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Elefast 12V_330A

Elefast 12V 330AH LiFePO4 Battery User Manual

Model: 12V_330A

1. Introduction

This manual provides essential information for the safe and efficient use of your Elefast 12V 330AH LiFePO4 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 RVs, solar energy systems, and off-grid power solutions.

2. Safety Information

Always adhere to the following safety guidelines to prevent injury, damage to the battery, or other equipment:

- 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, puncture, or modify the battery.
- Use only compatible chargers specifically designed for LiFePO4 batteries (e.g., 14.6V 50A lithium battery charger).
- Ensure proper ventilation during charging and discharging.
- Keep the battery away from children and pets.
- Wear appropriate personal protective equipment (PPE) such as gloves and eye protection when handling the battery.
- In case of fire, use a Class D fire extinguisher. Water can exacerbate lithium fires.

3. Product Overview

The Elefast 12V 330AH LiFePO4 Battery features high-capacity EVE Grade A+ cells and an integrated 200A intelligent Battery Management System (BMS) for enhanced safety and performance. It includes Bluetooth connectivity for real-time monitoring via a mobile application.



Figure 3.1: Elefast 12V 330AH LiFePO4 Battery with Bluetooth App Interface

This image displays the Elefast 12V 330AH LiFePO4 battery, highlighting its compact design and the accompanying mobile application interface. The app allows users to monitor battery status, including State of Charge (SOC), voltage, current, and temperature, providing convenient real-time data.



Figure 3.2: Internal Components and BMS Protection

This diagram illustrates the internal construction of the Elefast LiFePO4 battery, showcasing the high-quality EVE Grade A+ cells and the robust 200A Battery Management System (BMS). The BMS provides critical protections against overcharging, over-discharging, overloading, high temperature, and short circuits, ensuring safe and reliable operation.

4. Setup

4.1 Unpacking

Upon receiving your Elefast LiFePO4 battery, carefully inspect the packaging for any signs of damage. Remove the battery from its packaging and check for any physical damage to the battery itself. The package should contain the battery body.

4.2 Initial Charge

The battery is typically shipped with approximately 50% charge for safety during transport. For optimal performance and to calibrate the BMS, it is recommended to fully charge the battery before its first use.

4.3 Installation Guidelines

When installing the battery, ensure it is placed in a secure, well-ventilated area. Maintain proper clearance around the battery for air circulation. Connect the battery terminals securely, ensuring correct polarity (positive to positive, negative to negative). Loose connections can cause overheating and damage.



Figure 4.1: Battery Dimensions and Weight

This image provides the physical dimensions (9.64 in H x 13.58 in W x 7.4 in D, with handle 14.4 in W) and weight (57 lbs) of the Elefast 12V 330AH LiFePO4 battery. This information is crucial for planning installation space in RVs, solar setups, or other applications.

4.4 Series and Parallel Connections

The Elefast 12V 330AH LiFePO4 battery supports both series and parallel connections to achieve higher voltage or capacity. It can support up to 4 batteries in series for a 48V system (48V330A) or up to 4 batteries in parallel for increased capacity (12V1320A). **Note:** The battery cannot be connected in series and parallel simultaneously within the same bank. Always ensure all batteries in a series or parallel bank are of the same model and capacity.



Figure 4.2: Series and Parallel Connection Diagram

This diagram illustrates how multiple Elefast LiFePO4 batteries can be configured in series or parallel to meet specific power requirements for solar energy systems and household appliances. It shows a 4S4P configuration, indicating support for up to 4 batteries in series and 4 in parallel, achieving a maximum of 67.5 kWh energy, 10.2 kW power, 51.2 V voltage, and 1320 A current.

5. Operating Instructions

5.1 Connecting to Devices

Connect your appliances or inverter to the battery terminals, ensuring correct polarity. Refer to your appliance or inverter manual for specific connection instructions. The 330AH capacity provides ample power for various devices.



Figure 5.1: Battery Powering RV Appliances

This image demonstrates the Elefast LiFePO4 battery's capability to power multiple appliances within an RV, such as an air conditioner, microwave oven, coffee machine, fridge, toaster, and TV. The graphic indicates potential runtimes for each appliance based on their wattage, showcasing the battery's 4224Wh capacity and 2560W power output.

5.2 Bluetooth App Monitoring

Download the designated Bluetooth application (e.g., XiaoXiangElectric or BAT-BMS) to your smartphone. Enable Bluetooth on your device and open the app to connect to your Elefast battery. The app provides real-time data on battery capacity, voltage, current, temperature, and cycle count. This allows for convenient monitoring of battery status.

5.3 Charging the Battery

The battery can be recharged using several methods:

- **AC Charger:** Use a compatible 14.6V 50A lithium battery special charger. A full charge typically takes approximately 6.6 hours.
- **Solar Panels:** Connect to an appropriate solar charge controller and solar panel array (e.g., 800W solar panels). Charging time is approximately 5 hours, depending on sunlight intensity.
- **Generator:** Connect to a generator with a suitable charging output. Charging time is approximately 4 hours.



Figure 5.2: Recharging Methods

This image illustrates three common methods for recharging the Elefast 12V 330AH LiFePO4 battery: using a dedicated battery charger (approx. 6.6 hours with a 50A charger), solar panels (approx. 5 hours with 800W panels), and a generator (approx. 4 hours). This provides flexibility for various power setups.

5.4 Discharging and Low-Temperature Protection

The integrated BMS provides multi-protection features, including low-temperature cut-off. When the battery temperature drops below -4°F (-20°C), the BMS will stop discharging to protect the battery. Discharging will resume automatically when the temperature rises above 32°F (0°C). Similarly, charging will stop if the temperature is below 32°F (0°C) and resume when it rises above 0°F (-17.8°C).

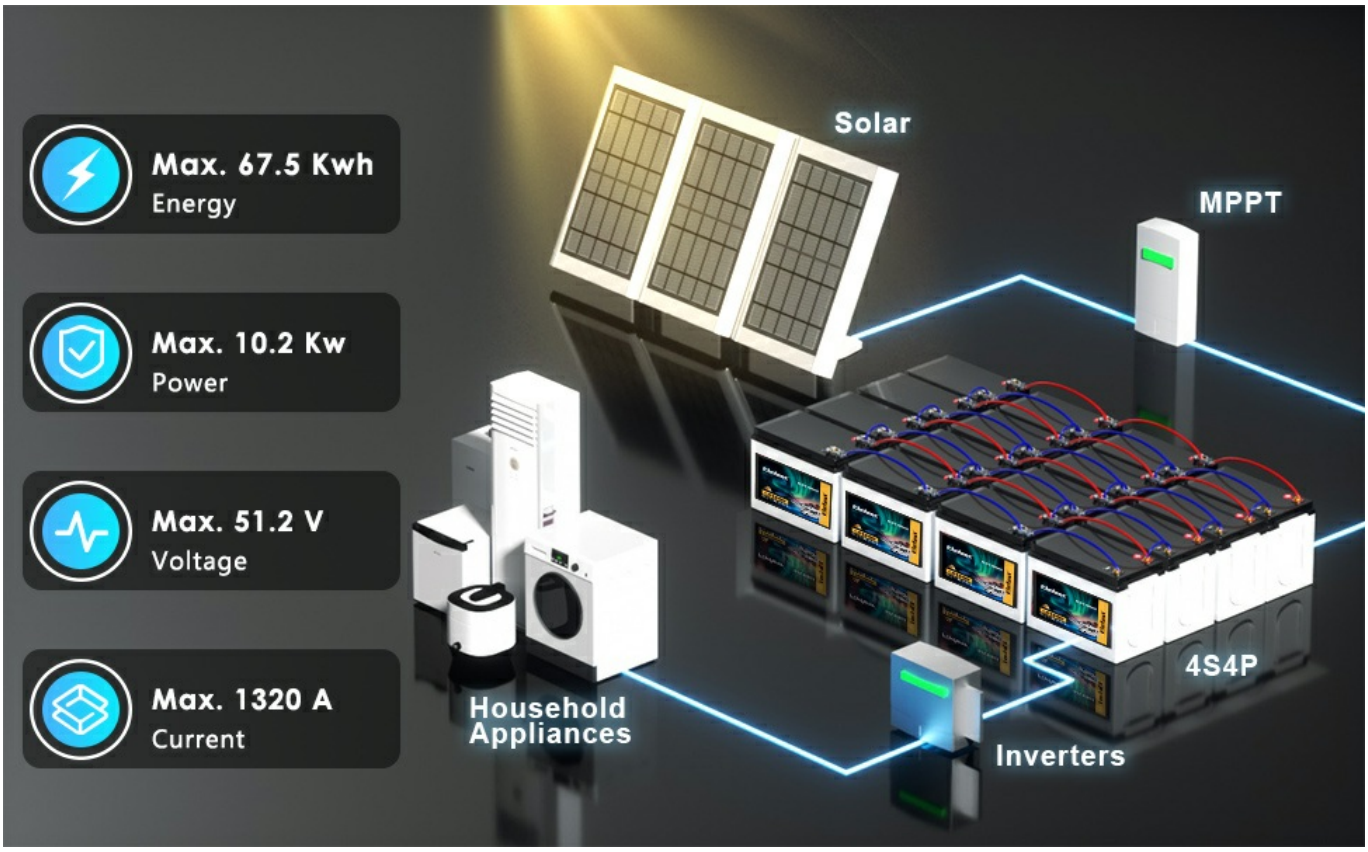


Figure 5.3: Low-Temperature Protection

This image highlights the low-temperature protection feature of the Elefast LiFePO4 battery, showing that charging stops below 32°F (0°C) and discharging stops below -4°F (-20°C). The BMS ensures automatic recovery when temperatures return to safe operating ranges, protecting the battery in cold environments.

6. Maintenance

6.1 Storage

For long-term storage, ensure the battery is charged to approximately 50% of its capacity. Store the battery in a cool, dry place, away from direct sunlight and extreme temperatures. Disconnect it from any loads or charging sources.

6.2 Cleaning

Periodically clean the battery terminals to prevent corrosion. Use a dry cloth to wipe down the battery casing. Do not use abrasive cleaners or solvents.

6.3 Regular Checks

Regularly monitor the battery's status using the Bluetooth app. Pay attention to voltage, current, and temperature readings. The BMS actively balances cell voltages, contributing to extended battery life (up to 8000 cycles or more, 10+ years).

7. Troubleshooting

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

- **Battery Not Charging:** Check all connections for security and correct polarity. Ensure the charger is compatible (14.6V 50A for LiFePO4) and functioning. Verify the ambient temperature is within the charging range (above 32°F / 0°C).
- **Battery Not Discharging:** Check for BMS cut-off due to low temperature (below -4°F / -20°C) or other protection triggers (over-discharge, over-load, short-circuit). Allow the battery to warm up if temperature is the issue.

- **Bluetooth App Connectivity Issues:** Ensure Bluetooth is enabled on your device and the battery is within range. Restart the app and try reconnecting. If issues persist, try reinstalling the app.
- **Inaccurate State of Charge (SOC) Reading:** While the app provides an estimated SOC, it may sometimes vary. For precise measurements, rely on voltage readings. A fully charged 12V LiFePO4 battery is typically around 13.6V.
- **Battery Appears "Locked Down" After Deep Discharge:** The BMS will protect the battery from deep discharge. If this occurs, a specialized LiFePO4 charger may be required to reactivate the battery. Avoid deep discharge to prolong battery life.

For issues not covered here, please contact Elefast customer support.

8. Specifications

Feature	Specification
Brand	Elefast
Model	12V_330A
Nominal Voltage	12V
Capacity	330AH
Battery Type	LiFePO4 (Lithium Iron Phosphate)
BMS	Built-in 200A Intelligent BMS
Cycle Life	Up to 8000+ cycles
Bluetooth	Yes, for APP monitoring
Item Weight	57.9 pounds
Product Dimensions	9.6 x 13.58 x 7.4 inches (D x W x H)
Charging Temperature	0°C to 50°C (32°F to 122°F)
Discharge Temperature	-20°C to 60°C (-4°F to 140°F)
Low-Temp Protection	Charging stops < 0°C (32°F), Discharging stops < -20°C (-4°F)
UPC	717690263577

9. Warranty and Support

9.1 Warranty Information

Elefast provides 5 years of after-sales service for this 12V 330AH LiFePO4 battery. This warranty covers defects in materials and workmanship under normal use.

9.2 Customer Support

For technical assistance, warranty claims, or any questions regarding your Elefast battery, please contact our customer support team. We aim to provide fast feedback within 24 hours.
Please refer to the Elefast official website or your purchase documentation for specific 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.

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

Details

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