

GREENOE 12v100ah

GREENOE 12V 100Ah LiFePO4 Battery Instruction Manual

Model: 12v100ah

1. INTRODUCTION

This manual provides essential information for the safe and efficient use of your GREENOE 12V 100Ah LiFePO4 Lithium Battery. This battery is designed for various applications including solar systems, RVs, marine use, vans, trailers, and backup power. It features a built-in Battery Management System (BMS) for enhanced safety and performance.

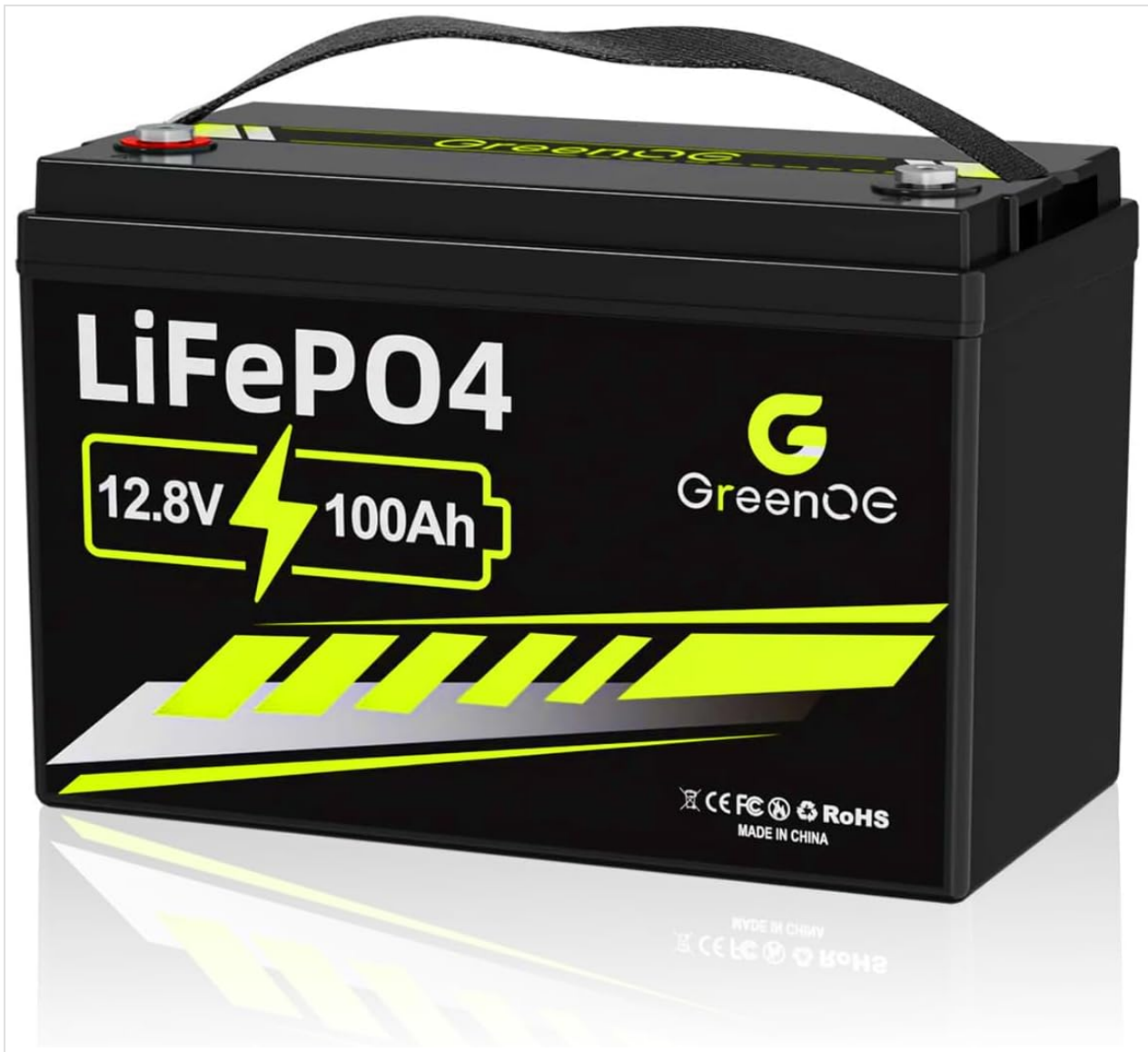


Figure 1: GREENOE 12V 100Ah LiFePO₄ Battery. This image displays the main product, a black rectangular battery with 'LiFePO₄ 12.8V 100Ah' and 'GreenOE' branding, featuring a carrying strap and terminals.

2. SAFETY INFORMATION

The GREENOE LiFePO₄ battery is constructed with safe, non-toxic, and non-hazardous materials, exhibiting high chemical stability. It is less prone to thermal runaway compared to other battery types. Always adhere to the following safety guidelines:

- Do not disassemble, crush, puncture, or short-circuit the battery.
- Avoid exposing the battery to fire or high temperatures.
- Use only compatible chargers designed for LiFePO₄ batteries.
- Ensure proper ventilation during charging and discharging.
- Keep the battery away from water and moisture.
- The built-in Battery Management System (BMS) provides protection against:
 - Over-charging
 - Over-discharging

- Over-current
- Short-circuit
- High temperature
- The BMS will cut off discharging immediately if the temperature drops below -4°F (-20°C).
- The BMS will cut off charging immediately if the temperature drops below 32°F (0°C).
- Always use an adapter with a voltage of $14.6V \pm 0.2V$ for charging.



Figure 2: Internal view illustrating the Battery Management System (BMS) and its protective functions against over-charge, over-discharge, over-current, short-circuit, and high temperature.

UNLOCK **NEW ADVENTURES** WITH **BATTERY COMBINATIONS**



4P4S
51.2V 400Ah 20.48kwh



4S
12.8V 400Ah 5.12kwh



4P
51.2V 100Ah 5.12kwh

Figure 3: Illustration of the intelligent temperature control system, showing temperature thresholds for stopping discharge, stopping charge, resuming charge, and the operational temperature range.

3. PRODUCT OVERVIEW AND DIMENSIONS

The GREENOE 12V 100Ah LiFePO4 battery is designed to be a compact and lightweight power solution. Its physical characteristics are detailed below:

- **Weight:** Approximately 22.48 lbs (10.2 kg)
- **Dimensions (L x W x H):** 12.9 inches x 6.7 inches x 8.6 inches (32.8 cm x 17 cm x 21.8 cm)

12V 100AH LIFEP04 BATTERY FOR 36-55 LBS THRUST TROLLING MOTOR



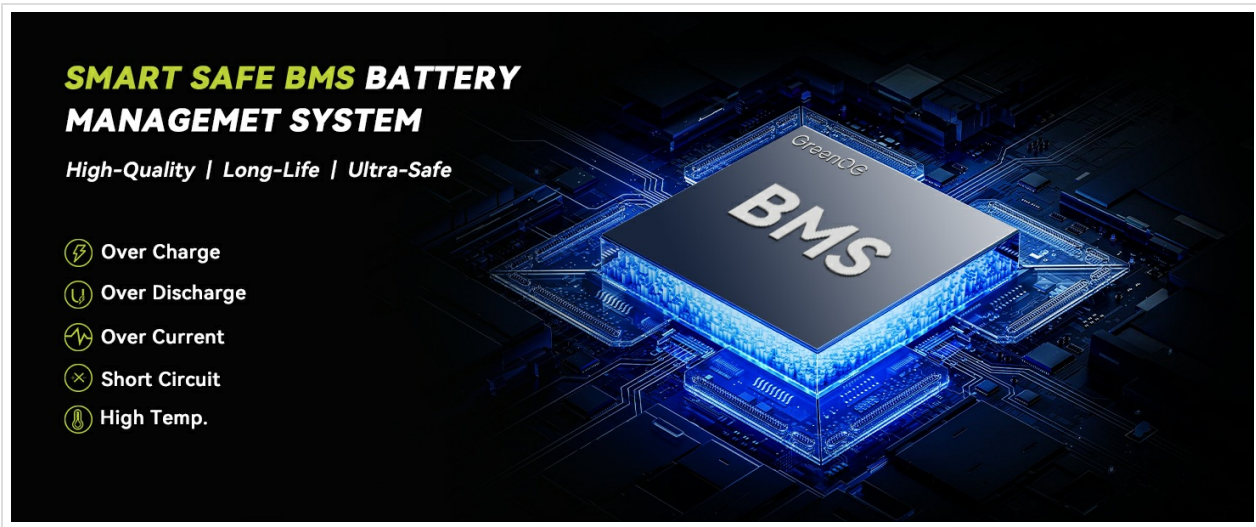
Figure 4: The GREENOE 12V 100Ah LiFePO4 battery displaying its length (12.9 inches), width (6.7 inches), and height (8.6 inches).

4. INSTALLATION AND CONNECTION

This battery is designed as a direct replacement for Group 31 lead-acid batteries. It can be expanded for various power requirements:

- **Series Connection:** Up to 4 batteries can be connected in series to achieve higher voltage (e.g., 48V).
- **Parallel Connection:** Up to 4 batteries can be connected in parallel to increase capacity (e.g., 400Ah).
- **Maximum Configuration:** A system can be built with up to 4 batteries in series and 4 in parallel (4S4P), providing a maximum of 48V 400Ah, resulting in approximately 20.48kWh energy and 20.48kW load power.

Always ensure all batteries in a series or parallel bank are of the same type, capacity, and state of charge before connecting. Use appropriate gauge cables and connectors for your application.



SMART SAFE BMS BATTERY MANAGEMENT SYSTEM

High-Quality | Long-Life | Ultra-Safe






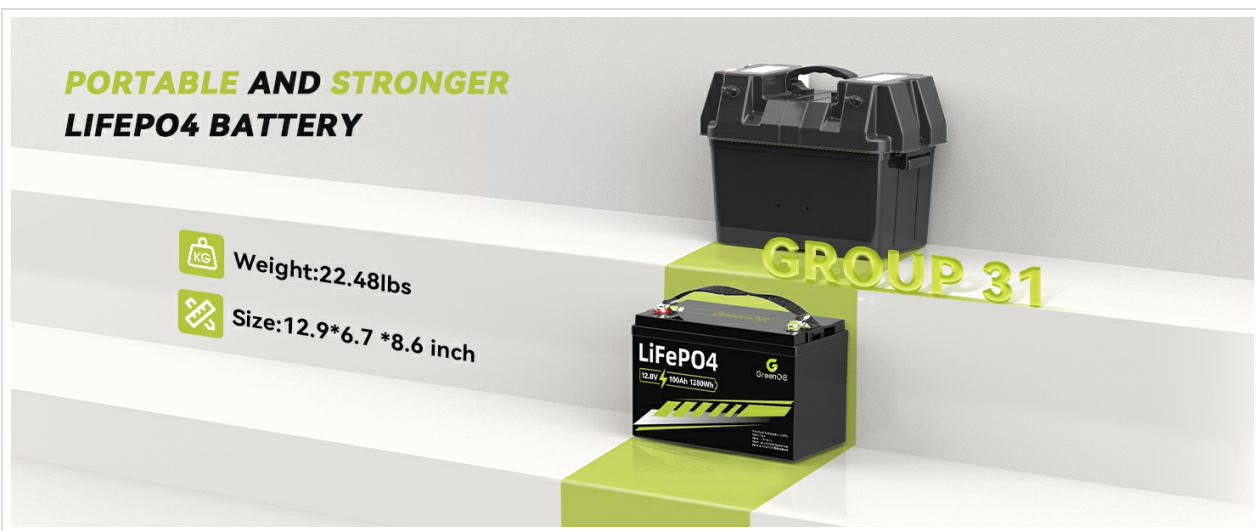
-  Over Charge
-  Over Discharge
-  Over Current
-  Short Circuit
-  High Temp.

Figure 5: The GREENOE 12.8V 100Ah LiFePO4 battery shown within a standard Group 31 battery box, indicating its compatibility as a universal fit.



PORTABLE AND STRONGER LIFEPO4 BATTERY



-  Weight: 22.48lbs
-  Size: 12.9*6.7*8.6 inch

Figure 6: Visual representation of battery combination options, including 4P4S (4 series, 4 parallel), 4S (4 series), and 4P (4 parallel) configurations for various power needs.

5. CHARGING INSTRUCTIONS

Proper charging is crucial for the longevity and performance of your LiFePO4 battery. The recommended charging parameters are:

- **Charging Voltage:** 14.6V \pm 0.2V
- **Charging Current:** 20A (0.2C)
- **Approximate Charging Time:** 5 hours to fully charge from empty at recommended current.

The battery can be charged using several methods:

- **Dedicated LiFePO4 Charger:** Connect a compatible 14.6V 20A LiFePO4 charger.
- **Solar Panel:** Use a solar panel system with a minimum output of 400W and a compatible MPPT or PWM charge controller set for LiFePO4 batteries.
- **Generator:** Utilize a generator with a 20A DC-DC charger.

3 WAYS TO CHARGE

LiFePO4 Charge

5 Hours
(14.6V 20A 0.2C)



Solar Panel

1 Sunny day
(≥400W)



Generator

5 Hours
(20A DC-DC Charger)



Figure 7: Depicts three charging methods: a dedicated LiFePO4 charger, solar panels, and a generator with a DC-DC charger.

6. OPERATING GUIDELINES

The GREENOE 12V 100Ah LiFePO4 battery offers a stable and reliable power source for various applications:

- **Energy Capacity:** 1280Wh
- **Maximum Continuous Discharge Current:** 100A
- **Applications:** Ideal for RVs, solar energy storage, marine vessels, and especially suitable for 30-70 lb thrust trolling motors.

Example run times for common appliances (actual times may vary based on usage and appliance efficiency):

Appliance	Power Consumption	Approximate Run Time
Microwave	400W	3.2 hours

Appliance	Power Consumption	Approximate Run Time
Coffee Machine	1000W	1.2 hours
Fridge	80W	16 hours
Air Conditioner	800W	1.6 hours
Bulb	10W	128 hours
Washer	1000W	1.28 hours

SMART SAFE BMS BATTERY MANAGEMENT SYSTEM

High-Quality | Long-Life | Ultra-Safe

-  *Over Charge*
-  *Over Discharge*
-  *Over Current*
-  *Short Circuit*
-  *High Temp.*



Figure 8: The 12V 100Ah LiFePO4 battery connected to a trolling motor, demonstrating its application in marine environments.



Figure 9: The battery positioned outside an RV, illustrating its capability to power multiple appliances with its 1280Wh capacity and 1280W output.

7. MAINTENANCE AND STORAGE

The GREENOE LiFePO4 battery is designed for long-term performance with minimal maintenance:

- **Lifespan:** The battery is rated for over 15,000 deep cycles, providing a service life of approximately 10 years.
- **Charging Frequency:** For optimal lifespan, charge the battery fully after each use.
- **Storage:** If storing for extended periods, ensure the battery is charged to approximately 50% state of charge and stored in a cool, dry place.
- **Temperature Considerations:** The BMS protects the battery from extreme temperatures. Avoid operating or storing the battery outside its specified temperature range.









					
3.2hrs	1.2hrs	16hrs	1.6hrs	128hrs	1.28hrs
Microwave 400W	Coffee Machine 1000W	Fridge 80W	Air Conditioner 800W	Bulb 10W	Washer 1000W

Figure 10: The battery displayed with indicators for 'Discharge life 4000~15000 times' and 'More Than 10-YEAR LIFE', emphasizing its durability.

8. TROUBLESHOOTING

The built-in BMS is designed to prevent most common battery issues by automatically protecting against adverse conditions. If the battery is not functioning as expected, consider the following:

- **No Power Output:** Check if the battery is fully charged. The BMS may have activated due to over-discharge.
- **Not Charging:** Verify the charger output voltage is $14.6V \pm 0.2V$. The BMS may prevent charging if the temperature is below 32°F (0°C) or if an over-voltage condition is detected.
- **Intermittent Power:** This could indicate an over-current or short-circuit event, causing the BMS to temporarily cut off power. Reduce the load or check for short circuits in your system.
- **High Temperature:** The BMS will protect the battery from overheating. Ensure adequate ventilation around the battery.

If issues persist after checking these points, contact customer support for further assistance.

9. TECHNICAL SPECIFICATIONS

Feature	Specification
Battery Type	LiFePO4 (Lithium Iron Phosphate)
Nominal Voltage	12.8V
Capacity	100Ah
Energy	1280Wh
Built-in BMS	100A
Max. Continuous Discharge Current	100A
Cycle Life	15,000+ cycles
Lifespan	10 years
Weight	22.48 lbs (10.2 kg)
Dimensions (L x W x H)	12.9" x 6.7" x 8.6" (32.8 cm x 17 cm x 21.8 cm)
Charging Voltage	14.6V \pm 0.2V
Charging Current (Recommended)	20A (0.2C)
Discharge Cut-off Temperature	Below -4°F (-20°C)
Charge Cut-off Temperature	Below 32°F (0°C)
Operating Temperature Range	-4°F to +176°F (-20°C to +80°C)
UPC	717504271743
Model Number	12v100ah
Manufacturer Part Number	GE-12V 100Ah

10. WARRANTY AND SUPPORT

GREENOE provides a 5-year warranty from the date of purchase. If a product fault is confirmed to be due to manufacturing defects and not human-caused damage, GREENOE will promptly replace the product or issue a refund after confirmation.

For technical support, warranty claims, or any inquiries, please refer to the contact information provided with your purchase or visit the official GREENOE website.

