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Elefast GOLF_Narrow_48V_100A

Elefast 48V 100AH LiFePO4 Lithium Battery Golf Cart Kit User Manual

Model: GOLF_Narrow_48V_100A

1. Product Overview

This manual provides essential information for the safe and efficient use of your Elefast 48V 100AH LiFePO4 Lithium Battery Golf Cart Kit. Please read this manual thoroughly before installation and operation.

1.1 Package Contents

The Elefast 48V 100AH LiFePO4 Lithium Battery Golf Cart Kit includes the following components:

- 51.2V 100AH Battery
- 58.4V 18A Charger
- 2.8-inch LCD Touch Screen
- Product Manual
- RS485 Cable
- Charger AC IN Cable
- Charger AC OUT Cable
- Connection Method Cable
- 8 Screws



Image: Components included in the Elefast 48V 100AH LiFePO4 Lithium Battery Golf Cart Kit, showing the battery, charger, LCD screen, cables, and screws.

1.2 Key Features

- **Compact Design:** Specifically designed for narrow battery compartments in golf carts, offering a 20% volume reduction compared to traditional 48V batteries.
- **High-Quality Cells:** Utilizes 16 sets of LiFePO4 Grade A+ cells for stable 5.12kWh energy output.
- **Powerful Discharge:** Provides 2C discharge capacity of 600A, with a peak surge of up to 1000A.
- **Integrated BMS:** Built-in 200A Battery Management System (BMS) offers multi-protection against overcharging, over-discharging, overloading, high temperature, and short circuits, including low-temperature protection.
- **Advanced Monitoring:** Features a 2.8-inch touchscreen display and mobile app for real-time monitoring of battery performance, temperature, and cycle times.
- **Fast Charging:** Includes a 58.4V 18A LiFePO4 fast charger, capable of fully charging the battery in approximately 5.5 hours.
- **Durability:** IP65-rated rugged cold-rolled steel shell with anti-vibration bracket and carabiner for stability.
- **Long Lifespan:** Designed for over 8000 deep cycles, providing a service life of more than 10 years.



Image: The Elefast 48V 100AH LiFePO4 battery, its dedicated 58.4V 18A charger, and the 2.8-inch LCD touch monitor, along with a mobile app interface for monitoring.

2. Safety Information

Observe all safety precautions to prevent injury or damage to the battery and connected equipment.

- Always wear appropriate personal protective equipment (PPE) during installation and maintenance.
- Do not short-circuit the battery terminals.
- Do not expose the battery to fire, excessive heat, or direct sunlight for prolonged periods.
- Do not immerse the battery in water or other liquids.
- Ensure proper ventilation during charging and operation.
- Only use the provided Elefast charger or a compatible LiFePO4 charger with appropriate voltage and current specifications.
- Keep the battery away from children and pets.

- In case of fire, use a Class D fire extinguisher. Water can exacerbate lithium battery fires.
- The built-in BMS provides protection against various conditions. However, always operate the battery within its specified limits.

3. Installation

The Elefast 48V 100AH LiFePO4 battery is designed for easy installation in golf carts, including Yamaha, EZ-GO, and Club Car models, without requiring extensive wiring changes.

3.1 Pre-Installation Checks

- Verify that your golf cart system is compatible with a 48V battery.
- Ensure the battery compartment dimensions can accommodate the Elefast battery (9.8"D x 20.87"W x 10.04"H).
- Gather necessary tools: wrenches, screwdrivers, and safety gear.
- Disconnect the existing battery system completely before proceeding.



Image: A visual representation of the Elefast 48V 100AH LiFePO4 battery with its dimensions (9.76 in depth, 20.08-21.25 in width, 9.45 in height) and weight (104 lbs), highlighting its compact design for tight spaces.

Image: A comparison showing the new narrow design of the Elefast battery (9.8 inches wide) versus an older, wider version, emphasizing the upgraded BMS (JBD-AP21S002-KV5.5) and 4AWG cables for better safety and fit.

3.2 Battery Placement

1. Carefully place the Elefast battery into the golf cart's battery compartment. Its narrow design is intended to fit easily.
2. Utilize the provided anti-vibration bracket and carabiner to secure the battery firmly. This prevents movement and potential damage during operation.
3. Ensure the battery is stable and does not come into contact with any metal structures of the golf cart that could cause abrasion or short circuits.

3.3 Wiring Connections

1. Connect the positive (+) terminal of the battery to the positive terminal of your golf cart's electrical system.
2. Connect the negative (-) terminal of the battery to the negative terminal of your golf cart's electrical system.
3. Ensure all connections are tight and secure to prevent loose contacts and arcing.
4. Connect the 2.8-inch LCD Touch Screen using the provided communication cables.



Image: Various golf cart models (EZ-GO, Yamaha, Club Car) demonstrating the compatibility of the Elefast 48V 100AH LiFePO4 battery with both new and old models.



Image: Four different types of golf carts (2-Seaters, 4-Seaters, 5-Seaters, Sightseers) illustrating the broad compatibility of the Elefast 48V 100AH LiFePO4 battery, designed for 99% of models.

4. Operation

4.1 Initial Charge

Before first use, fully charge the battery using the provided 58.4V 18A LiFePO4 charger.

1. Connect the charger to a standard AC power outlet.
2. Connect the charger's output cable to the battery's charging port.
3. The charger will indicate the charging status. A full charge from 0% takes approximately 5.5 hours.



Image: A golf cart being charged by the Elefast 58.4V 18A fast charger, illustrating that charging from 50% to 100% takes 2.5 hours, and from 0% to 100% takes 5.5 hours.

4.2 Monitoring Battery Status

The battery status can be monitored via the 2.8-inch LCD Touch Screen or a mobile application.

- **LCD Touch Screen:** Displays real-time information such as State of Charge (SOC), voltage, current, temperature, and cycle count.
- **Mobile App:** Connects wirelessly to the battery to provide detailed performance data, temperature readings, cycle times, and allows control of inputs and outputs.



Image: A golf cart with the Elefast battery, showing the 2.8-inch LCD touch screen displaying battery parameters and a smartphone screen illustrating the mobile app interface for real-time battery monitoring.

4.3 Driving Range

A fully charged Elefast 48V 100AH battery can provide a driving range of approximately 50 miles. Actual mileage may vary based on road conditions, terrain, load factors, and driving style.



Image: A golf cart on a winding path, illustrating a potential driving range of 50 miles on a single charge with the Elefast 48V 100AH battery.

4.4 Uphill Performance

The battery is designed to handle inclines with a peak discharge current of 1000A. It can easily manage ramps up to 30 degrees and a maximum of 60 degrees. The over-current protection will automatically reset in 32 seconds if triggered.



Image: A transparent illustration of a golf cart ascending a steep incline, demonstrating the battery's ability to handle uphills with a 1000A peak surge discharge, capable of managing up to a 60-degree ramp.

5. Charging Methods

The Elefast 48V 100AH LiFePO4 battery supports multiple charging methods:

- **Wall Charger:** Using the provided 58.4V 18A charger, a 1000W input can fully charge the battery in approximately 5.56 hours.
- **Solar Charging:** With a 1200W solar input, the battery can be charged in approximately 4.2 hours.
- **Generator Charging:** A 3000W generator can charge the battery in approximately 1.7 hours.

Important: If the battery voltage drops below 48V, charge it immediately to prevent deep discharge.

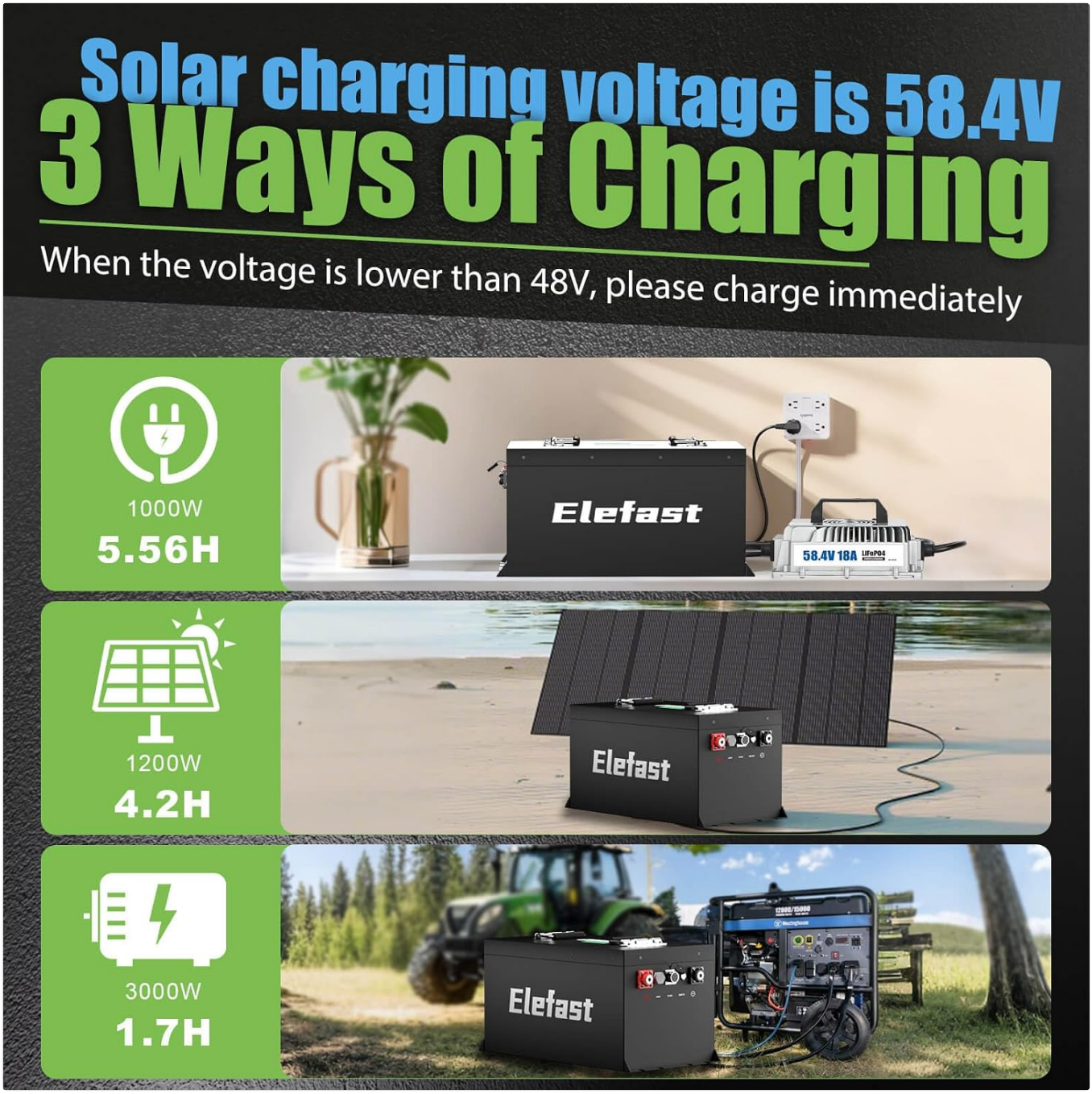


Image: Illustrations of three different charging methods for the Elefast 48V 100AH LiFePO4 battery: standard wall outlet (1000W, 5.56H), solar panels (1200W, 4.2H), and a generator (3000W, 1.7H).

6. Maintenance

Proper maintenance ensures the longevity and optimal performance of your Elefast LiFePO4 battery.

- **Regular Inspection:** Periodically check battery terminals for corrosion and ensure all connections are secure.
- **Cleaning:** Keep the battery clean and free from dust and debris. Use a dry cloth for cleaning.
- **Storage:** If storing the battery for an extended period, charge it to approximately 80% of its capacity. Perform a deep discharge and recharge cycle periodically to calibrate the State of Charge (SOC) readings.
- **Temperature Management:** The battery's BMS includes low-temperature protection. Discharging is cut off below -4°F (-20°C) and charging is cut off below 32°F (0°C). Charging and discharging resume when temperatures are above these thresholds.

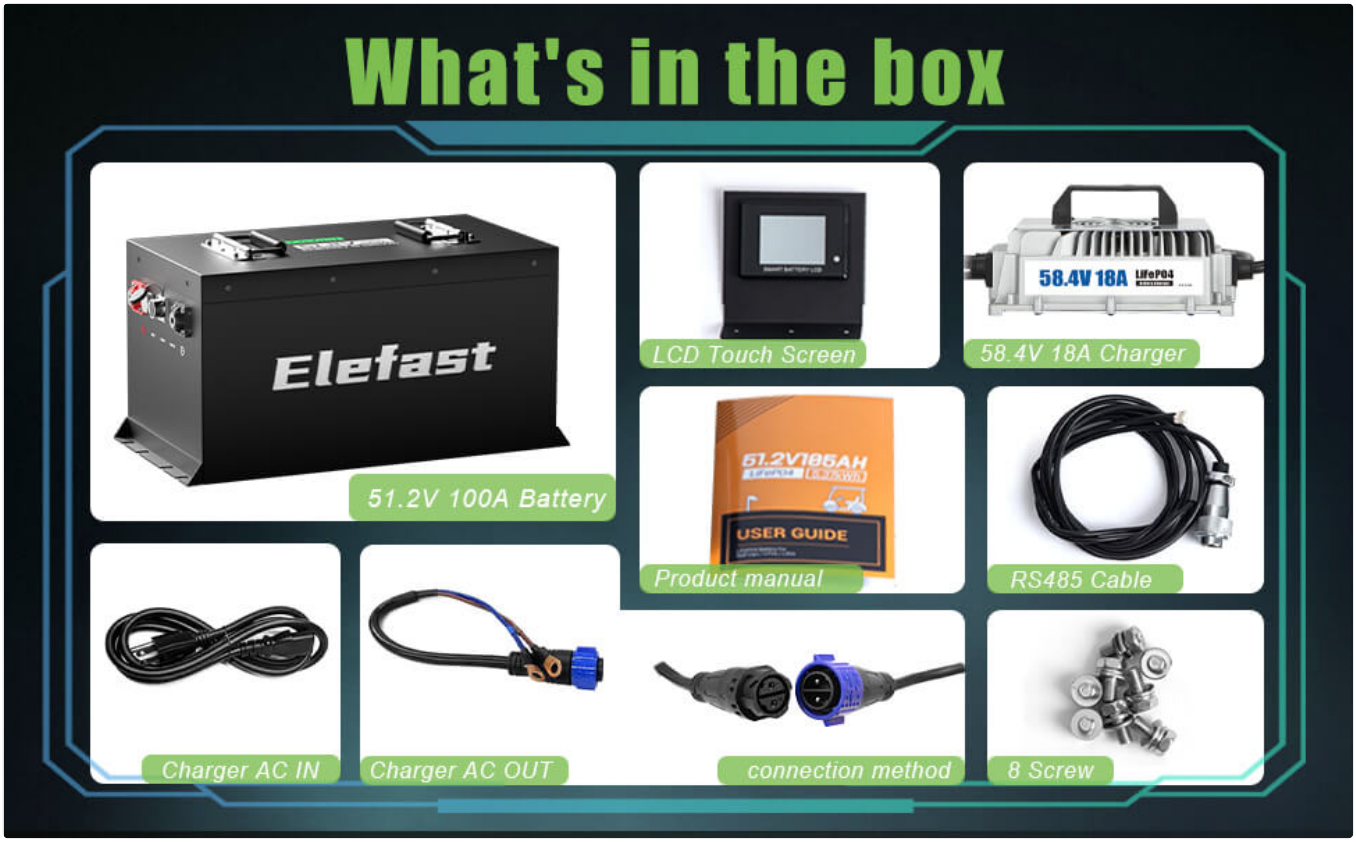


Image: A golf cart in a snowy environment, illustrating the low-temperature protection features of the Elefast battery: charging cut-off at ≤32°F (0°C), discharging cut-off at ≤-4°F (-20°C), and recovery of charging/discharging above these temperatures.

7. Troubleshooting

If you encounter issues with your Elefast battery, consider the following general troubleshooting steps:

- **No Power:** Check all cable connections for tightness and proper polarity. Ensure the battery is adequately charged.
- **Charging Issues:** Verify the charger is properly connected to both the AC outlet and the battery. Check for any error indicators on the charger or LCD screen. Ensure ambient temperature is within the charging range (above 32°F / 0°C).
- **Reduced Performance:** Monitor the battery's health via the LCD screen or mobile app. Ensure the battery is fully charged before use.
- **BMS Protection Triggered:** If the BMS has cut off power (e.g., due to over-current, over-voltage, under-voltage, or temperature extremes), address the underlying cause. The system typically resets automatically once conditions return to normal.

For persistent issues or complex problems, please contact Elefast customer support.

8. Specifications

Feature	Specification
Brand	Elefast
Model	GOLF_Narrow_48V_100A
Battery Type	LiFePO4 (Lithium Iron Phosphate)
Nominal Voltage	48V (51.2V)
Nominal Capacity	100AH
Energy	5.12 kWh
Continuous Discharge Current	200A
Peak Discharge Current	1000A
Deep Cycle Life	8000+ cycles
BMS	Built-in 200A BMS with multi-protection
Charger	58.4V 18A LiFePO4 Charger
Monitoring	2.8-inch LCD Touch Screen & Mobile App
Product Dimensions (D x W x H)	9.8" x 20.87" x 10.04"
Item Weight	104 pounds
Terminal Type	Bolt Terminal (M8)
Automotive Fit Type	Universal Fit
UPC	717690263942

9. Warranty and Support

Elefast provides a 5-year after-sales service for the entire 48V lithium golf cart battery kit. For technical assistance, product inquiries, or warranty claims, please contact Elefast customer service. Professional technical support and online customer service are available with fast feedback, typically within 10 hours.

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