GuaiGLong LiFePO4 Battery 12V 120AH

GuaiGLong 12V 120Ah LiFePO4 Battery User Manual

Model: LiFePO4 Battery 12V 120AH

1. Introduction

This manual provides essential information for the safe and efficient use of your GuaiGLong 12V 120Ah LiFePO4 Battery. Please read these instructions carefully before installation and operation to ensure optimal performance and longevity of the product.

The GuaiGLong 12V 120Ah LiFePO4 Battery is a high-capacity lithium iron phosphate battery designed for various applications including marine, RV, solar, and off-grid systems. It features a built-in 100A Battery Management System (BMS) for enhanced safety and performance.



Image 1.1: The GuaiGLong 12V 120Ah LiFePO4 Battery shown with its included accessories: an Anderson plug, a 10A charger, and a USB car charger.

2. Safety Instructions

- Do not short-circuit the battery terminals.
- Do not expose the battery to fire or extreme heat.
- Do not immerse the battery in water.
- Use only the specified charger (14.6V 10A) or a compatible LiFePO4 charger.
- Keep out of reach of children.
- Do not disassemble or modify the battery.
- Ensure proper ventilation during charging and operation.
- Avoid dropping or subjecting the battery to severe impacts.

3. Setup

3.1 Unboxing and Initial Inspection

Upon receiving your GuaiGLong LiFePO4 battery, carefully unpack it and inspect for any signs of damage. Ensure all included accessories are present: 1 * 12V 120AH LifePO4 Battery, 1 * 10A Charger (14.6V), 1 * Anderson plug (50A).

3.2 Charging the Battery

Connect the included 10A charger to the designated charging port on the battery. Plug the charger into a standard AC outlet. The battery display will indicate charging status. Ensure the battery is fully charged before first use.

3.3 Activating the BMS

The Battery Management System (BMS) may require activation upon initial setup or after prolonged storage. Follow the steps in the video below to activate the BMS.

Your browser does not support the video tag.

Video 3.1: This video demonstrates the process of activating the Battery Management System (BMS) for the GuaiGLong LiFePO4 battery. It shows connecting the charger, opening the battery box, and connecting a new wire to the BMS for 3-5 minutes to activate it.

3.4 Connecting to Devices

The battery offers multiple interface options for connecting various devices:

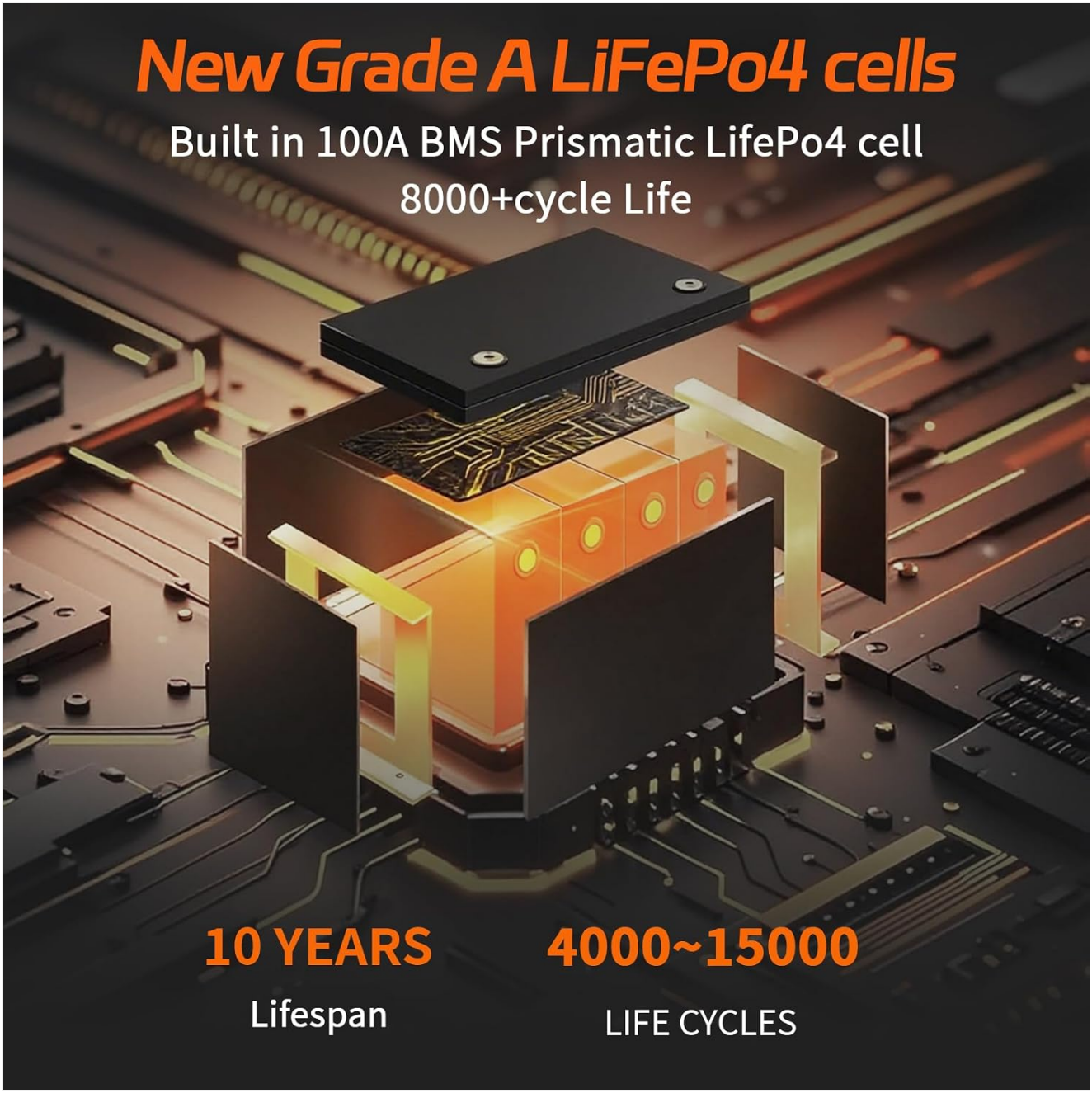


Image 3.2: A detailed view of the GuaiGLong 12V 120Ah LiFePO4 Battery's multi-interface design, highlighting each port and its function.

- **M8 Terminal:** Used for high-power devices (≤100A, MAX 1280W) such as electric motors, trolling motors, inverters, and other high-power applications.
- **LD20 & Charging Port:** This waterproof plug has a maximum current of 20A and is suitable for low-power devices like sonars, fish finders, speakers, and LED lights. It also serves as a charging port.
- **Anderson Plug (50A):** This port has a maximum current of 50A and is used for devices with power less than 600W, such as low-power electric motors.
- **Cigarette Lighter Socket (20A):** This port has a maximum power of 180W and is used to connect 12V coffee makers, portable refrigerators, air pumps, lighting equipment, and electronic devices for charging.
- **USB Charging Port (5V, 3.1A):** For charging small electronic devices like smartphones and tablets.

Always ensure that the power requirements of your devices do not exceed the maximum current ratings of the respective ports or the battery's overall discharge capabilities.

4. Operating Instructions

4.1 Monitoring Battery Status

The battery features a display screen that shows the power percentage and voltage.**Note:** The percentage of electricity displayed on this display is an estimate. When using it, you need to estimate the remaining electricity according to the voltage. The power of a 12V LiFePO4 battery is concentrated between 12.2V-13.2V.

4.2 Typical Applications

This battery is suitable for a wide range of applications due to its robust design and versatile interfaces.



Image 4.1: Examples of common applications for the GuaiGLong LiFePO4 battery, including RVs, trolling motors, marine vessels, solar setups, and camping/hiking.

- **Marine:** Ideal for trolling motors, fish finders, and other boat electronics.
- **RV & Camping:** Powers appliances, lights, and charging needs in recreational vehicles and during outdoor adventures.
- **Solar:** Suitable for off-grid solar energy storage systems.
- **Off-Grid Applications:** Provides reliable power for remote setups.

4.3 Discharge and Charging Limits

The battery's 100A BMS allows for efficient charging up to 30A and an instantaneous discharge current of ≤100A. The operating voltage range is 10V to 14.6V. Always operate within these limits to prevent damage and ensure safety.

5. Maintenance

5.1 Charging Recommendations

For optimal battery life, it is recommended to fully charge the battery after each significant discharge. Avoid leaving the battery in a deeply discharged state for extended periods.

5.2 Storage Guidelines

If storing the battery for an extended period, ensure it is charged to approximately 50-70% capacity. Store in a cool, dry place away from direct sunlight and extreme temperatures. The battery storage period is 90% power for 6 months.

5.3 Cleaning

Keep the battery casing and terminals clean and free of dust and debris. Use a dry cloth for cleaning. Do not use abrasive cleaners or solvents.

5.4 Lifespan

The GuaiGLong LiFePO4 battery is designed for durability, offering a lifespan exceeding 8000 cycles under optimal conditions.

6. Troubleshooting

The built-in 100A Battery Management System (BMS) provides comprehensive protection against various issues. If you encounter problems, refer to the BMS protection features below.

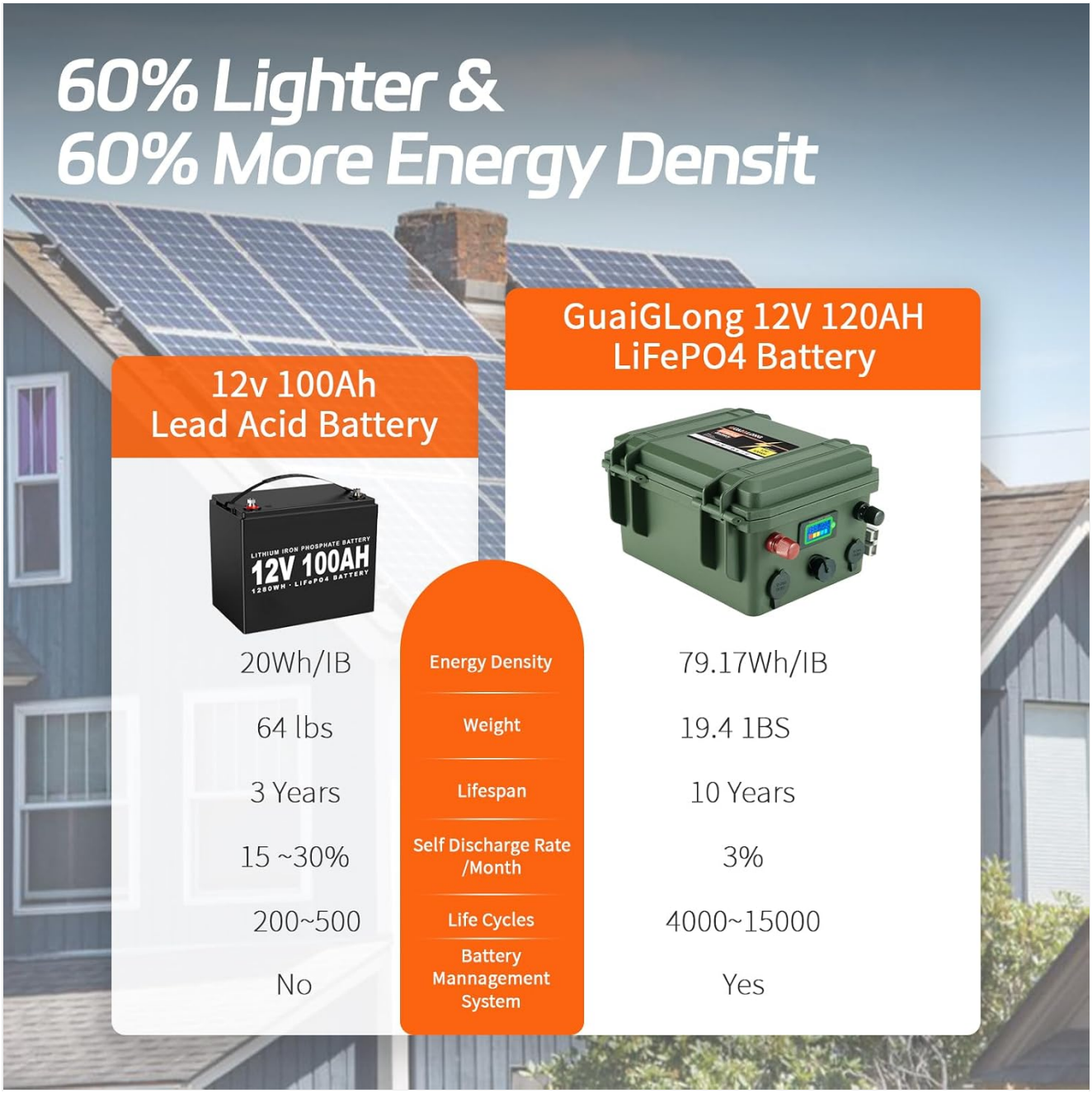


Image 6.1: Diagram illustrating the various protection features of the integrated 100A BMS, including safeguards against short circuits, overcharge, low/high temperature, over-discharge, auto-cell balance, and over-current.

- **Short Circuit Protection:** The BMS will automatically cut off power in case of a short circuit.
- **Overcharge Protection:** Prevents the battery from being charged beyond its safe voltage limit.
- **Low/High Temperature Protection:** The battery will cease operation if temperatures fall outside the safe operating range (Charge at 0°C-45°C, Discharge at -20°C-60°C).
- **Over-Discharge Protection:** Prevents the battery from being discharged below its safe voltage limit, preserving battery health.
- **Auto-Cell Balance:** Helps maintain balanced voltage across individual cells for improved performance and longevity.
- **Over-Current Protection:** Shuts down the battery if the discharge current exceeds safe limits.

If the battery enters a protected state, disconnect the load or charger, wait a few minutes, and then attempt to reactivate the BMS as described in Section 3.3 if necessary. If problems persist, contact customer support.

7. Specifications



Image 7.1: A visual representation of the technical specifications for the GuaiGLong 12V 120Ah LiFePO4 Battery.

Feature	Specification
Voltage	12V
Capacity	120Ah
Energy	1536Wh
BMS Board	100A
Battery Type	LiFePO4
Terminal	M8 Terminal
Operating Temperature (Charge)	0°C-45°C
Operating Temperature (Discharge)	-20°C-60°C

Feature	Specification
Weight	19.4 lbs (8.8 kg)
Cycle Life	8000+ Cycles
Waterproof Rating	IP65
Product Dimensions	10.82"D x 9.25"W x 6.49"H (275mm x 235mm x 165mm)
Nominal Voltage	12.8V
Operating Voltage Range	10V - 14.6V
Maximum Charging Current	30A
Charging Voltage	14.6V
Continuous Discharge Current	100A
Instantaneous Discharge Current	≤100A

8. Warranty and Support

GuaiGLong is committed to providing 5 years of reported service for every battery sold. If you require assistance, our service team offers professional information and services, responds quickly, and aims to resolve problems in a timely manner. We will help analyze customer problems, provide solutions, restore battery usage, and introduce the best usage practices within 24 hours.
For support, please refer to the contact information provided with your purchase or visit the official GuaiGLong website.

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