

[Manuals.plus](#) /

› [GLCE ENERGY](#) /

› GLCE ENERGY 24V 100Ah LiFePO4 Lithium Battery Instruction Manual

GLCE ENERGY 24V 100Ah

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Model: 24V 100Ah

[Overview](#) [Safety](#) [Contents](#) [Specifications](#) [Setup](#) [Operation & Support](#) [Maintenance](#) [Troubleshooting](#) [Applications](#) [Warranty](#)

1. PRODUCT OVERVIEW

The GLCE ENERGY 24V 100Ah LiFePO4 Lithium Battery is an advanced, rechargeable power solution designed for various applications. Utilizing safe, non-toxic, and renewable lithium-ion chip technology, this battery offers an extended lifespan of up to 10,000+ deep cycles and a 10-year expected lifetime. It features a built-in 100A Smart BMS for comprehensive protection against common battery failures, including overcharge, over-discharge, over-current, short circuit, and temperature volatility. Its innovative design ensures a stable internal structure and IP65 waterproof rating, making it suitable for both indoor and outdoor use.



Figure 1: Front view of the GLCE ENERGY 24V 100Ah LiFePO4 Lithium Battery.

2. SAFETY INFORMATION

WARNING: Failure to follow these safety instructions may result in fire, injury, or damage to the battery and connected equipment.

- Do not disassemble, modify, or puncture the battery.
- Avoid exposing the battery to extreme temperatures, direct sunlight, or water. The operating temperature range is crucial for battery longevity and safety.
- Use only compatible chargers designed for LiFePO4 batteries.
- Ensure proper ventilation when charging or discharging the battery.
- Keep the battery away from children and pets.
- Always connect the battery with correct polarity (positive to positive, negative to negative).
- In case of fire, use a Class D fire extinguisher. Do not use water.
- If the battery emits smoke, heat, or an unusual odor, immediately disconnect it from the load and charger, and move it to a safe, open area.

3. PACKAGE CONTENTS

Upon opening the package, please verify that all items listed below are included and in good condition:

- 1 x GLCE ENERGY 24V 100Ah LiFePO4 Lithium Battery

Note: Additional accessories such as connection cables or stacking brackets may be included depending on the specific product bundle or purchase.

4. TECHNICAL SPECIFICATIONS

GLCE ENERGY LiFePO4 Battery

Battery Type

LiFePO4

Voltage

25.6V

Capacity

100AH

Weight

22kg

Cycle Life

15000+

Energy

2560Wh

Small size Large capacity



Specification	Value
Battery Type	LiFePO4 (Lithium Iron Phosphate)
Nominal Voltage	24V (25.6V)
Capacity	100Ah
Energy	2560Wh
Cycle Life	4000~15000 Cycles
Max. Power Output	2560W
Built-in BMS	100A Smart BMS
Waterproof Rating	IP65
Product Dimensions	19.76 x 7.32 x 9.56 inches
Item Weight	46.3 pounds (22kg)
Lifetime	10 Years

5. SETUP AND INSTALLATION

Follow these steps for safe and proper installation of your GLCE ENERGY LiFePO4 battery. Ensure all connections are secure and correct polarity is maintained.

5.1 Single Battery Connection

1. Place the battery on a stable, flat surface in a well-ventilated area.
2. Connect the positive (+) terminal of the battery to the positive input of your charger/inverter.
3. Connect the negative (-) terminal of the battery to the negative input of your charger/inverter.
4. Ensure all connections are tightened securely to prevent loose contacts and potential hazards.

5.2 Parallel Connection for Increased Capacity

For increased capacity, multiple GLCE ENERGY 24V 100Ah batteries can be connected in parallel. It is recommended to use batteries purchased within 3 months of each other for optimal performance.

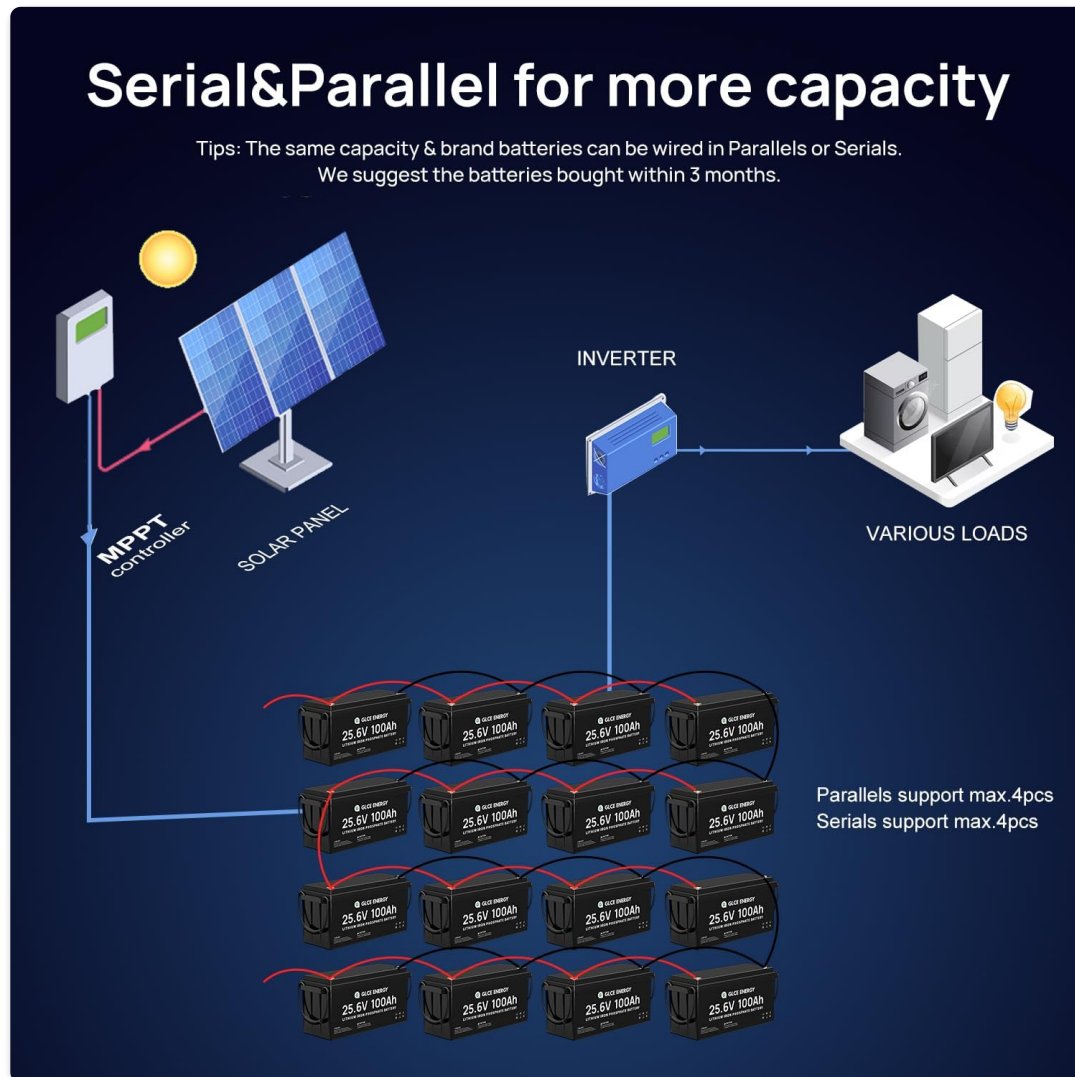


Figure 2: Parallel connection diagram for multiple batteries in a solar energy system. Parallels support max. 4pcs, Serials support max. 4pcs.

1. Place all batteries on a flat, stable surface.
2. Connect the positive (+) terminals of all batteries together using appropriate parallel connection cables.
3. Connect the negative (-) terminals of all batteries together using appropriate parallel connection cables.
4. Connect the main positive and negative cables from the parallel battery bank to your charge controller/inverter.
5. Ensure all connections are tight and secure.

5.3 Video Guide: Parallel Connection with Stacking Bracket

Video 1: This video demonstrates how to connect batteries in parallel using stacking brackets, showing the process of fixing brackets, stacking batteries, connecting terminals, and setting battery addresses for a system startup.

6. OPERATING INSTRUCTIONS

6.1 Charging Methods

Your GLCE ENERGY LiFePO4 battery can be charged using various methods:



Figure 3: Three common methods for charging the LiFePO4 battery.

- **Solar Panels:** Connect to a compatible solar charge controller (MPPT recommended) and solar panels.
- **Generator:** Use a generator with an appropriate charger to replenish battery power.
- **Dedicated Charger:** Utilize a LiFePO4 compatible battery charger.

Always ensure the charging voltage and current are within the battery's specifications to prevent damage.

6.2 Smart BMS Protection

The integrated 100A Smart BMS (Battery Management System) provides comprehensive protection for your battery:

Smart BMS Protection

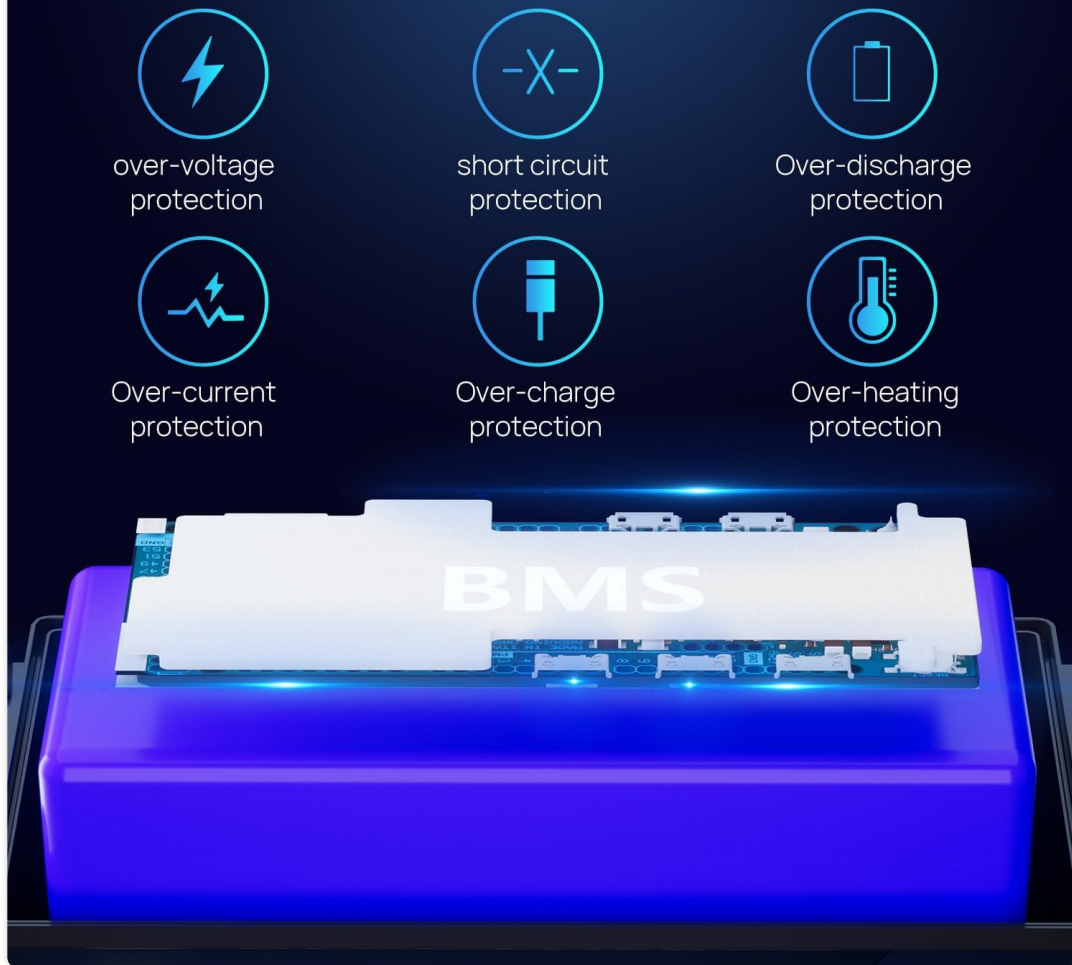


Figure 4: Overview of the Smart BMS protection features.

- **Over-voltage Protection:** Prevents damage from excessive charging voltage.
- **Short Circuit Protection:** Automatically disconnects in case of a short circuit.
- **Over-discharge Protection:** Prevents deep discharge that can harm battery life.
- **Over-current Protection:** Safeguards against excessive current draw.
- **Over-charge Protection:** Ensures the battery is not charged beyond its capacity.
- **Over-heating Protection:** Monitors and manages battery temperature to prevent overheating.

6.3 Monitoring

The battery features an LCD display for direct monitoring of key parameters. Additionally, it may offer Bluetooth or Wi-Fi connectivity for remote monitoring via a dedicated mobile application, allowing you to check battery status, voltage, current, and temperature from your smartphone or tablet.

7. MAINTENANCE

LiFePO4 batteries require minimal maintenance compared to lead-acid batteries, but following these guidelines will ensure optimal performance and longevity:

- **Regular Inspection:** Periodically check battery terminals for corrosion or loose connections. Clean as necessary.
- **Temperature Management:** Operate and store the battery within the recommended temperature range. Avoid extreme heat or cold.
- **Storage:** If storing the battery for an extended period, ensure it is charged to approximately 50-70% State of Charge (SOC) and stored in a cool, dry place.
- **Cleaning:** Keep the battery case clean and free from dust and debris. Use a dry cloth for cleaning.

8. TROUBLESHOOTING

If you encounter issues with your GLCE ENERGY LiFePO4 battery, refer to the following common troubleshooting steps:

- **Battery Not Charging:**

- Check all connections for proper seating and polarity.
- Verify the charger is compatible with LiFePO4 batteries and is functioning correctly.
- Ensure the charging temperature is within the specified range (BMS may prevent charging if too cold or hot).

- **No Power Output:**

- Check the battery's ON/OFF switch (if applicable) and ensure it is in the 'ON' position.
- Inspect all load connections for security.
- The BMS may have activated a protection mode (e.g., over-discharge, over-current). Disconnect the load, wait a few minutes, and try again. If the issue persists, charge the battery.

- **Unusual Odor or Heat:**

- Immediately disconnect the battery from all loads and chargers.
- Move the battery to a safe, open area and contact customer support.

9. WIDE RANGE OF APPLICATIONS

The GLCE ENERGY 24V 100Ah LiFePO4 Lithium Battery is versatile and suitable for numerous applications due to its robust design and high performance:



Figure 5: Diverse applications for the LiFePO₄ battery.

- **Trolling Motors:** Provides reliable and long-lasting power for marine propulsion.
- **Solar Energy Systems:** Ideal for energy storage in off-grid or grid-tied solar installations.
- **Household Appliances:** Can power various home devices during outages or in off-grid homes.
- **Marine & RV:** Excellent for recreational vehicles, caravans, and boats due to its lightweight and compact size.
- **Camping & Outdoor:** Powers portable devices and equipment for extended outdoor adventures.
- **Industrial Tools:** Suitable for demanding industrial applications requiring robust power.
- **Electric Vehicles & E-Robots:** Provides efficient power for various electric mobility solutions.

9.1 Product Video: GLCE ENERGY 24V 100Ah LiFePO₄ Lithium Battery

Video 2: An official product video showcasing the features and applications of the GLCE ENERGY 24V 100Ah LiFePO₄ Lithium Battery.

10. WARRANTY AND SUPPORT

GLCE ENERGY provides a professional lithium battery engineer service team to assist with any questions or issues you may encounter. Please refer to your purchase documentation for specific warranty terms and contact information.

For support, please contact the seller or manufacturer directly through the provided channels.

