

51.2 VOLT | 300 AMP HOUR

LIFEPO4 Lithium Phosphate Battery



Item	Specification
Cell Type	LiFePO4
Nominal Capacity	300Ah
Nominal voltage	51.2V
Charge Cut-off Voltage	58V±1.0V
Discharge Cut-off Voltage	40V±2.0V
Max Charge Current	80A
Continuous Discharge Current	≤150A
Peak Instantaneous Discharge Current	300A
Communication Port	NO
SOC Display	LED Display
Battery Housing	Metal Casing, White, with Wheels, easy-to-move
Operating temperature	Charging: 0°C~45°C
	Discharging: -20°C~60°C
Storage temperature	-5°C~35°C
Storage Humidity	≤75% RH
Standard environmental condition	Temperature: 25±2°C
	Humidity: 45-75%RH
	Atmospheric Pressure: 86-106 KPA
Size	L655*W385*H385mm
Net Weight	Approx.: 148kg

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■ Product Electric Performance Test

Item	Test Methods and Condition	Criteria
Open circuit voltage	Open circuit voltage measured within 24 hours after standard charge	$\geq 51.2V$
Impedance	Under the condition of full power, the AC impedance of AC1kHz is measured	$\leq 50\text{ m}\Omega$
Capacity retention	Fully charging, store them at $(20\pm 5)^{\circ}\text{C}$ for 28 days, then discharge to 40.0V @0.2C.	Discharging time $\geq 300\text{min}$
Cycle Life @25°C	Discharge to 40.0V @0.2C, then Charge the battery @0.2C to reach 58.4V. Then charge the battery at constant 58.4V voltage until the charging current decreasing to 0.02C. Rest and shelve for 10 min. discharge to 40.0V@ 0.2C and rest for 10 min. Continue the charge/discharge cycles until discharge capacity lower than 80% of rated capacity.	Cycles life ≥ 3500 80% DOD Cycles life ≥ 5000 60% DOD Cycles life ≥ 6000 50% DOD
storage	Charge the battery to 40%~65% of its rated capacity using standard charging mode, then keep it in an $20^{\circ}\text{C}\pm 5^{\circ}\text{C}$, humidity 45% ~ 85% room for 12 months, fully charge and discharge it @0.2C until voltage down . (The testing sample should be within 3 months dated from production date)	Discharge time $\geq 360\text{min}$

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■ Mechanical Performance

Item	Test Methods and Condition	Criteria
Vibration Test	After standard charging, put battery on the vibration table. 30 min experiment from X, Y, Z axis. Scan rate: 1oct/min; Frequency 10-30Hz, Swing 0.38mm; Frequency 30-55Hz, Swing 0.19mm.	
Drop Test	The battery samples by the position of the height of 1 m free fall to place in the sheet metal on the surface of the cement floor, and from the battery two axial direction of the positive and negative (four directions) free fall once in each direction.	No explosion or fire
Extrusion Test	The battery is placed between the plate extrusion, the pressure through a diameter of 32mm hydraulic cylinder pressure, until the pressure reaches 17.2Mpa, the applied pressure is 13KN, when the pressure reaches the pressure	No explosion or fire

※Above testing of safe characteristic must be with protective equipment.

■ Storage

1 The Li-ion battery pack should be stored in a cool, dry and well-ventilated area, and should be far from the fire and the high temperature.

2 The battery should store in the product specification book stipulation temperature range, the best storage temperature is $25\pm 5^{\circ}\text{C}$. The best humidity is $60\pm 15\%$.

3 The battery should be stored within room temperature, and charged to 40%~60% electric quantity. In order to avoid over-discharge, we suggest charge and discharge the batteries every three months, then charge to 40%~60%electric quantity .

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■ Transportation

- 1 Don't put the battery product mix with other goods.
- 2 Do not immerse the battery products in water or allow it to get wet.
- 3 Do not over 1 layers staking and upside-down.
- 4 The highest temperature in transportation is lower than 65°C.

■ CAUTIONS IN USE

To ensure proper use of the battery please read the manual carefully before using it. Handling

- Do not expose to, dispose of the battery in fire.
- Do not put the battery in a charger or equipment with wrong terminals connected.
- Avoid shorting the battery
- Avoid excessive physical shock or vibration.
- Do not disassemble or deform the battery.
- Do not immerse in water.
- Do not use the battery mixed with other different make, type, or model batteries.
- Keep out of the reach of children.

■ Charge and Discharge

- Battery must be charged in appropriate charger only.
- Never use a modified or damaged charger.
- Do not leave battery in charger over 24 hours.

■ Disposal

- Regulations vary for different countries. Dispose of in accordance with local regulations.

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■ Battery operation instruction

● 1 Charging

Charging current Cannot surpass the biggest charging current which in this specification book stipulated.

Charging voltage Does not have to surpass the highest voltage range which in this specification book stipulated.

Charge temperature The battery must carry on the charge in the ambient temperature scope which this specification book stipulated.

Uses the constant electric current, and the constant voltage way charge, the prohibition reverse charges. Incorrect connection of the battery positive electrode and the negative terminal can damage the battery.

● 2 Discharging current

The discharging current does not have to surpass this specification book stipulation the biggest discharging current, the oversized electric current electric discharge can cause the battery capacity reduction and to cause the battery overheat.

● 3 discharge temperature

The battery discharge must carry on in the ambient temperature scope which this specification book stipulated.

● 4 Over-discharges

After the short time excessively discharges charges immediately cannot affect the use, but the long time excessively discharges can cause the battery the performance, battery function losing. The battery long-term has not used, has the possibility to be able to be at because of its automatic flashover characteristic certain excessively discharges the condition, for prevented excessively discharges the occurrence, the battery should maintain the certain electric quantity.

● 5 Storing the Batteries

The battery should store in the product specification book stipulation temperature range. If has surpasses above for one months the long time storage, suggested you should carry on additional charge to the battery.

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■ Period of Warranty

The period of warranty is 5 year from the date of shipment. guarantees to give a replacement in case of cells with defects proven due to manufacturing process instead of the customers abuse and misuse.

Warranty Backed by

Guangzhou QH Technology Co. Ltd
Room 310, Building A, Zhong Chuang Cloud Valley Science & Technology Park, Panyu District, Guangzhou

Warranty Serviced by:

Pacific Sun Systems or Specialized Power System

■ Other The 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 batteries cannot maintain a charge for long periods of time, even when they are charged correctly, this may indicate it is time to change the battery.

■ NOTICE

Before using the battery pack/packs, pls DO NOTE BELOW REMINDINGS:

Battery appearance visual check:

Carefully open the protective carton/wooden box Once batteries received.

Pls do check if the batteries with any scratches or impacted.

If everything goes well, pls go on. If any, pls contact us at the very first time without any delay.

Do correctly connect the battery with Positive Pole and Negative Pole (usually Red + Black -).

Otherwise short circuit would possibly happen due to wrong connection on +/- terminal.

Connection Use Notice:

Do keep the battery packs within 1.0VDC voltage difference if you are going to connect them in series or parallel. The smaller voltage difference (0.1V-1.0V) of the battery packs the better for batteries connection.

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DO NOT discharge the battery pack till 0% Power which is not that good to keep longer life.

Pls charge the battery to 80% (100% would also be fine) and DO Recharge the Battery while they are discharged/used down to 20% Power.

DO Recharge the Battery Packs every 3 months if they are shelved/not used for long time.