

E-LekTech 12V 300Ah

E-LekTech 12V 300Ah LiFePO4 Lithium Battery User Manual

Model: 12V 300Ah | Brand: E-LekTech

1. INTRODUCTION

This manual provides essential information for the safe and efficient use of your E-LekTech 12V 300Ah LiFePO4 Lithium Battery. Please read these instructions carefully before installation and operation to ensure optimal performance and longevity of the product. This battery is designed for various applications including off-grid systems, RVs, golf carts, solar power systems, and home backup.

2. SAFETY INSTRUCTIONS

Adherence to the following safety guidelines is crucial to prevent injury and damage to the battery and connected equipment.

- Always wear appropriate personal protective equipment (PPE), including safety glasses and insulated gloves, when handling batteries.
- Ensure all connections are secure and properly insulated to prevent short circuits.
- Do not disassemble, puncture, or modify the battery. Internal components are not user-serviceable.
- Keep the battery away from heat sources, open flames, and flammable materials.
- Avoid dropping or subjecting the battery to severe impacts.
- Only use chargers specifically designed for LiFePO4 batteries with appropriate voltage and current ratings.
- The battery must be mounted in an **upright position**. Mounting on its side or upside down for long-term use is not recommended due to internal electrolyte distribution.
- In case of fire, use a Class D fire extinguisher. Water or foam extinguishers may be ineffective or dangerous.

3. PRODUCT OVERVIEW

3.1 Key Features

- **Lightweight and Compact:** Weighs approximately 56 pounds, significantly lighter than lead-acid batteries of comparable capacity, facilitating easier handling and installation. Dimensions: 13.4 inches (Length) x 7.6 inches (Width) x 9.8 inches (Height).
- **Advanced Battery Management System (BMS):** Equipped with a 200A BMS for comprehensive protection against overcharge, over-discharge, overcurrent, short circuit, overheating, and low temperature cutoff.
- **High Capacity and Long Cycle Life:** Offers 3.84kWh of usable energy with a cycle life exceeding 10,000 cycles at optimal conditions, providing a lifespan of up to 10 years.
- **Expandable Capacity:** Supports expansion up to 6 series and 6 parallel connections for increased capacity and higher voltage requirements.

3.2 Components

The battery features robust M8 terminals for secure electrical connections.

3.3 Product Visuals



The E-LekTech 12V 300Ah LiFePO4 Lithium Battery, shown with its M8 terminals and a smartphone demonstrating the battery monitoring application.



This image illustrates the physical dimensions of the E-LekTech 12V 300Ah LiFePO4 battery (13.4in L x 7.6in W x 9.8in H) and details the M8 terminal specifications, including an 8mm diameter and 16mm length.

12V 300Ah LiFePO4 Battery GRADE-A CELLS & 200A BMS GUARD

WT:56LBS



A transparent view of the E-LekTech 12V 300Ah LiFePO4 battery highlighting its internal Grade-A cells and the integrated 200A Battery Management System (BMS) which provides multiple protections.

4. SETUP AND INSTALLATION

4.1 Pre-Installation Checks

- Inspect the battery for any physical damage. Do not install if damage is observed.
- Verify that the battery voltage matches the requirements of your system.
- Ensure all connecting cables are of appropriate gauge and length for the expected current draw.

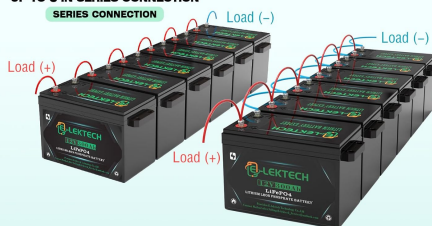
4.2 Connection Instructions

The E-LekTech 12V 300Ah LiFePO4 battery supports both series and parallel connections for system expansion. When connecting multiple batteries:

- **Series Connection:** Up to 6 batteries can be connected in series to increase the system voltage. Ensure all batteries are fully charged and voltage balanced before making series connections.
- **Parallel Connection:** Up to 6 batteries can be connected in parallel to increase the system capacity. Ensure all batteries are fully charged and voltage balanced before making parallel connections.
- Always connect positive terminals to positive terminals and negative terminals to negative terminals for parallel connections. For series connections, connect the positive of one battery to the negative of the next.
- Use appropriate fuses and circuit breakers for protection.

EXPANSION CAPACITY AND VOLTAGE

UP TO 6 IN SERIES CONNECTION



UP TO 6 IN PARALLEL CONNECTION

Note: When the batteries are used in parallel or series, the battery voltage and capacity must be the same, and Purchased in near time (within one month)

This image demonstrates the proper connection methods for E-LekTech LiFePO4 batteries in series (for higher voltage) and parallel (for higher capacity), emphasizing that batteries must be fully charged and voltage balanced before connecting.

4.3 Charging Recommendations

- Use a dedicated LiFePO4 charger with a charging voltage of 14.4V-14.6V.
- Avoid overcharging or undercharging the battery. The integrated BMS will provide protection, but proper charging practices extend battery life.

5. OPERATING INSTRUCTIONS

5.1 General Usage

- The maximum continuous discharge current is 200A, and the maximum load power is 2560W. Do not exceed these limits.
- The battery offers 100% usable capacity, allowing for deep discharge without significant impact on lifespan.

5.2 Monitoring with Smartphone App

The E-LekTech battery can be monitored via a dedicated smartphone application. This app allows you to:

- Check real-time battery status (voltage, current, power).
- Monitor individual cell voltages and temperatures.
- Control the discharge switch.



Screenshots of the E-LekTech smartphone application, showing features like discharge switch control, battery status checks, and real-time monitoring of voltage, current, power, and temperature.

6. MAINTENANCE

- Regularly inspect battery terminals for corrosion and ensure connections are tight. Clean terminals with a wire brush if necessary.

- Keep the battery clean and dry.
- For long-term storage, store the battery in a cool, dry place at approximately 50% state of charge. Avoid extreme temperatures.
- Periodically check the battery's voltage to ensure it remains within safe operating parameters.

7. TROUBLESHOOTING

- **Battery Not Charging:** Check charger connections, ensure the charger is compatible with LiFePO4 batteries, and verify the power source. The BMS may have activated a protection mode.
- **Battery Not Discharging:** The BMS may have activated an over-discharge or overcurrent protection. Disconnect the load and attempt to recharge the battery.
- **Inaccurate Voltage Meter (if applicable):** Some integrated voltage meters may show slight inaccuracies, especially at lower states of charge. For precise readings, use an external multimeter.
- **System Shutdown:** This indicates the BMS has triggered a protection (e.g., overcurrent, low voltage, high/low temperature). Identify and resolve the underlying issue before attempting to restart the system.

If issues persist, refer to the warranty and support section for assistance.

8. SPECIFICATIONS

Specification	Value
Brand	E-LekTech
Model	12V 300Ah
Product Dimensions (L x W x H)	13.4" x 7.6" x 9.8"
Item Weight	56 pounds
Number Of Cells	4
Terminal Type	M8
Usable Energy	3840Wh
Max. Continuous Discharging Current	200A
Max. Load Power	2560W
Waterproof Class	IP65
Cycle Life	Up to 10,000 cycles
BMS Protection	Over charge, over discharge, over current, short circuit, over temperature, low temperature cutoff

9. WARRANTY AND SUPPORT

E-LekTech offers a **five-year warranty** on this battery. If you encounter any issues or have questions regarding the product, please contact E-LekTech customer support. Our team is available to assist you within 24 hours to analyze problems, provide solutions, and offer guidance on optimal product usage. For quality-related concerns, a free return and exchange service may be provided.



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