Elefast Elefast12V100AH 31

Elefast 12.8V 100Ah Lifepo4 Battery User Manual

Model: Elefast12V100AH 31

1. Introduction

This manual provides essential information for the safe and efficient operation of your Elefast 12.8V 100Ah Lifepo4 Battery. Please read this manual thoroughly before installation and use to ensure optimal performance and longevity of your battery.

2. Product Overview and Features

The Elefast 12.8V 100Ah Lifepo4 Battery is a high-performance lithium iron phosphate battery designed for deep cycle applications. It features an advanced Battery Management System (BMS) and Bluetooth connectivity for enhanced monitoring and protection.

- **Low Temperature Cut-off Protection:** The upgraded Bluetooth BMS includes a low temperature sensor that automatically stops charging when the battery temperature falls below 32°F (0°C) and resumes when it rises above this threshold. This protects the battery in cold environments.
- **Upgraded BMS with Bluetooth APP Monitoring:** Connect to the battery via a mobile app to monitor real-time data such as voltage, current, capacity (SOC), and individual cell voltages. The BMS also includes a balancing function.
- **Expandable for More Applications:** Supports up to 4 batteries in series and 4 batteries in parallel, allowing for flexible configurations (12V, 24V, 36V, 48V systems) suitable for various uses like RVs, campers, trolling motors, solar home systems, and off-grid applications.
- **Maintenance-Free & 10 Years Lifespan:** Constructed with A-grade cells, offering over 4000 cycles at 100% Depth of Discharge (DOD) and a service life of up to 10 years, significantly longer than traditional lead-acid batteries.



Figure 1: Elefast 12.8V 100Ah Lifepo4 Battery with Bluetooth monitoring display.

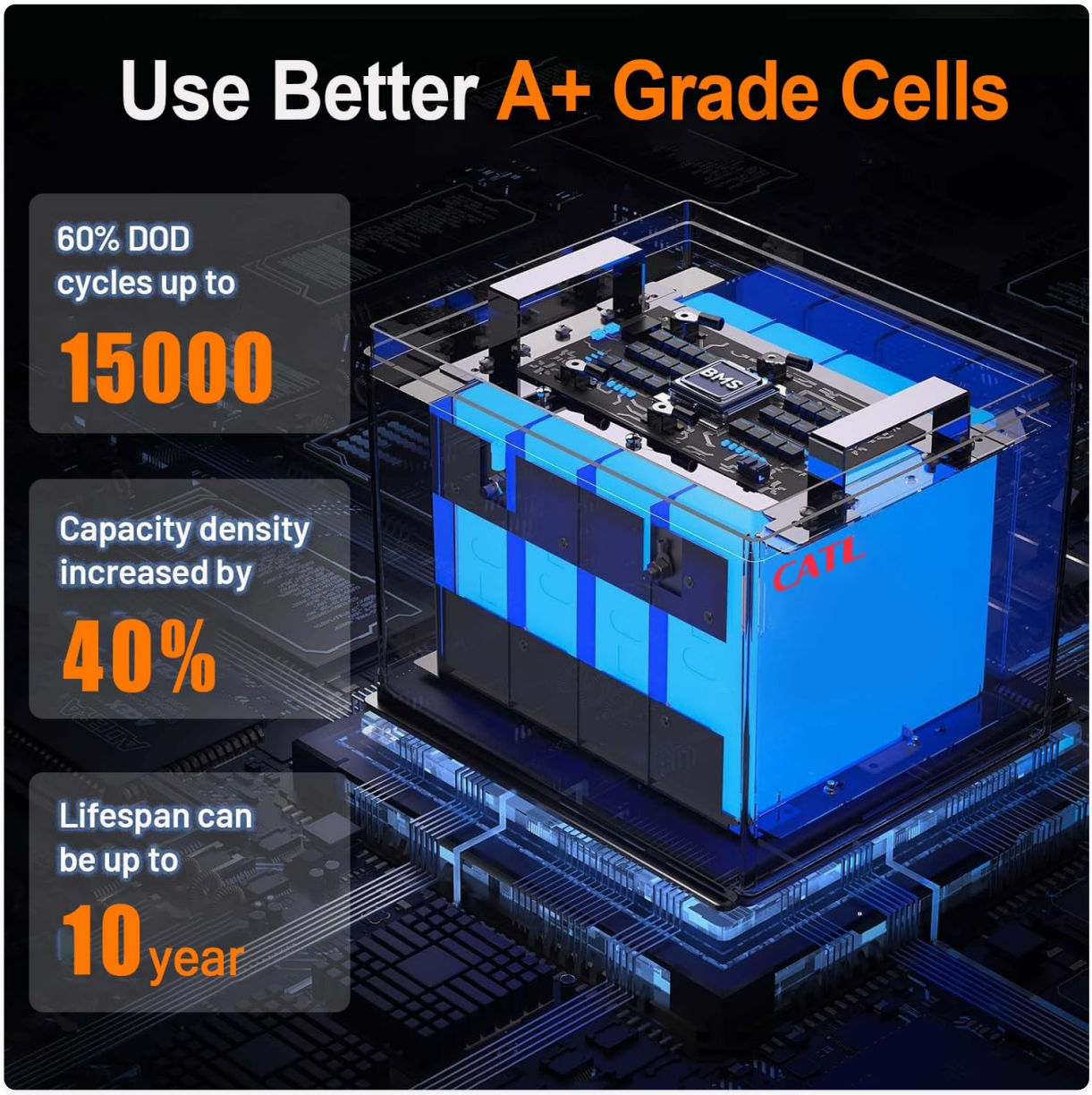


Figure 2: Internal view highlighting A+ Grade Cells and the Battery Management System (BMS).

3. Safety Information

Your Elefast Lifepo4 battery is equipped with a robust Battery Management System (BMS) that provides multiple layers of protection. However, it is crucial to follow all safety guidelines during installation and operation.

- 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 compatible LiFePO4 chargers.
- Ensure proper ventilation during charging and discharging.
- Avoid dropping or subjecting the battery to severe impacts.

The BMS provides protection against:

  - Overcharge
  - Over-discharge
  - Over-current

- Short circuit
- High temperature (over 65±5°C)
- Low temperature charging cut-off (below 0°C)



Figure 3: BMS protection features for the Elefast Lifepo4 battery.

4. What's in the Box

Upon unpacking, please verify that all items listed below are present and undamaged:

- 12V100AH Bluetooth Battery
- M8 Terminal Bolts
- Instruction Manual (this document)

5. Setup

5.1. Initial Inspection

Before connecting the battery, inspect it for any visible damage. Ensure the terminals are clean and free from corrosion.

5.2. Terminal Connection

Use the provided M8 terminal bolts to securely connect your cables to the battery terminals. Ensure a tight connection to prevent resistance and overheating.



Figure 4: Battery dimensions and M8 terminal details.

5.3. Initial Charge

It is recommended to fully charge the battery before its first use. Use a compatible LiFePO4 charger (14.6V 20A recommended) or a solar panel with a charge controller.

6. Operating Instructions

6.1. Charging

The Elefast Lifepo4 battery can be charged using three methods:

- **LiFePO4 Battery Charger:** A 14.6V 20A charger is recommended.
- **Solar Panel with Controller:** Connect a solar panel through a compatible charge controller.
- **Alternator (Generator):** Ensure the alternator is compatible with LiFePO4 batteries.

Maximum charge current: 100A.

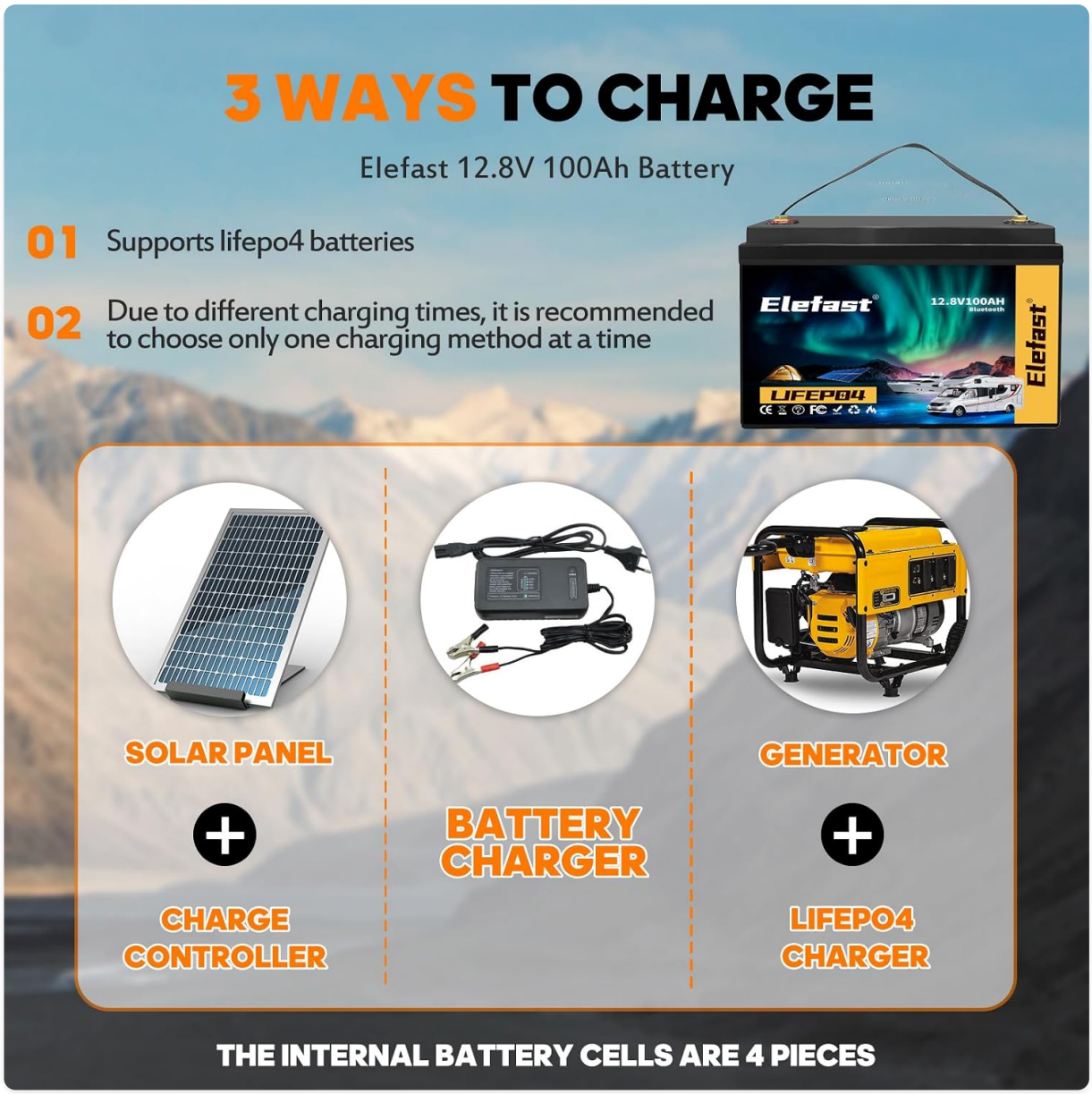


Figure 5: Charging methods for the Elefast Lifepo4 battery.

6.2. Discharging

The battery supports a maximum continuous discharge current of 100A and a peak discharge current of 200A. The BMS will protect the battery from over-discharge.

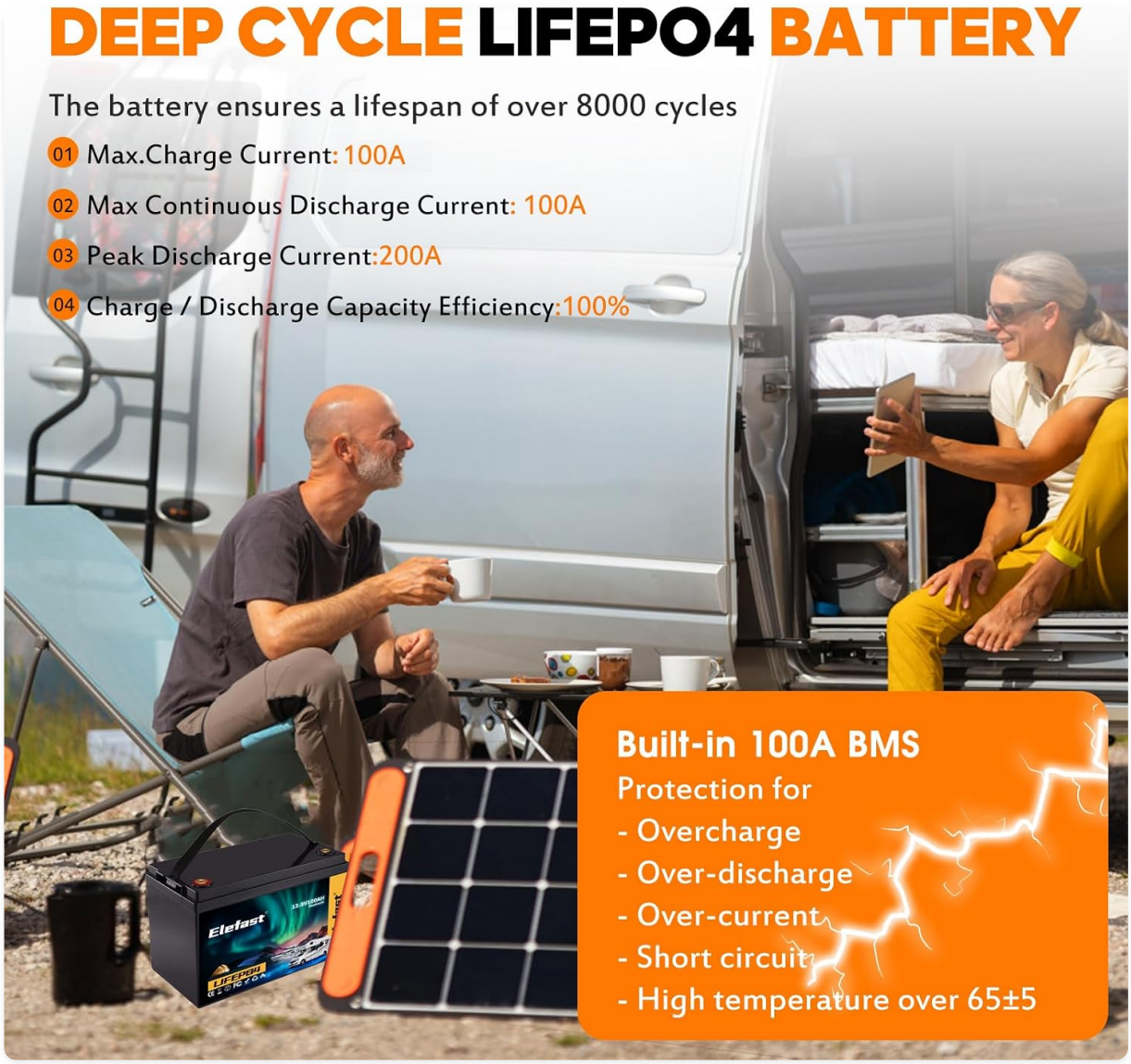


Figure 6: Deep cycle performance and BMS protection.

6.3. Bluetooth App Monitoring

Download the compatible Bluetooth app to your smartphone. Connect to the battery to view real-time operational data, including:

- Battery Voltage
- Current (Charge/Discharge)
- Remaining Capacity (SOC)
- Individual Cell Voltages
- Temperature



Figure 7: Real-time battery data monitoring via Bluetooth app.

6.4. Series and Parallel Connections

The Elefast 12.8V 100Ah battery supports connecting up to 4 batteries in series and 4 batteries in parallel. This allows for creating battery banks with higher voltage (e.g., 24V, 36V, 48V) or higher capacity, depending on your application needs.



Figure 8: Example of expanding battery capacity with series and parallel connections.

6.5. BMS Activation

To activate the BMS, connect the charger to the battery. If the battery is in a deep sleep state or has been disconnected for a long period, you may need to manually activate the BMS. This typically involves connecting a wire between specific BMS terminals for a short period (3-5 minutes) to initiate the system. Refer to the video below for a demonstration.

Video 1: Demonstration on how to activate the BMS for a lithium battery. This process involves connecting a charger and potentially a temporary wire to specific BMS terminals.

6.6. Operation Demonstration

The following videos provide demonstrations of the battery's operation and capabilities in various scenarios.

Video 2: Operation demonstration of 12V 100AH lithium iron phosphate batteries, showcasing their use and performance.

Video 3: Demonstration of 12V 100AH lithium battery, Group 31 deep cycle batteries, highlighting their features and applications.

7. Maintenance

Elefast Lifepo4 batteries are designed to be maintenance-free. There is no need for watering or acid checks. Regularly inspect the terminals for cleanliness and tightness. Store the battery in a cool, dry place if not in use for extended periods.

8. Troubleshooting

The integrated BMS is designed to prevent most common issues. If the battery is not functioning as expected, check the following:

- **No Power Output:** Check if the BMS has activated a protection mode (e.g., over-discharge, short circuit). Reconnect the charger to reset the BMS if necessary.
- **Not Charging:** Verify the charger is compatible and properly connected. Check if the low-temperature protection has activated (charging stops below 32°F/0°C).
- **Overheating:** Ensure the battery is in a well-ventilated area. The BMS will cut off operation if the temperature exceeds safe limits.
- **Bluetooth Connectivity Issues:** Ensure your device is within 10 meters of the battery and Bluetooth is enabled.

For persistent issues, refer to the detailed specifications or contact customer support.

9. Specifications

Feature	Value
Brand	Elefast
Model	Elefast12V100AH 31
Battery Capacity	100 Amp Hours
Product Dimensions	9.25"D x 12.83"W x 8.46"H
Item Weight	23 pounds
Amperage	100 Amps
Automotive Fit Type	Universal Fit
Batteries Required	1 Lithium Ion battery
UPC	797417782673

10. Warranty and Support

Elefast is committed to customer satisfaction. Your 12.8V 100Ah Lifepo4 battery comes with a generous **5-year warranty**. For any technical questions or concerns, personalized one-on-one technical support is available within 24 hours.
Contact Elefast Customer Support for assistance.