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› [CYCCLEVOLT 48V 50Ah LiFePO4 Battery Mini User Manual](#)

CYCCLEVOLT C4850mini-FR

CYCCLEVOLT 48V 50Ah LiFePO4 Battery Mini User Manual

Brand: CYCCLEVOLT | Model: C4850mini-FR

1. INTRODUCTION

The CYCICLEVOLT 48V 50Ah LiFePO4 Battery Mini is a high-performance lithium iron phosphate battery designed for various deep cycle applications. Featuring Grade A lithium-ion cells and a built-in Battery Management System (BMS), this battery offers enhanced energy density, stability, and a long lifespan. It is an ideal power solution for RVs, trolling motors, solar energy systems, and off-grid setups.

2. SAFETY INFORMATION

Please read and understand all safety instructions before installing or operating the battery. Failure to follow these instructions may result in serious injury or damage to the battery.

- Always wear appropriate personal protective equipment (PPE), including safety glasses and gloves, when handling batteries.
- 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.
- Ensure proper ventilation during charging and operation.
- Keep the battery away from children and pets.
- Do not attempt to open or disassemble the battery.
- Use only compatible chargers and charging methods specified for LiFePO4 batteries.

3. PRODUCT FEATURES

- **Automotive Grade A Lithium Cells:** Constructed with high-quality Grade A lithium-ion cells for superior energy density, stability, and power output.
- **Lightweight and Compact:** Weighs only 37 lbs and measures 18.9 x 17.4 x 5.2 inches, offering a 30% weight reduction and 50% volume reduction compared to lead-acid batteries of similar energy.
- **48V High Voltage & Large Capacity:** Provides 2560Wh usable energy and supports up to 2560W load power. Supports parallel connection (up to 8 units) for building large capacity home energy systems (Max. 48V 400Ah, 20.48kW load power).
- **Long Lifespan:** Offers 4,000 to 15,000 cycles (4,000 cycles at 100% DOD, 6,000 cycles at 80% DOD, 15,000

cycles at 60% DOD), resulting in a lifespan of up to 10 years.

- **Smart BMS Protection:** Integrated Battery Management System protects against over-voltage, overcharging, over-discharging, short circuits, over-current, and high/low temperatures. Includes a built-in high-temp cut-off at 122 °F (50 °C).
- **Environmentally Friendly:** Stable and safe, with no risk of explosion or burning. Does not contain heavy metals, making it more environmentally friendly than lead-acid batteries.



Figure 1: The CYCCLEVOLT 48V 50Ah LiFePO4 Battery Mini.

Low Temperature Cut-off Protection

Charging Cut-off

432°F (0°C)

Discharging Cut-off

4°F (-20°C)



Figure 2: The battery features low temperature cut-off protection for safe operation in cold environments.

Grade A Cell & BMS Protection

4000-15000 Cycles



Cell Balancing



Overcharge Protection



Over-discharged Protection



Short-circuit Protection



Over-current Protection



High & Low Temp Protection



Figure 3: Built-in BMS provides multiple protections including cell balancing, overcharge, over-discharge, short-circuit, over-current, and high/low temperature protection.

4. TECHNICAL SPECIFICATIONS

Specification	Value
Brand	CYCLEVOLT
Model Number	C4850mini-FR
Voltage	51.2 Volts
Amperage	50 Amps
Battery Capacity	50 Amp Hours
Battery Cell Composition	Lithium Polymer
Item Weight	38.5 pounds

Product Dimensions	14.96 x 9.45 x 7.48 inches
Max. Load Power	2560W
Usable Energy	2560Wh
Waterproof & Dustproof	IP65



Figure 4: Detailed dimensions and terminal type (M8 Terminal-16mm) of the battery.

5. SETUP AND INSTALLATION

The CYCCLEVOLT 48V 50Ah LiFePO4 battery is designed for easy installation, eliminating the need for complex wiring often associated with multiple 12V batteries in series. It supports parallel connection for increased capacity.

- Parallel Connection:** The battery supports wiring in parallel. It is suggested not to connect more than 8 units in parallel to build a large capacity 48V system. Series connection is not supported.
- Simplified Wiring:** With a single 48V unit, you avoid tangled cables and the need to balance voltage, simplifying installation and saving space.

- **Terminal Type:** The battery uses M8 Terminal-16mm for secure connections.

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Video 1: Guidance on 48V Lithium Battery EZGO Golf Cart Conversion. This video demonstrates the installation process for a 48V lithium battery in a golf cart, which can be helpful for understanding the physical setup.

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Video 2: Instructions on how to activate the BMS (Battery Management System). This is a crucial step for initial battery setup and ensuring proper functionality.



Figure 5: Comparison highlighting the advantages of LiFePO4 batteries over traditional lead-acid batteries in terms of weight, size, lifespan, and cycle count.

6. OPERATING INSTRUCTIONS

The battery is designed for efficient and safe operation across various applications.

- **Charging:** Supports fast charging and solar panel charging. Can be fully charged in approximately 5 hours with a 10A fast charger.

- **Temperature Considerations:** The built-in BMS includes low-temp cut-off protection for discharging below 4°F (-20°C) and charging below 32°F (0°C), ensuring safe operation in diverse climates.
- **Power Output:** Provides 2560Wh of usable energy and supports a maximum load power of 2560W, suitable for powering various appliances and devices.

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Video 3: This video showcases the features and applications of an Ultra Thin 48V 40Ah LiFePO4 Battery, demonstrating its use in space-saving golf cart setups.

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Video 4: An overview of the Power Queen Smart Edition battery, highlighting its smart features and suitability for various power needs.

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Video 5: This video demonstrates the application of a 48V Lithium Battery for Golf Carts, showing its integration and performance.

7. MAINTENANCE

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

- **Regular Inspection:** Periodically check battery terminals for cleanliness and tightness. Ensure all connections are secure.
- **Storage:** For long-term storage, charge the battery to approximately 50% State of Charge (SOC) and store it in a cool, dry place away from direct sunlight and extreme temperatures.
- **Avoid Deep Discharge:** While LiFePO4 batteries tolerate deep discharge well, avoiding consistent full discharge cycles can further extend their lifespan.

8. TROUBLESHOOTING

If you encounter issues with your CYCCLEVOLT battery, consider the following common troubleshooting steps:

- **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 (e.g., low-temp cut-off).
- **No Power Output:** Verify that the battery is sufficiently charged. Check all connections to the load. The BMS may have activated a protection mode (e.g., over-discharge, over-current, short-circuit).
- **Unusual Odor or Heat:** Immediately disconnect the battery from all loads and chargers. Contact customer support.
- **BMS Activation:** If the battery is completely discharged, it may require activation by connecting it to a compatible charger for a few minutes. Refer to the 'How to activate BMS' video in the Setup section.

9. COMMON APPLICATIONS

The CYCCLEVOLT 48V 50Ah LiFePO4 battery is versatile and suitable for a wide range of applications:

- **RVs and Camping:** Provides reliable power for appliances and electronics during recreational travel and outdoor adventures.
- **Trolling Motors:** Offers consistent and long-lasting power for marine applications.
- **Solar Energy Systems:** Excellent for energy storage in residential or commercial solar installations.
- **Off-Grid Systems:** A dependable power source for remote cabins, tiny homes, and other off-grid setups.
- **Home Emergency Backup:** Can be integrated into home energy systems for backup power during outages.

Wide Application

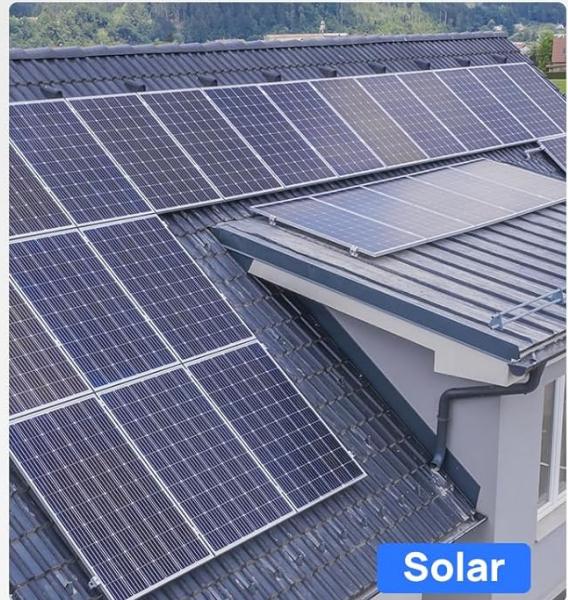


Figure 6: The battery is suitable for a wide range of applications including RVs, solar energy, boats, home emergency backup, and camping.

PERFECT REPLACEMENT OF LEAD ACID BATTERY

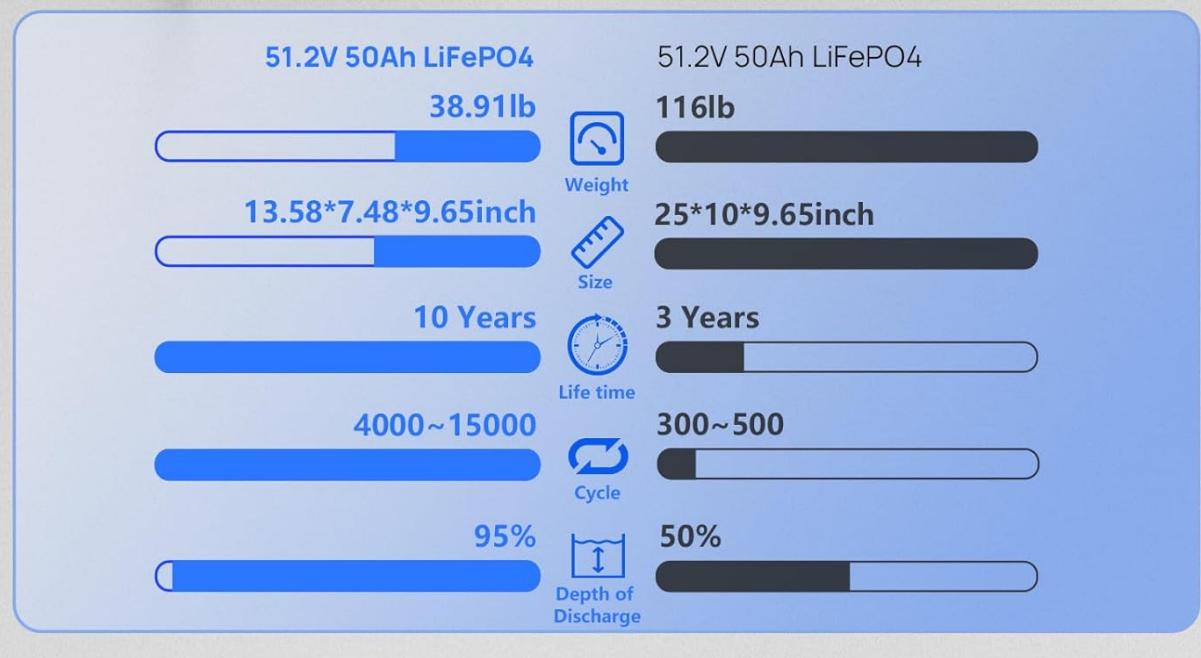


Figure 7: The 2560Wh usable energy can power various RV appliances, such as an air conditioner (1000W for 2.5h), coffee maker (800W for 3.2h), refrigerator (150W for 17h), and fan (100W for 25.6h).

10. WARRANTY AND SUPPORT

CYCCLEVOLT provides a 5-year warranty for this LiFePO4 battery. For any battery-related questions or support, please do not hesitate to contact us directly. We are committed to responding within 24 hours.

- **Warranty Period:** 5 Years
- **Customer Service:** Available 24 hours.
- **Contact:** Refer to the product packaging or official CYCCLEVOLT website for specific contact details.