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> LiTime 12V 200Ah PLUS Lithium LiFePO4 Battery User Manual

LiTime 12V 200Ah Plus

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Model: 12V 200Ah Plus

1. INTRODUCTION

This manual provides essential information for the safe and efficient use of your LiTime 12V 200Ah PLUS Lithium LiFePO4 Battery. This battery is designed for various applications including RVs, campers, solar systems, marine setups, home storage, and off-grid power solutions. It features EV-grade cells, a built-in 200A Battery Management System (BMS), and offers a long cycle life.

Please read this manual thoroughly before installation and operation to ensure proper usage and to maximize the battery's lifespan and performance.

2. SAFETY INSTRUCTIONS

Observe the following safety precautions to prevent injury, damage to the battery, or damage to connected equipment:

- **Risk of Fire, Explosion, or Burns:** Do not short circuit the battery terminals.
- **Reverse Polarity:** Do not reverse connections from the charger to the battery. Ensure correct polarity before connecting.
- **Disassembly:** Do not disassemble the battery. Internal components are not user-serviceable.
- **Incineration:** Do not throw the battery into fire or incinerate it.
- **Temperature:** Do not heat the battery above 70°C (158°F).
- **Ventilation:** Ensure adequate ventilation around the battery during charging and discharging.
- **Water Exposure:** While the battery has an IP65 rating for water resistance, avoid submerging it or exposing it to excessive moisture.
- **Children:** Keep the battery out of reach of children.



Image: LiTime 12V 200Ah PLUS LiFePO4 Battery. The label on the battery includes important safety warnings regarding fire, explosion, burns, short circuits, reverse connections, disassembly, incineration, and high temperatures.

3. PRODUCT FEATURES

The LiTime 12V 200Ah PLUS battery incorporates advanced technology for reliable power delivery:

- **EV Grade Reliability:** Constructed with top-grade cells and a built-in 200A professional BMS, ensuring stable performance.
- **High Efficiency & Long Lifespan:** Offers 4000+ deep cycles, a 10-year design life, and maintains above 12.8V for up to 95% of capacity usage.
- **Multi-protection BMS:** The 200A BMS provides over 20 protection functions, including overcharge, over-discharge, over-current, short circuit, and high-temperature protection.
- **Superior Energy Density:** Delivers 2560Wh of energy, offering more power per pound compared to lead-acid batteries.
- **Flexible Capacity Expansion:** Supports connecting up to 4 identical batteries in series (max 48V, 10240W load) or parallel (max 800Ah capacity).
- **User-Friendly Design:** Designed as a Group 4D BCI size battery for easy installation in standard RV battery boxes.



Image: Key features of the LiTime 12V 200Ah PLUS battery, including EV Grade-A LiFePO4 Cells, 2560Wh energy, 100%

BMS protection, 4P4S expansion up to 40.96kWh, 5-year warranty, 4000+ cycles, IP65 waterproof rating, and 1/3 the weight of lead-acid batteries.

SUPERIOR PERFORMANCE & TRUST-WORTHY QUALITY

ZOOM IN DETAIL

BMS PROTECT

- Over-charge
- Over-discharge
- Over-current
- Short circuit
- High Temp

BMS

GRADE A CELLS

ZOOM IN DETAIL

4000+ cycles
100% SOC&DOD
10-Years Service Life
UN38.3/CE/FCC/RoHS

LiTime
LiFePO₄ Plus
12V 200Ah
CE FCC
Made in China

Caution: Risk of Fire, Explosion or Burns
DO NOT Short circuit
DO NOT Reverse connections
DO NOT Throw into fire or incinerate
DO NOT Heat above 120°C

Image: Internal view highlighting the Battery Management System (BMS) for protection against over-charge, over-discharge, over-current, short circuit, and high temperature, alongside Grade A cells for 4000+ cycles and a 10-year service life.

4. SPECIFICATIONS

Specification	Value
Brand	LiTime
Model	12V 200Ah Plus
Product Dimensions	8.2"D x 21"W x 8.5"H
Number Of Cells	4
Resistance	40 Milliohms
Terminal Type	M8

Item Weight	45.6 pounds
Energy Capacity	2560Wh
BMS Continuous Current	200A
Cycle Life	4000+ cycles (100% DOD)
Operating Temperature (Charge)	32°F - 122°F (0°C - 50°C)
Operating Temperature (Discharge)	-4°F - 140°F (-20°C - 60°C)
Storage Temperature	14°F - 122°F (-10°C - 50°C)



Image: Product dimensions (L21" x W8.2" x H8.5") and M8 terminal bolt specifications (8mm diameter, 16mm length, 1.25mm metric thread).

5. SETUP AND INSTALLATION

Proper installation is crucial for the performance and safety of your battery system. The LiTime 12V 200Ah PLUS battery can be connected in series or parallel for increased voltage or capacity.

5.1 System Diagram



Image: A system installation diagram showing connections for a solar panel, MPPT charge controller, circuit breaker, bus bar, shunt, monitor screen, switch, 12V 200Ah (200A BMS) battery, ANL fuse, and a 2000W pure sine wave inverter.

5.2 Connection Guidelines

- **Series Connection:** Up to 4 identical batteries can be connected in series to achieve higher voltage (e.g., 24V, 36V, 48V). Maximum load 10240W.
- **Parallel Connection:** Multiple identical batteries can be connected in parallel to increase capacity (e.g., 400Ah, 600Ah, 800Ah).
- **Important:** When connecting batteries, ensure they are of the same brand, type, voltage, amps, and BMS, and purchased within 1 month of each other.
- **Terminal Connections:** When using OT terminals thinner than 2mm, add gaskets to prevent loosening and overheating.
- **Cable Sizing:** Use appropriately sized cables and fuses for your system's current requirements.



Image: Illustration of flexible expansion solutions, demonstrating how to build a 4P4S (4 parallel, 4 series) battery system for a total of 51.2V 800Ah, achieving up to 40.96kWh usable energy.

6. OPERATION

6.1 Charging Methods

The LiTime 12V 200Ah PLUS battery can be charged using several methods:

- **LiFePO4 Battery Charger:** Use a dedicated 12V (14.6V) LiFePO4 battery charger.
- **Solar Panels:** Connect to solar panels via a suitable MPPT charge controller.
- **Generator/Alternator:** Can be charged using a generator, vehicle alternator, or a 14.6V DC-DC

charger.



Image: Visual representation of recommended charging methods: a dedicated 12V (14.6V) LiFePO₄ battery charger, solar panels with an MPPT controller, and a generator/alternator with a 14.6V DC-DC charger.

6.2 Powering Devices

The 2560Wh energy capacity allows for extended operation of various appliances. The actual run time will depend on the power consumption of your devices.



Image: Estimated run times for common appliances: Fan (40W) 64hrs, Projector (150W) 17hrs, Microwave (1000W) 2.5hrs, Washing Machine (500W) 5hrs, Refrigerator (50W) 51hrs, TV (200W) 12.8hrs, Electric Kettle (800W) 3.2hrs, Air Conditioner (1100W) 2.3hrs.

7. MAINTENANCE

LiFePO₄ batteries require minimal maintenance compared to lead-acid batteries, but following these guidelines will ensure optimal performance and longevity:

- **Regular Inspection:** Periodically check battery terminals for corrosion or loose connections. Clean terminals as needed.
- **Charge Level:** Avoid prolonged storage at a completely discharged state. For long-term storage, charge the battery to approximately 50% State of Charge (SOC).
- **Temperature Control:** Operate and store the battery within the recommended temperature ranges (Charge: 32°F-122°F; Discharge: -4°F-140°F; Storage: 14°F-122°F). Extreme temperatures can degrade performance and lifespan.
- **Cleaning:** Keep the battery clean and free of dust and debris. Use a dry cloth for cleaning.

8. TROUBLESHOOTING

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

- **No Power Output:** Check all connections for tightness and correct polarity. Verify that the battery is sufficiently charged. The BMS may have activated a protection mode (e.g., over-discharge). Try connecting to a compatible charger to reset the BMS.
- **Battery Not Charging:** Ensure the charger is compatible with LiFePO₄ batteries and is functioning correctly. Check charger connections and power supply. Verify that the charging temperature is within the specified range (32°F-122°F).
- **Reduced Performance:** Ensure the battery is not operating outside its recommended temperature range. Check for any loose or corroded connections that might impede current flow.
- **BMS Activation:** If the battery suddenly stops providing power, the BMS may have triggered a protection. Disconnect the load, wait a few minutes, and then try reconnecting. If the issue persists, contact customer support.

For persistent issues or complex problems, refer to the customer support section.

9. IMPORTANT USAGE NOTES

To ensure the longevity and safe operation of your LiTime battery, please adhere to these specific usage guidelines:

- **Not for Golf Carts:** This battery is not designed for use in golf carts.
- **Not a Starting Battery:** Do not use this battery as a starting battery for vehicles. It is designed for deep cycle applications.
- **Battery Compatibility:** When connecting multiple batteries, ensure they are of the same brand, type, voltage, amps, and BMS, and purchased within 1 month. Mixing different battery types or ages can lead to performance issues or damage.
- **Temperature Ranges:** Adhere strictly to the specified charge, discharge, and storage temperature ranges to prevent damage and ensure optimal performance.



Image: Visual warnings against using the battery for golf carts or as a starting battery. It also emphasizes connecting only identical batteries (same brand, type, voltage, amps, BMS, and within 1 month of purchase) and adhering to specified temperature ranges for charging, discharging, and storage.

10. WARRANTY AND SUPPORT

10.1 Warranty Information

The LiTime 12V 200Ah PLUS Lithium LiFePO4 Battery comes with a 5-year warranty, ensuring peace of mind regarding its quality and performance. Please retain your proof of purchase for warranty claims.

10.2 Customer Support

For technical assistance, warranty inquiries, or any other questions, please contact LiTime customer support:

- **Email:** service@litime.com
- **Website:** www.litime.com