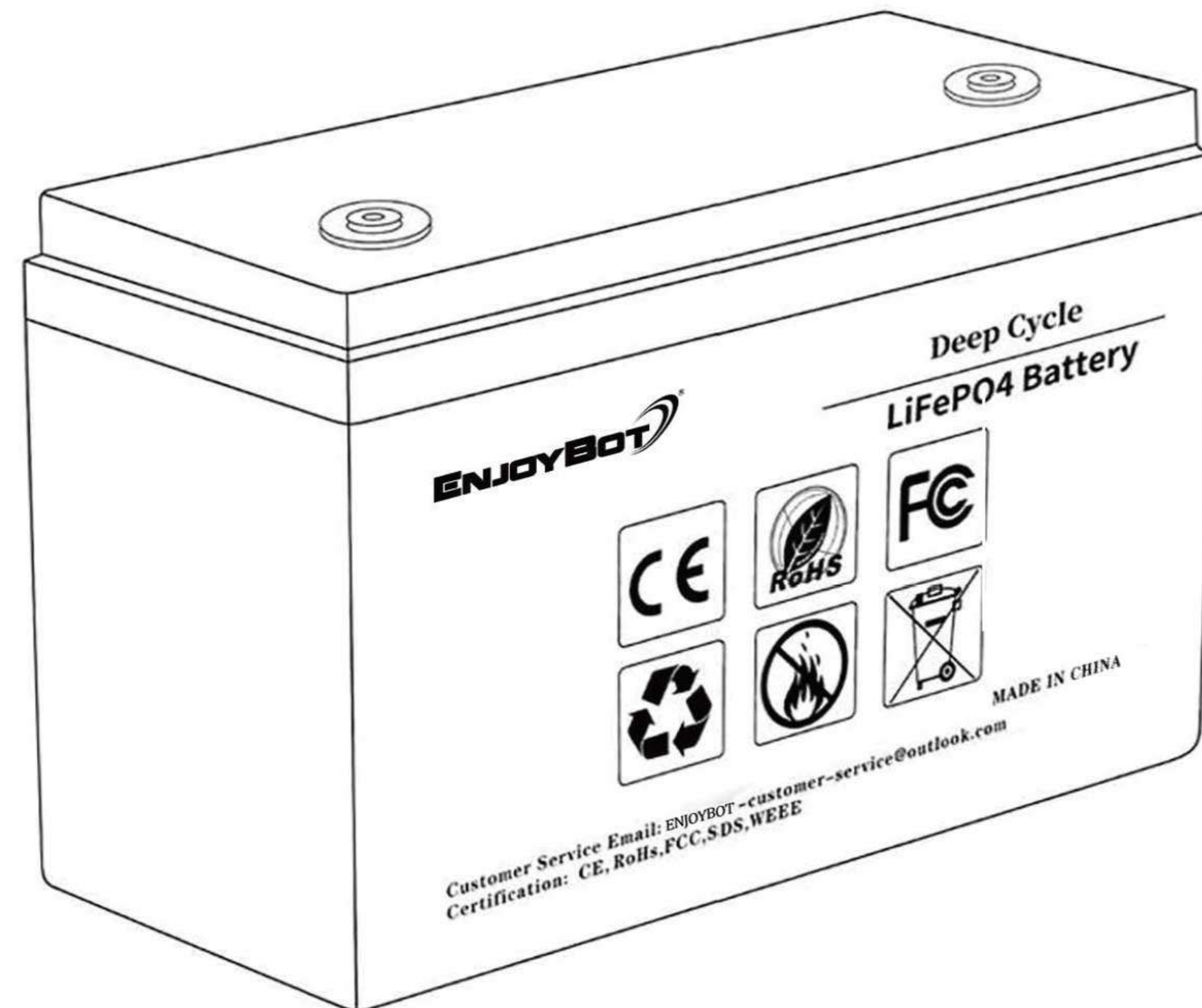


ENJOYBOT®



Instruction Manual
12V/24V/48V LiFePO4
Deep Cycle Battery



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Content

Part 1: Company Introduction

Part 2: Product Introduction

Part 3: About Low Temperature Automatic Heating LiFePO₄ Battery

Part 4: How to Connect in Parallel and Series

Part 5: Precautions

Part 6: Product Feature

Part 7: Comparison of Lithium Battery and Lead-acid Battery

Part 8: Warranty Terms and Card



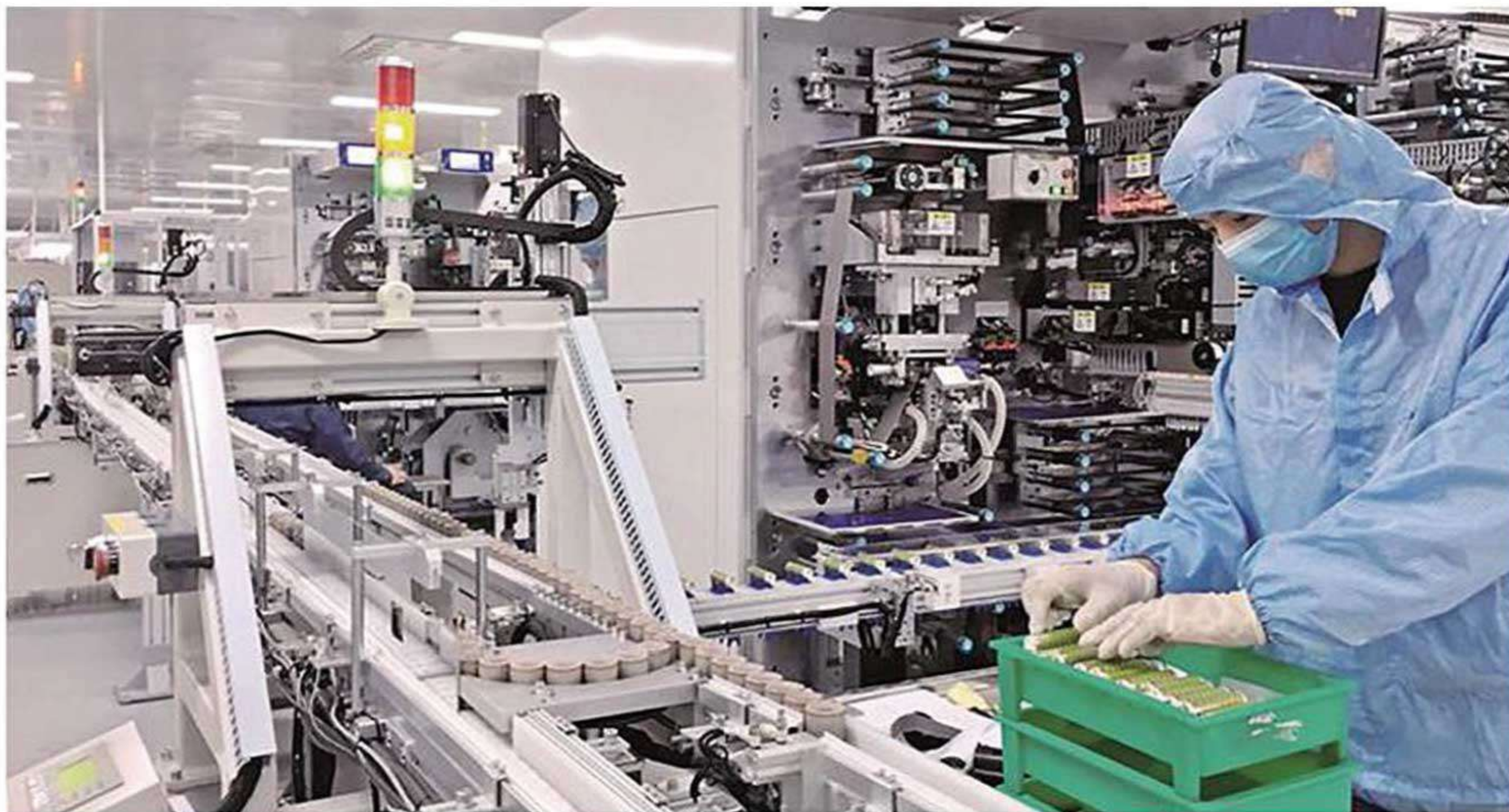
We are living in the times of energy within reach, which every step we take consumes energy. We keep strive to maintain a green life on the way of continuing to explore the new energy. ENJOYBOT has been making contribution to the green life with its 20 years professional technology of battery. We firmly believe in "Green Leads Life".

We are mainly engaged in LiFePO4 and lithium-ion battery business, focusing on the research and development, manufacturing, sales and marketing of new energy. The total area of our production site is 120,000 square meters. Our batteries are widely used in consumer electronics as well as in the fields of energy storage and electric vehicles.

ENJOYBOT factory is equipped with the most advanced R&D team and equipment and the products have obtained UL, CE, ROHS, WEEE and PSE quality system certification. Our batteries and products can fully fulfill the requirements of high-end OEM industry market. We have quality assurance and inspection systems to control and ensure that all batteries are of high quality, comply with international standards and have the best performance and safety.

ENJOYBOT team has been committed to providing the best products and services for all customers, in order to provide a better low-carbon life. With the leading technology, strong R&D ability and perfect sales network, ENJOYBOT has become one of the famous battery manufacturers. We are also designated as an OEM business partner of a lot of famous brands and companies in the world.

ENJOYBOT possesses strong technical strength and high-quality employees. Our mission is to integrate and reform the resources gathering from customers, suppliers, investors, employees and other sources, so that we can continue to provide customers with better products and high quality services and keep making contribution to the community. In the past decade of development and experience, we are not only a company that produces batteries, but also a platform for our next generation to cultivate their own business and realize their dreams.





12.8V 6Ah LiFePO4 Battery



12.8V 8Ah LiFePO4 Battery



12.8V 12Ah LiFePO4 Battery

Product Introduction

LiFePO4 Battery	12.8V 6AH	12.8V 8AH	12.8V 12AH
Nominal Voltage	12.8V	12.8V	12.8V
Charge Voltage	14.2V-14.6V	14.2V-14.6V	14.2V-14.6V
Cycle Life	> 2000 cycles at 100% DoD up to 5000 cycles at 80% DoD		
Weight	1KG/2.2LB	1.05KG/2.3LB	1.5KG/3.3LB
Energy	76.8WH	102WH	153WH
Max Continuous Charging Current	3A	4A	6A
Max Continuous Discharging Current	6A	8A	12A
Max. Load / Inverter Power	76.8W	102W	153W
Operating Temperature Rang	Charge 0°C~50°C (32°F~122°F) Discharge -20°C~60°C (-4°F~140°F) Storage -10°C~50°C (14°F~122°F)		
Dimension	151*65*95mm 5.94*2.56*3.74 inch	151*65*95mm 5.94*2.56*3.74 inch	150*95*95mm 5.9*3.7*3.7inch

Product Introduction



12.8V 16Ah LiFePO4 Battery



12.8V 50Ah LiFePO4 Battery



51.2V 100Ah LiFePO4 Battery

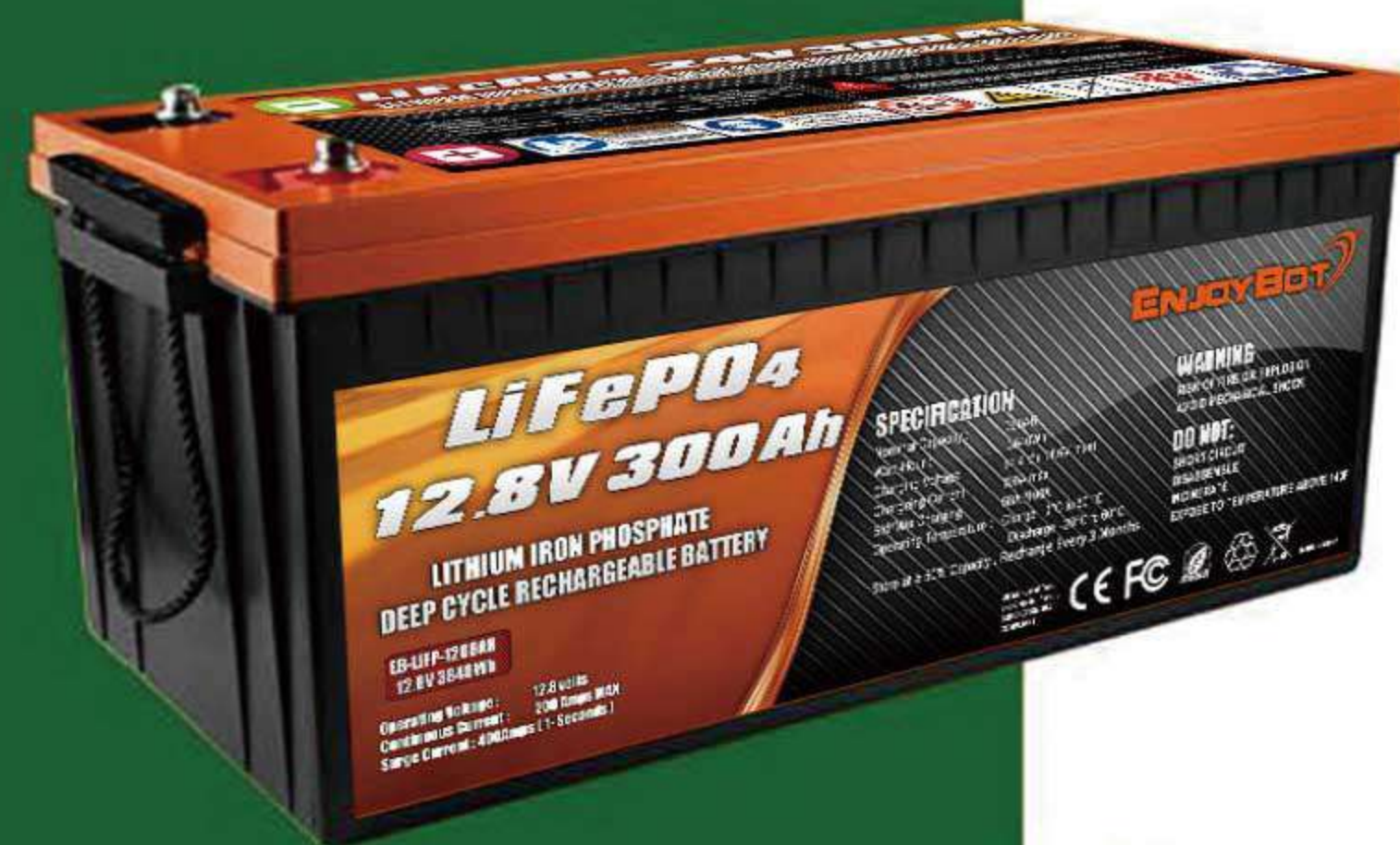
LiFePO4 Battery	12.8V 16AH	12.8V 50AH	51.2V 100AH
Nominal Voltage	12.8V	12.8V	51.2V
Charge Voltage	14.2V-14.6V	14.2V-14.6V	56.8V-58.4V
Cycle Life	> 2000 cycles at 100% DoD up to 5000 cycles at 80% DoD		
Weight	2.1KG/4.6LB	6.3KG/13.8LB	45KG/99.2LB
Energy	204WH	640WH	5120WH
Max Continuous Charging Current	8A	25A	50A
Max Continuous Discharging Current	16A	50A	100A
Max. Load / Inverter Power	204W	640W	5120W
Operating Temperature Rang	Charge 0°C~50°C (32°F~122°F) Discharge -20°C~60°C (-4°F~140°F) Storage -10°C~50°C (14°F~122°F)		
Dimension	180*76*165mm 7.08*2.99*6.5inch	198*166*170mm 7.8*6.53*6.69inch	520*269*220mm 20.47*10.59*8.66inch



12.8V 100Ah LiFePO4 Battery



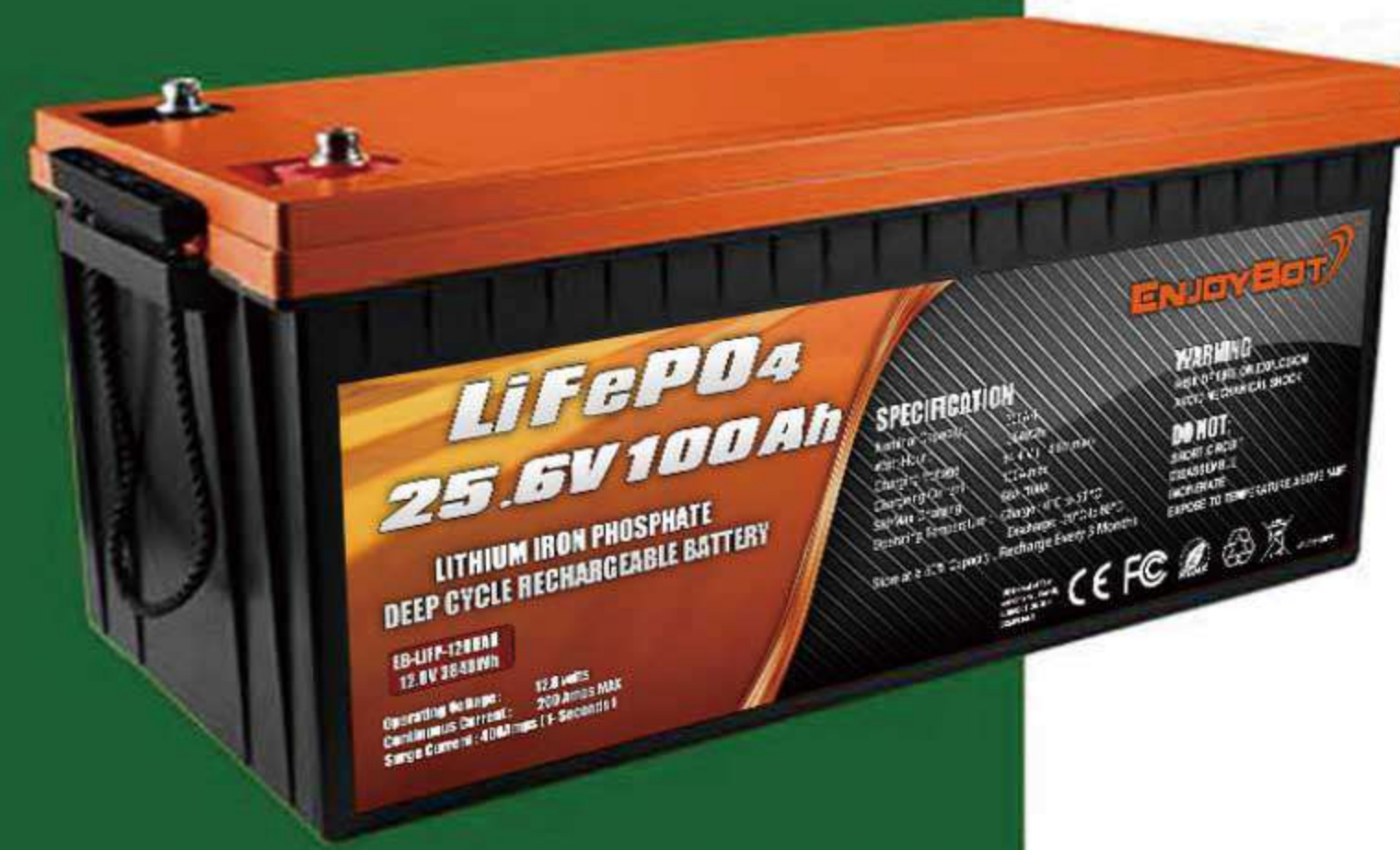
12.8V 200Ah LiFePO4 Battery



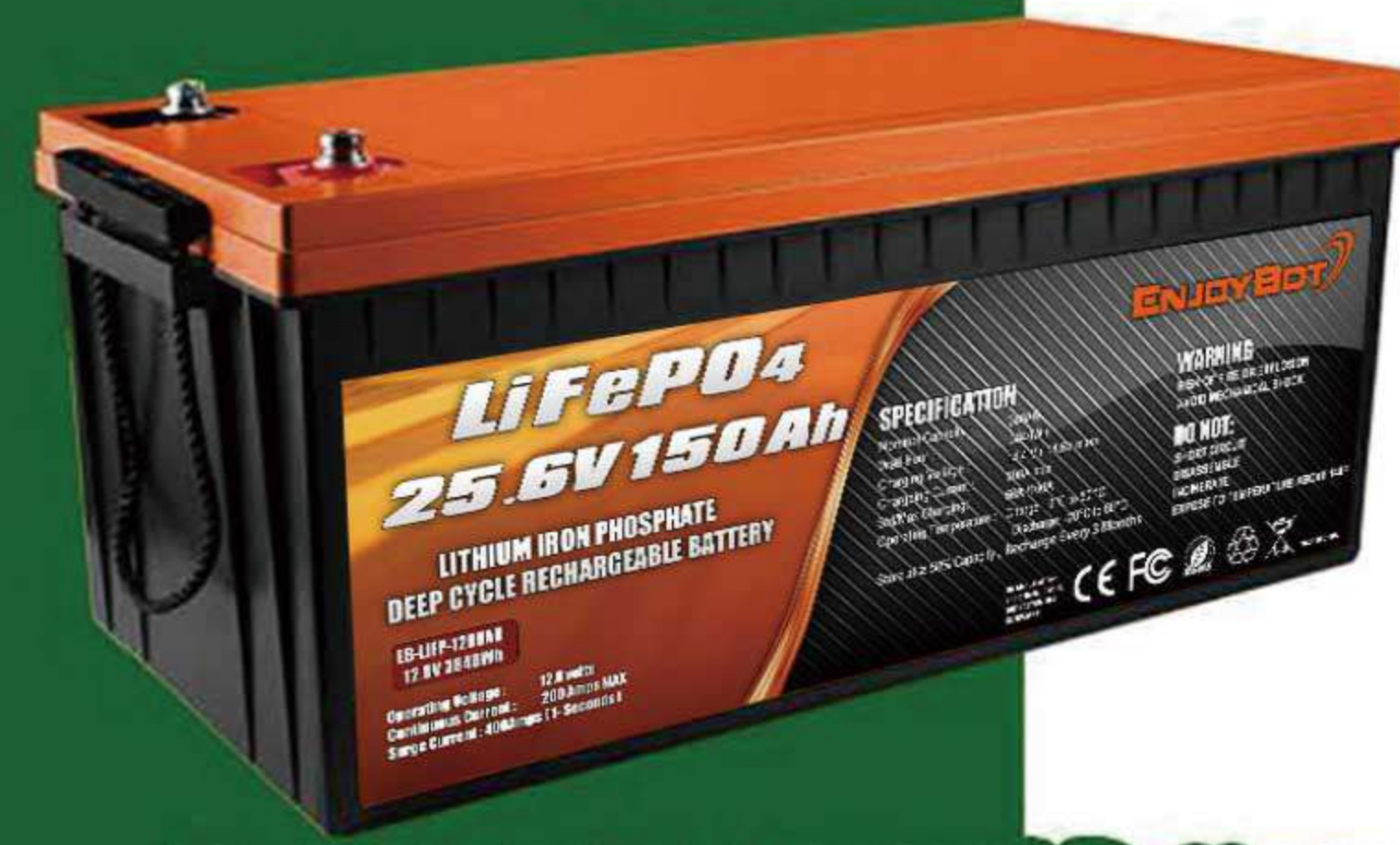
12.8V 300Ah LiFePO4 Battery

Product Introduction

LiFePO4 Battery	12.8V 100AH	12.8V 200AH	12.8V 300AH
Nominal Voltage	12.8V	12.8V	12.8V
Charge Voltage	14.2V-14.6V	14.2V-14.6V	14.2V-14.6V
Cycle Life	> 2000 cycles at 100% DoD up to 5000 cycles at 80% DoD		
Weight	10.8KG/23.8LB	22.2KG/48.9LB	32KG/70.54LB
Energy	1280WH	2560WH	3840WH
Max Continuous Charging Current	50A	100A	100A
Max Continuous Discharging Current	100A	200A	200A
Max. Load / Inverter Power	1280W	2560W	3840W
Operating Temperature Rang	Charge 0°C~50°C (32°F~122°F) Discharge -20°C~60°C (-4°F~140°F) Storage -10°C~50°C (14°F~122°F)		
Dimension	329*172*214mm 12.95*6.77*8.42inch	522*240*218mm 20.5*9.4*8.5inch	520*269*220mm 20.47*10.59*8.66inch



25.6V 100Ah LiFePO4 Battery



25.6V 150Ah LiFePO4 Battery



25.6V 200Ah LiFePO4 Battery

Product Introduction

LiFePO4 Battery	25.6V 100AH	25.6V 150AH	25.6V 200AH
Nominal Voltage	25.6V	25.6V	25.6V
Charge Voltage	28.4V-29.2V	28.4V-29.2V	28.4V-29.2V
Cycle Life	> 2000 cycles at 100% DoD up to 5000 cycles at 80% DoD		
Weight	23.5KG/51.8LB	32KG/70.5LB	43.5KG/96LB
Energy	2560WH	3840WH	5120WH
Max Continuous Charging Current	50A	75A	100A
Max Continuous Discharging Current	100A	150A	200A
Max. Load / Inverter Power	2560W	3840W	5120W
Operating Temperature Rang	Charge 0°C~50°C (32°F~122°F) Discharge -20°C~60°C (-4°F~140°F) Storage -10°C~50°C (14°F~122°F)		
Dimension	522*240*218mm 20.5*9.4*8.5inch	522*240*218mm 20.5*9.4*8.5inch	520*269*220mm 20.4*10.5*8.6inch



12.8V 100Ah LiFePO4 Battery



12.8V 200Ah LiFePO4 Battery



25.6V 100Ah LiFePO4 Battery

Product Introduction

Smart Low temperature heating LiFePO4 Battery

LiFePO4 Battery	12.8V 100AH	12.8V 200AH	12V 300AH
Nominal Voltage	12.8V	12.8V	12.8V
Charge Voltage	14.2V-14.6V	14.2V-14.6V	14.2V-14.6V
Cycle Life	> 2000 cycles at 100% DoD up to 5000 cycles at 80% DoD		
Weight	11KG/24.2LB	22.4KG/49.3LB	22.4KG/49.3LB
Energy	1280WH	2560WH	3840WH
Max Continuous Charging Current	50A	100A	100A
Max Continuous Discharging Current	100A	100A	100A
Max. Load / Inverter Power	1280W	2560W	3840W
Operating Temperature Rang	Charge -35°C~50°C (-31°F~122°F) Discharge -20°C~60°C (-4°F~140°F) Storage -10°C~50°C (14°F~122°F)		
Dimension	329*172*214mm 12.95*6.77*8.42inch	522*240*218mm 20.5*9.4*8.5inch	520*269*220*mm 20.47*10.59*8.66*inch

About Low Temperature Automatic Heating LiFePO4 Battery

Low temperature heating function

When the temperature is below 32°F (0°C), the heating film will be turned on under charging conditions. During heating, the charger only supplies power for the heating film and it will not charge the battery when the temperature is below 0°C. When heated to 50°F (10°C), the BMS stops heating and the battery starts to charge. When storing and discharging, the heating film neither works nor consumes battery power.

NOTE

- 1, Charging Temperature: -31 °F (-35°C) to 122°F (50°C).
- 2, Discharge Temperature: -4°F(-20°C) to 140°F (60°C).
- 3, If it is a 4-string lithium iron battery pack, the charge protection voltage is $3.65V \times 4 = 14.6V$, and the discharge protection voltage is $2.5V \times 4 = 10V$.

How to charge the battery?

Scheme 1: You can use a lithium iron phosphate 4-string (14.6V) charger to charge the battery pack.

Scheme 2: You can use photovoltaic solar panels to charge the battery through MPPT.

Scheme 3: You can use the inverter to charge the battery pack (note: the inverter needs a built-in AC to DC charging function)

If you use an inverter (MPPT) to connect our battery pack, please refer to the following data:

1.The MPPT settings of the 12.8V lithium iron phosphate battery are as follows:

Charge

Charging limit voltage: 14.6V

Overvoltage disconnect voltage: 15V

Overvoltage reconnection voltage: 14.2V

Discharge

Low voltage disconnection voltage: 10.8V

Low voltage reconnection voltage: 11.6V

Undervoltage warning voltage: 12.4V

2.The MPPT setting method of 25.6V lithium iron phosphate battery pack is as follows:

Charge

Charging limit voltage: 29.2V

Overvoltage disconnect voltage: 30V

Overvoltage reconnection voltage: 28.4V

Discharge

Low voltage disconnection voltage: 21.6V

Low voltage reconnection voltage: 23.2V

Undervoltage warning voltage: 24.8V

3.The MPPT settings of the 38.4V lithium iron phosphate battery are as follows:

Charge

Charging limit voltage:43.8V

Overvoltage disconnect voltage:45V

Overvoltage reconnection voltage: 42.6V

Discharge

Low voltage disconnection voltage: 32.4V

Low voltage reconnection voltage: 34.8V

Undervoltage warning voltage: 37.2V

4.The MPPT setting method of 51.2V lithium iron phosphate battery pack is as follows:

Charge

Charging limit voltage: 58.4V

Overvoltage disconnect voltage: 60V

Overvoltage reconnection voltage: 56.8V

Discharge

Low voltage disconnection voltage:43.2V

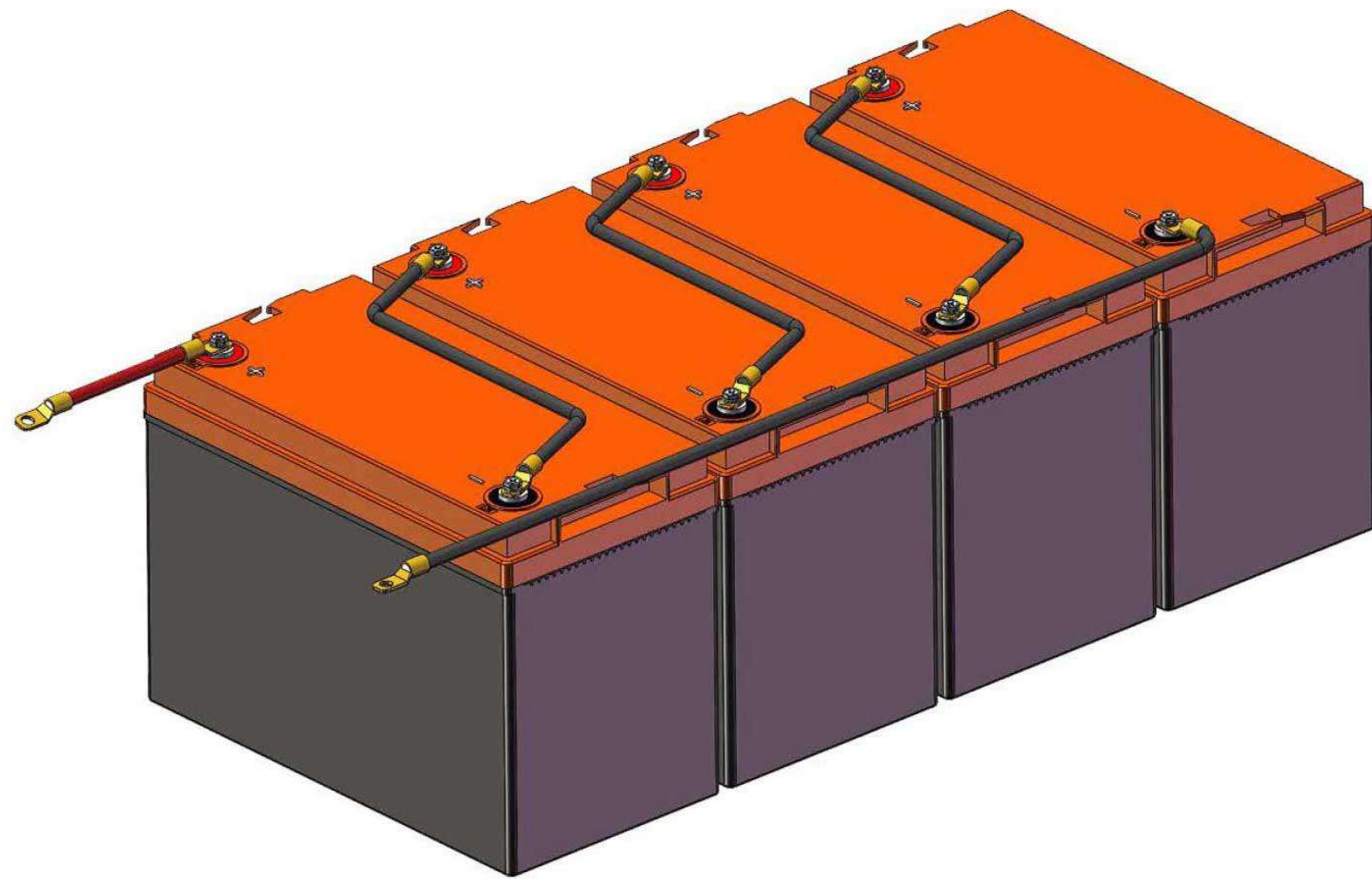
Low voltage reconnection voltage: 46.4V

Undervoltage warning voltage:49.6V

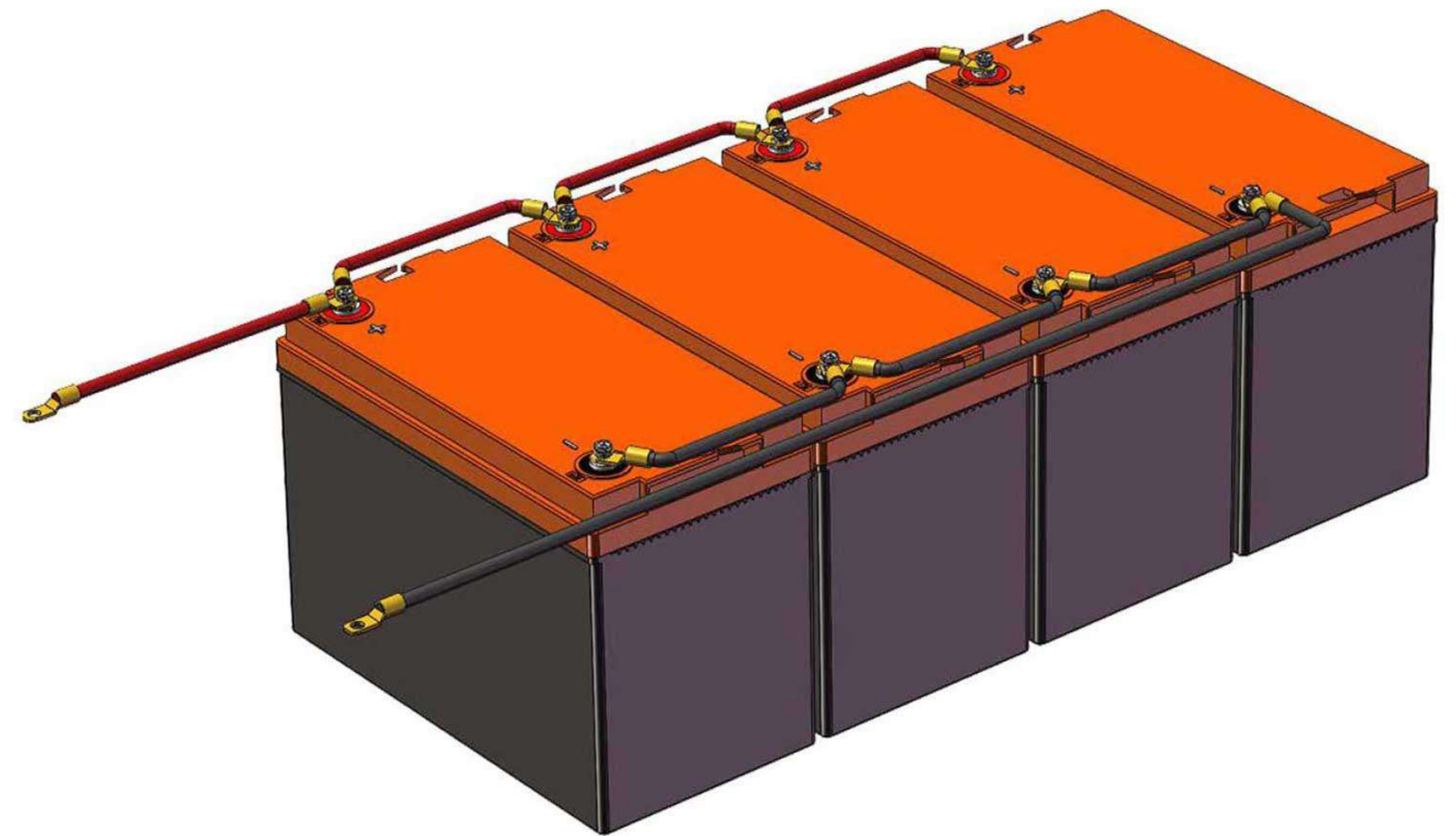
If you use other methods (series or parallel) to install our batteries, please contact us and we will send You the inverter setting parameters.

How to Connect in Parallels and in Series

Our LiFeP04 batteries can be connected in parallels and in series for larger capacity and higher voltage. We suggest that the max connection in series is: 4 pcs batteries to 48V, the Max connection in parallels is: it can connect multiple batteries, and no more than 10 pcs in parallel. Products from different manufacturers cannot be connected in series or in parallel. When the batteries are used in parallel or series, the voltage must be the same. It can support fast charging and solar panel charging.



Please refer to the picture for series connection



Please refer to the picture for parallel connection

Precautions

1. Please use the LiFeP04 battery charger specifically for that purpose.
2. Do not strike battery with any sharp edge parts, such as Ni-tabs, pins and needles.
3. Do not immerse the battery in water and seawater.
4. Do not use or leave the battery near a heat source such as fire or heater.
5. Do not reverse the position and negative terminals.
6. Do not connect the battery to an electrical outlet.
7. Do not throw the battery in fire or heat it and bend it.
8. Please tighten the battery terminals firmly and use appropriate size wiring , or it can result in overheating and battery damage.
9. Do not connect the positive and negative terminals with metal object.
10. Do not transport or store the battery together with metal objects such as necklaces, hairpins etc.
11. Do not directly solder the battery and pierce the battery with a nail or other sharp object.

NOTE:

The battery should be stored within the temperature range specified in the product specification. If the storage time exceeds 3 months, it is recommended that you charge the lithium iron phosphate battery. Otherwise, the service life of the battery may be affected. Discharge current: Do not exceed the specified maximum discharge current. Discharge voltage: Do not be lower than the specified voltage. Discharge temperature: The discharge temperature is in according to this specification.



NOTE:

1. When you receive the product, please read the product manual carefully, which contains the installation method, precautions and detailed warranty terms of the product.
2. When you use the battery for the first time, please fully charge it.

We have our own factory and have been committed to offering customers with high-quality battery products and after sales service. We also set up our own after-sales service center in California, USA, to provide customers with real 10-year warranty service.



Product Feature

About our battery' s BMS

The unique built-in battery management system (BMS) of our product's lithium battery can protect it from overcharge, deep discharge, overload, overheating and short circuit, and low self-discharge rate. Our BMS has a high temperature disconnect function. When the internal temperature of the battery reaches 75 °C (167°F), it will automatically disconnect to protect the battery. It also possesses overcharge and overdischarge protection functions, when the overcharge voltage exceeds 15V or the overdischarge voltage is lower than 8.8V, the battery will automatically disconnect. Our recommended charging voltage are 14.2-14. 6V . If the charging voltage is lower than 13.8V, the battery power (with a deviation of 1-2%) cannot be fully charged.

About our battery' s cell

Lithium-ion batteries have high energy density and high average output voltage. The self-discharge is small and there is no memory effect. The wide operating temperature range is -20 °C ~ 60 °C . Excellent cycle performance, fast charging and discharging, charging efficiency up to 100%, and high output power. long lasting. It does not contain toxic and hazardous substances and is called a green battery.

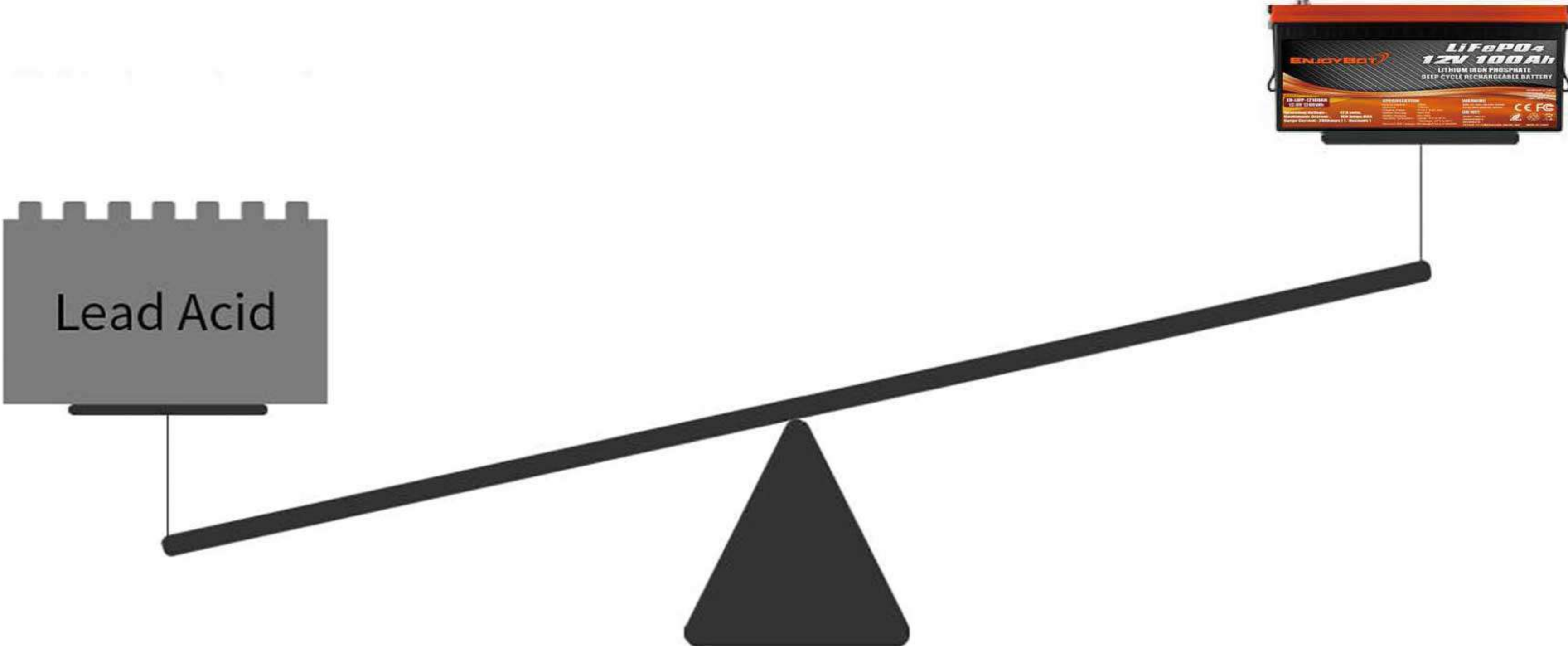


Comparison of Lithium Battery and Lead-acid Battery

Lead Acid:
Pollution
Poor high temperature performance
Low DOD
Short cycle life
Low Energy Density
Low Discharging Rate

Lithium Battery:
Environmentally friendly green battery
Good high temperature performance
100% DOD
Long cycle life (>2000)
High Energy Density
High Discharging Rate

Lithium Battery



Warranty Terms

We provide warranty service, please check the warranty clause in the Product Description. Deep cycle LiFePO4 battery has smaller size, lighter weight, superior performance and longer service life, which can greatly reduce Lead Acid Battery replacement. The cell of ENJOYBOT LiFePO4 battery pack has obtained CE, RoHs, PSE, WEEE certification.

1. Within 90 days from the date of purchase, if our products have quality problems and cannot work normally, we can provide refund services.
2. More than 90 days from the date of purchase, and within 3 years, If our product fails to work normally, the consumer need assist us in completing all the battery testing, when we both parties confirm that the product has quality problems, we will send the new product to the consumer for free.
3. More than 3 years from the date of purchase, and within 10 years, we provide free after-sales service and maintenance services.
4. If you encounter any problems when using the product, please feel free to contact us through the customer service email (service@enjoybot.com), we will provide 24-hour customer service.
5. Please read the product manual carefully before installing and using the product. If the consumer fails to install, use and maintain the product correctly in accordance with the requirements of the instruction manual, which causes serious quality problems in the product, it is not covered by the warranty.

Warranty Card

Thank you very much for purchasing our products, We will provide you with free warranty service. Please read the product manual and warranty terms carefully before using the product.

Product Model:		Product Name:	
Purchase Store:		Purchase Date:	
Order Number:		Customer Name:	
Customer E-mail:			

Note: When you fill in the warranty card and send us your order number through the customer service email (service@enjoybot.com), your warranty service has taken effect.

If you are satisfied with our service, please share your shopping experience on our product listing page, which can help other customers, making it easier for them to find the products and services they need.

Customers first, service first, we have been committed to providing customers with a good shopping experience and high-quality products.

We will send 5% discount codes to every customer from time to time. You can present these discount codes with your friends and families and they will enjoy the same preferential service.

Please remember the brand from China: ENJOYBOT, it will provide you with high-quality after-sales service and let you re-recognize MADE IN CHINA.