Saved from manuals.plus.
Open the live page for links to other documents and user manuals.

E-LekTech SH-12-300-2

E-LekTech 12V 330Ah LiFePO4 Lithium Battery Instruction Manual

Model: SH-12-300-2

1. Introduction

This manual provides essential information for the safe and efficient use of your E-LekTech 12V 330Ah LiFePO4 Lithium Battery. Please read this manual thoroughly before installation and operation to ensure optimal performance and longevity of your battery. This battery is designed for various applications including off-grid systems, RVs, golf carts, solar power systems, and home backup.

2. Safety Information

Your E-LekTech LiFePO4 battery is equipped with an advanced Intelligent Battery Management System (BMS) to ensure safe operation. However, it is crucial to follow all safety guidelines to prevent damage, injury, or fire.

2.1 BMS Protection Features

- **Over Charge Protection:** Prevents battery damage from excessive charging voltage.
- **Over Discharge Protection:** Protects the battery from being discharged below its safe voltage limit.
- **Over Current Protection:** Safeguards against excessive current draw.
- **Over Temperature Protection:** Monitors and regulates battery temperature to prevent overheating.
- **Short Circuit Protection:** Automatically disconnects the battery in case of a short circuit.
- **Low Temperature Cutoff Protection:** Prevents charging or discharging at temperatures that could damage the battery cells.

The BMS ensures battery stability and extends its lifespan, offering up to 4000 cycles at 100% Depth of Discharge (DOD), 6000 cycles at 80% DOD, and 15000 cycles at 60% DOD.



Image: Internal view of the E-LekTech 12V 330Ah LiFePO4 battery highlighting the integrated BMS and its protective features.

Image: Detailed overview of the Battery Management System (BMS) protection features and expected cycle life based on Depth of Discharge (DOD).

2.2 General Safety Precautions

- Do not short-circuit the battery terminals.
- Do not expose the battery to fire or extreme heat.
- Do not immerse the battery in water or other liquids.
- Do not disassemble, crush, or puncture the battery.
- Use only compatible chargers designed for LiFePO4 batteries.
- Ensure proper ventilation during charging and discharging.
- Keep out of reach of children.

3. Product Features

- **Advanced Cell Technology:** Utilizes Grade A LiFePO4 cells for superior performance and reliability.
- **High Energy Density:** Provides 4224Wh of usable energy.
- **Powerful Output:** Supports a maximum continuous discharge current of 200A and a maximum load power of 2560W.
- **Long Cycle Life:** Offers over 8000 deep cycles, ensuring a long operational lifespan of up to 10 years.
- **Lightweight and Compact:** Weighs 56 pounds, approximately 1/3 the weight of a comparable lead-acid battery, making it easy to handle and install. Dimensions: 13.4 x 7.6 x 9.8 inches (Length x Width x Height).
- **Expandable Capacity:** Supports up to 6 batteries in series and 6 batteries in parallel for increased voltage and capacity.
- **Smart Monitoring:** Features Bluetooth connectivity for monitoring battery status and control via a dedicated smartphone application.
- **Durable Design:** Rated IP65 for waterproof protection, suitable for both indoor and outdoor use.

Image: Physical dimensions, M8 terminal specifications, and key performance metrics including usable energy, continuous discharge current, max load power, and waterproof rating.

Image: Illustration of the smart app used to monitor and control the battery, showing discharge switch, battery status, and control options.

4. Specifications

Attribute	Specification
Brand	E-LekTech
Model Number	SH-12-300-2
Voltage	12 Volts
Capacity	330Ah
Usable Energy	4224Wh
Battery Cell Composition	Lithium Iron Phosphate (LiFePO4)
Built-in BMS	200A
Max. Continuous Discharge Current	200A
Max. Load Power	2560W
Cycle Life	8000+ cycles (at 100% DOD)
Item Weight	56 Pounds
Dimensions (L x W x H)	13.4 x 7.6 x 9.8 inches
Number of Cells	4
Terminal Type	M8
Waterproof Class	IP65
Warranty	10 Years

5. Setup and Installation

5.1 Initial Charging

Before initial use, ensure the battery is fully charged using a compatible LiFePO4 charger. This helps in balancing the cells and preparing the battery for optimal performance.

5.2 Series and Parallel Connections

The E-LekTech 12V 330Ah LiFePO4 battery supports expansion up to 6 units in series and 6 units in parallel to achieve higher voltage or greater capacity. When connecting batteries in series or parallel, it is critical that all batteries are fully charged individually to a voltage balance state before making connections. The battery voltage and capacity must be the same for all connected units. It is recommended to use batteries purchased around the same time (within one month) for optimal performance in a multi-battery system.

Image: Visual guide for connecting multiple batteries in series (to increase voltage) and parallel (to increase capacity), emphasizing the importance of balanced voltage.

Video: This video demonstrates the process of connecting E-LekTech LiFePO4 batteries in series or parallel configurations to expand your power system.

5.3 System Integration

For optimal energy storage, consider integrating your battery with compatible components:

- **Charger:** Use a 14.6V 75A LiFePO4 specific charger.
- **Solar Panel + MPPT:** Recommended solar panel capacity of >400W with a Maximum Power Point Tracking (MPPT) charge controller.
- **Generator:** An optional 75A DC to DC charger can be added for generator charging.



Image: A schematic illustrating how the E-LekTech battery integrates into a comprehensive energy storage system, including charging sources and expansion options.

6. Operation

6.1 General Use

The E-LekTech 12V 330Ah LiFePO4 battery is designed for continuous power supply in various demanding environments. Its large capacity allows ordinary appliances to operate for extended periods.



Image: The E-LekTech battery in an outdoor setting, demonstrating its use for extended power supply during camping or RV trips.

6.2 Smart App Monitoring and Control

Utilize the dedicated smartphone application to monitor your battery's status in real-time. The app provides information on voltage, current, power, and allows you to control discharge settings and even turn the battery off remotely.

6.3 Application Scenarios

This battery is ideal for a wide range of applications:

- Off-grid solar systems
- Recreational Vehicles (RVs) and campers
- Marine applications (boats)
- Golf carts
- Home backup power systems
- Portable power for outdoor activities



Image: Collage depicting diverse applications of the E-LekTech LiFePO4 battery, such as in RVs, boats, golf carts, and residential solar setups.

7. Maintenance

LiFePO4 batteries require minimal maintenance compared to lead-acid batteries. Follow these guidelines to ensure

optimal performance and lifespan:

- **Regular Charging:** Avoid leaving the battery in a deeply discharged state for extended periods. Recharge promptly after use.
- **Storage:** If storing the battery for an extended period, charge it to approximately 50-70% of its capacity and store in a cool, dry place. Periodically check the voltage and recharge if necessary.
- **Terminal Inspection:** Periodically inspect battery terminals for corrosion or loose connections. Clean and tighten as needed.
- **Temperature:** Operate and store the battery within its specified temperature range to prevent damage.

8. Troubleshooting

If you encounter issues with your E-LekTech LiFePO4 battery, consider the following:

- **Battery Not Charging:** Verify that the charger is compatible with LiFePO4 batteries and is properly connected. Check for any BMS fault indicators (if available on your charger or app). Ensure the ambient temperature is within the safe charging range.
- **Battery Not Discharging/Low Power Output:** Check all connections for tightness and proper polarity. Ensure the load does not exceed the maximum continuous discharge current or maximum load power. The BMS may have activated a protection mode (e.g., over-discharge, over-current, low temperature cutoff).
- **Inaccurate State of Charge (SOC) Reading:** While the internal BMS provides an estimated SOC, external battery monitors with shunts can offer more precise readings, especially in complex systems. If you suspect an inaccurate reading, a full charge and discharge cycle can sometimes recalibrate the internal BMS.
- **System Shutdown:** This often indicates a BMS protection activation due to over-discharge, over-current, or temperature extremes. Identify and resolve the underlying cause before attempting to restart the system.

For persistent issues or complex problems, please refer to the Warranty and Support section for assistance.

9. Warranty and Support

E-LekTech stands behind the quality of its products. Your 12V 330Ah LiFePO4 battery comes with a comprehensive **10-year warranty**.
If you experience any problems during use, our customer support team is available to assist you. We commit to analyzing your issue and providing a solution within 24 hours. Our goal is to help you resolve the problem and guide you on the best way to use your battery. In the event of any quality-related issues covered under warranty, we will provide a free return and exchange service.
For support, please contact us through the seller's contact information provided at the point of purchase or visit the official E-LekTech website for contact details.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

Open the live page

https://manuals.plus/asin/B0CW1QN63H

More documents and user manuals: **https://manuals.plus/**