



# CENERIUS



CENERIUS™

# USER

# MANUALS

*Choose grade A cells, choose lasting power*  
**THE ULTIMATE POWER SOLUTION**

**Shop Now**

<https://www.cenerius.com/>

[service@cenerius.com](mailto:service@cenerius.com)

# Content

- Part 1: Company Introduction
- Part 2: Product Introduction
- Part 3: About Low Temperature Automatic Heating LiFePO<sub>4</sub>, 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

# Company Introduction

- Welcome to Cenerius, a company that specializes in providing high-quality lithium iron phosphate batteries. Established in 2023, our company has been committed to delivering advanced technology and top-of-the-line products to our customers.
- We understand the importance of reliable and long-lasting power solutions. That is why we have devoted ourselves to developing and producing exceptional lithium iron phosphate batteries that offer exceptional performance. Our LiFePO<sub>4</sub> batteries are environmentally friendly and surpass traditional lead-acid batteries in terms of safety, durability, and efficiency. They are the perfect solution for a wide range of applications, from off-grid system to high power solutions.
- Our years of expertise in the field have allowed us to design and develop top-of-the-line LiFePO<sub>4</sub> batteries. Each of our products is manufactured with the highest standards of quality and performance. With our state-of-the-art manufacturing facilities and superior engineering capabilities, we ensure that our products are the best of the best.

# Our Mission

- As a team of experts with extensive experience in the power industry, we take pride in delivering innovative solutions that exceed our clients' expectations. All of our products undergo rigorous testing and are designed with safety and sustainability in mind. We strive to create a better future for everyone by providing eco-friendly energy solutions that reduce carbon emissions and help protect the environment.
- Our commitment to quality, reliability, and customer satisfaction is at the heart of everything we do. We are dedicated to providing exceptional customer service and support, ensuring that our clients receive the best possible experience when dealing with us.
- Thank you for considering Cenerius as your lithium iron phosphate battery provider. We look forward to serving you and meeting your energy needs.



# Product Introduction



LiFePO4 Battery	12V 12AH	12V 100AH
Nominal Voltage	12.8V	12.8V
Charge Voltage	14.2V-14.6V	14.2V-14.6V
Cycles Life	> 2000 cycles at 100% DoD up to 5000 cycles at 80% DoD	
Weight	3.33lb(1.49kg)	23.8 lbs (10.8kg)
Energy	153.6Wh	1280Wh
Max Charge Current	10A	50A
Max Discharge Current	20A	100A
Operating Temperature	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)	
Dimensions	5.82*3.77*3.77in	12.95" (L) x 6.77" (W) x 8.42" (H)

# Product Introduction



LiFePO4 Battery	36V 100AH	48V 100AH
Nominal Voltage	36V	48V
Charge Voltage	42.6-43.8V	56.8-58.4V
Cycles Life	> 2000 cycles at 100% DoD up to 5000 cycles at 80% DoD	
Weight	63.27 lb(28.69kg)	81.57 lbs (37kg)
Energy	3840Wh	5120Wh
Max Charge Current	100A	100A
Max Discharge Current	100A	100A
Operating Temperature	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)	
Dimensions	20.47" (L) x 10.59" (W) x 8.66" (H) (520x269x220mm)	20.47" (L) x 10.59" (W) x 8.66" (H) (520x269x220mm)

# Low Temperature Automatic Heating Lithium Iron Phosphate Battery

## Low temperature heating function

- When the temperature is below 32°F (0°C), the heating film will open under charging condition. During the heating process, the charger only supplies power to the heating film, and does 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 charging. When storing and discharging, the heating film does not work and does not consume battery power.

## Notes

- 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?

- Option 1: You can use lithium iron phosphate 4-string (14.6V) charger to charge the battery pack.
- Option 2: You can use photovoltaic solar panels to charge the battery through MPPT.
- Option 3: You can use the inverter to charge the battery pack (note: the inverter needs to have 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:

<b>12V LiFePO4 Battery</b>	Charge		Discharge	
	Charging Limit Voltage	14.2V	Low Voltage Disconnect Voltage	11.6V
	Over Voltage Disconnect Voltage	14.6V	Low Voltage Reconnect Voltage	12.4V
	Over Voltage Reconnect Voltage	13.8V	Under Voltage Warning Voltage	12.8V
	Float Charging Voltage	13.8V		

<b>36V LiFePO4 Battery</b>	Charge		Discharge	
	Charging Limit Voltage	42.6V	Low Voltage Disconnect Voltage	34.8V
	Over Voltage Disconnect Voltage	43.8V	Low Voltage Reconnect Voltage	37.2V
	Over Voltage Reconnect Voltage	41.4V	Under Voltage Warning Voltage	38.4V
	Float Charging Voltage	41.4V		

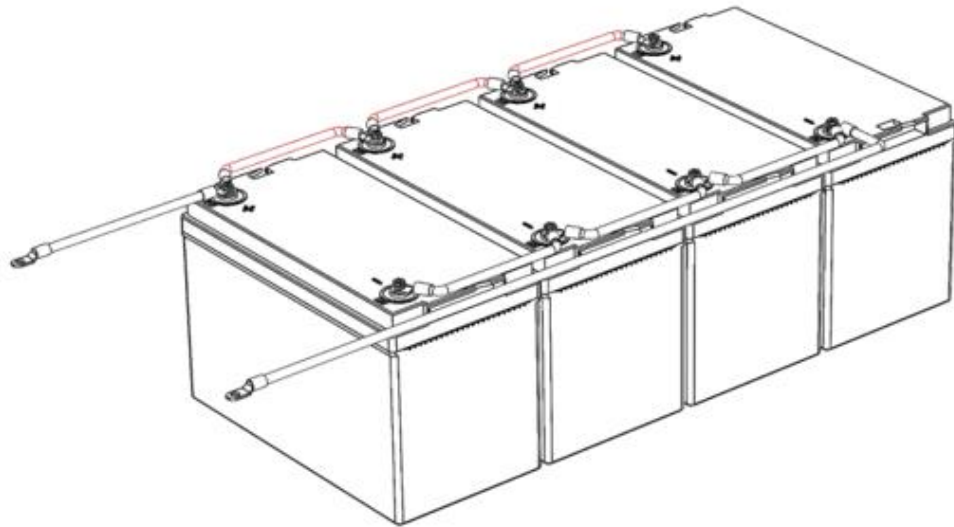
<b>48V LiFePO4 Battery</b>	Charge		Discharge	
	Charging Limit Voltage	56.8V	Low Voltage Disconnect Voltage	46.4V
	Over Voltage Disconnect Voltage	58.4V	Low Voltage Reconnect Voltage	49.6V
	Over Voltage Reconnect Voltage	55.2V	Under Voltage Warning Voltage	51.2V
	Float Charging Voltage	55.2V		

If your MPPT controller/inverter parameters need to be set to any value that is not listed above, please contact the customer service team for confirmation.

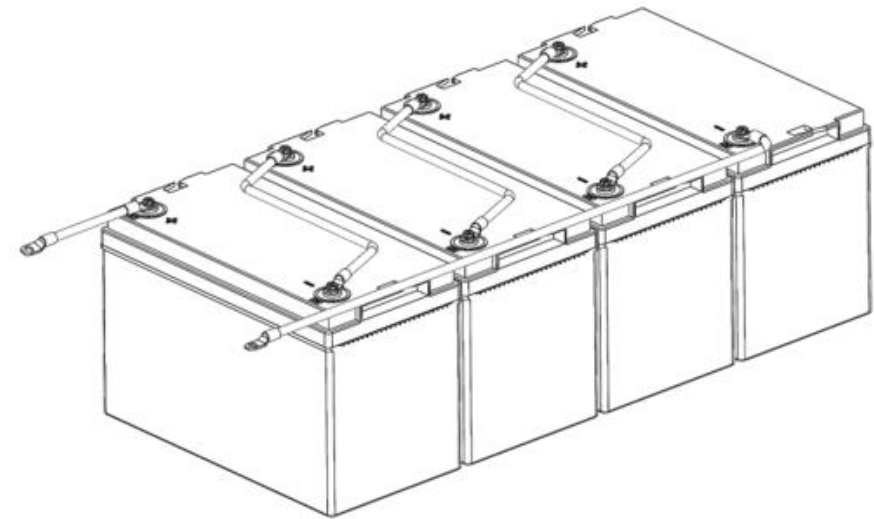


# How to Connect in Parallels and in Series

Our LiFeP04 batteries can be connected in parallels and in series for larger capacity and highervoltage. 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 parallel connection



Please refer to the picture for series connection

# Security and maintenance

1. Do not short circuit the device, to avoid short circuit, keep the device away from all metal objects.
2. Do not throw it into fire, water, sea water or other liquids.
3. Do not use or place the battery near heat sources such as fire or heaters.
4. It is forbidden to disassemble, disassemble or reassemble the machine. .
5. Do not drop, place heavy objects, or subject the machine to strong shocks.
6. Do not solder the battery directly, nor hit the battery with any sharp edged parts.
7. Do not cover the equipment with towels, clothes and other items.
8. Do not use the battery in places with strong static electricity and strong magnetic fields.
9. The battery should be stored within the temperature range specified in the product specification.
10. Please tighten the battery terminals firmly and use proper size wires.
11. Please be sure to install an insulating cover on the battery bolt to avoid short circuit.
12. Install the battery vertically, with the bolts facing up, not upside down.
13. This battery is not used to start any equipment, please do not use it as a starting battery.
14. This device is not suitable for use by persons (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge.
15. Please dispose of waste products according to regulations to avoid explosion and pollution.

# 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.



# Features

## BMS about our battery

The unique built-in battery management system (BMS) of our product's lithium battery can prevent overcharge, deep discharge, overload, overheating and short circuit as well as low self-discharge rate. Our BMS has a high temperature disconnect function. When the internal temperature is too high When the battery reaches 75°C (167°F), it will automatically disconnect to protect the battery.

It also has overcharge and overdischarge protection functions. When the overcharge voltage exceeds 15V or the overdischarge voltage is lower than 8.8V,

The battery is automatically disconnected. Our recommended charging voltage is 4.2-14.6V. If the charging voltage is lower than 13.8V, the battery capacity (1-2% deviation) cannot be fully charged.

## About our batteries

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



# State of Charge (SOC)

	Charge		Discharge			Charge		Discharge			Charge		Discharge	
	Voltage(V)	Capacity(SOC)	Voltage(V)	Capacity(SOC)		Voltage(V)	Capacity(SOC)	Voltage(V)	Capacity(SOC)		Voltage(V)	Capacity(SOC)	Voltage(V)	Capacity(SOC)
<b>12V LiFe PO4 Batt ery</b>	11.85	0%	13.4-13.8	100%	<b>36V LiFe PO4 Batt ery</b>	35.55	0%	40.2-41.4	100%	<b>48V LiFe PO4 Batt ery</b>	47.4	0%	53.6-55.5	100%
	13.01	10%	13.38	90%		39.03	10%	40.14	90%		52.04	10%	53.52	90%
	13.21	20%	13.37	80%		39.63	20%	40.11	80%		52.84	20%	53.48	80%
	13.33	30%	13.37	70%		39.99	30%	40.11	70%		53.32	30%	53.48	70%
	13.33	40%	13.26	60%		39.99	40%	39.78	60%		53.32	40%	53.04	60%
	13.33	50%	13.23	50%		39.99	50%	39.69	50%		53.32	50%	52.92	50%
	13.35	60%	13.21	40%		40.05	60%	39.63	40%		53.4	60%	52.84	40%
	13.45	70%	13.15	30%		40.35	70%	39.45	30%		53.8	70%	52.6	30%
	13.45	80%	13.04	20%		40.35	80%	39.12	20%		53.8	80%	52.16	20%
	13.45	90%	12.91	10%		40.35	90%	38.73	10%		53.8	90%	51.64	10%
	13.6	100%	11.85	0%		40.8	100%	35.55	0%		54.4	100%	47.4	0%

# Comparison of Lithium Batteries and Lead Acid Batteries

Lead Acid:

Pollute

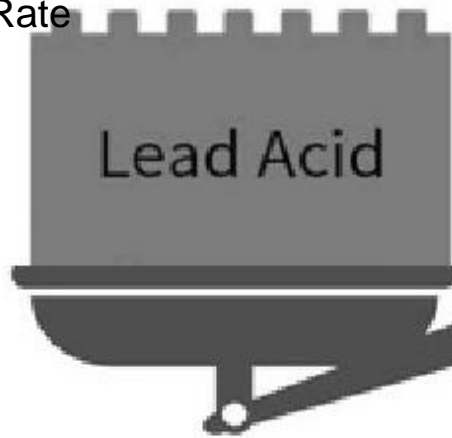
Poor High Temperature Performance

Low DOD

Short Cycle Life

Low Energy Density

Low Discharge Rate



Lithium Battery:

Environmentally Friendly

Green Battery

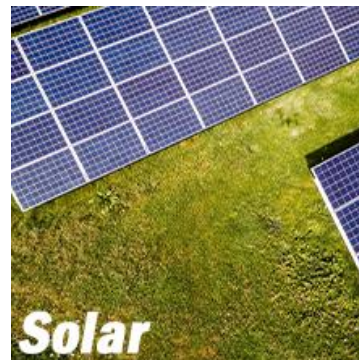
Good High Temperature Performance

100% DOD

Long Cycle Life (>2000 Times)

High Energy Density

High Discharge Rate



# Warranty Terms

We provide warranty service, please check the warranty terms in the product description. Deep cycle lithium iron phosphate batteries are smaller, lighter in weight, superior in performance and longer in service life, which can greatly reduce the replacement of lead-acid batteries.

CENERIUS lithium iron phosphate battery cells have obtained CE, RoHs, PSE, WEEE certification.

1. Within 90 days from the date of purchase, if our products have quality problems and do not work properly, we can provide a refund service.
2. More than 90 days from the date of purchase, and within 3 years, if our products cannot work normally, consumers need to assist us to complete all battery tests, when we both confirm

Products have quality problems, we will send new products to consumers for free.

3. For more than 3 years from the date of purchase, 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@cenerius.com](mailto:service@cenerius.com)), we will provide 24-hour customer service.
5. Please read the product manual carefully before installing and using the product. Consumers who fail to correctly install, use and maintain the product in accordance with the requirements of the instruction manual, resulting in serious quality problems of the product, are not covered by the warranty. 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 out the warranty card and send us your order number via customer service email ([service@cenerius.com](mailto:service@cenerius.com)), your warranty service has come into effect.

If you are satisfied with our service, please share your shopping experience on our product listing page, which can help other customers and make it easier for them to find the products and services they need. Customer first, service first, we have been committed to providing customers with a good shopping experience and high-quality products.

From time to time we will send each customer a discount code. You can show these discount codes to your friends and family and they will enjoy the same benefits.

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