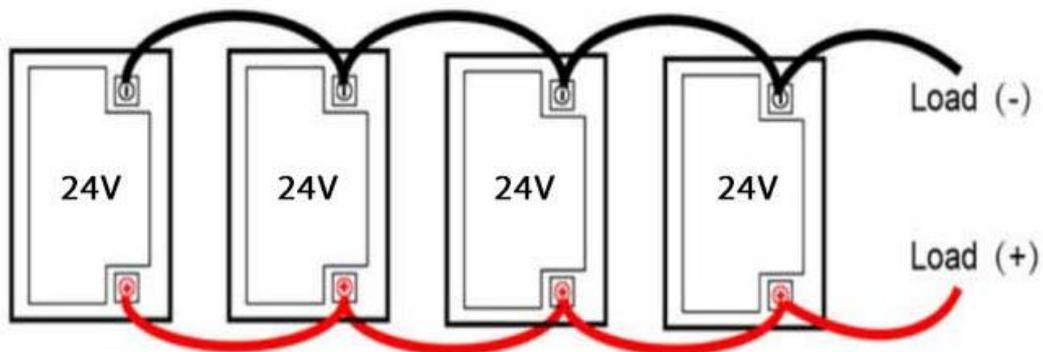
The battery must be discharged within the ambient temperature range of  $-20^{\circ}\text{C}\sim 55^{\circ}\text{C}$ , and the discharge current should not exceed the maximum discharge current specified in this standard. Note that the battery may be in a certain state of discharge due to other self-discharge characteristics during the long-term unused period. To prevent the battery from over-discharging, it should be charged regularly to keep its voltage above.

(3) The positive port and power cable of a conventional lithium battery pack are **red**, and the negative port and power cable are **black**.

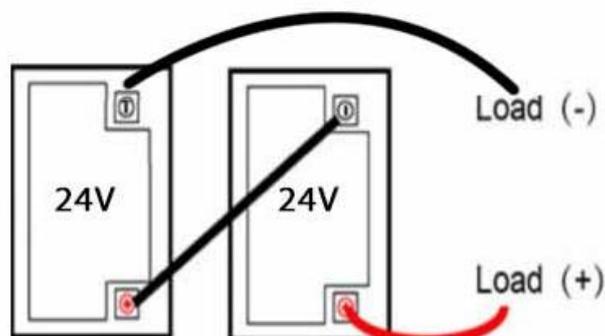
(4) Schematic diagram of **series connection**: Only battery packs with the same rated capacity and voltage can be used in series.

(5) Schematic diagram of **parallel connection**: Only battery packs with the same actual capacity and voltage can be used in parallel. After parallel connection, the voltage remains unchanged, and the total capacity is equal to the sum of the capacities of individual battery packs.

### Connection Diagram



**Parallel Connection**



**series connection**

## 6. Battery does not charge to 100% SOC

If a dedicated lithium charger is not used, the battery may not reach a full charge and may stop charging at approximately 70–95% state of charge. This occurs because conventional chargers prematurely terminate the boost (absorption) voltage stage at 28.2 V and switch to the float (maintenance) voltage of 27.5 V. As a result, charging stops before all cells are fully balanced. This behavior may not occur during every charging cycle.

To ensure proper charging, a dedicated lithium charger (see Section 2.1) is recommended. In some cases, restarting the charging process may temporarily increase the state of charge, but this is not a reliable or recommended long-term solution.

## 7. Warning

- Lithium batteries with different capacities, different performances and different manufacturers cannot be used together. The power cables connected and drawn out of the battery pack must be matched according to the load power;
- When the battery pack is used in series and parallel, the voltage difference is less than or equal to 1V;
- When connecting and removing the battery pack, be sure to cut off the power to avoid danger.
- The battery pack must be kept away from sources of fire or water;
- It is strictly forbidden to short-circuit the positive and negative poles, and it is strictly forbidden to reverse the positive and negative poles;
- It is strictly forbidden to throw, drop, or disassemble the battery pack;
- The temperature range of the battery pack cannot exceed 60°C, and it is recommended to use it in a working environment within 45°C;
- If the battery pack is not used for a long time, it needs to be recharged every 3 months.

## 8. Bluetooth APP download and installation

1. Search in the App Store or Google Play for "JBD Li-ion"
2. Scan the QR code to download and install the app.

