

Litime L24V100-100-Basic-8-A160-Parent-1

LiTime 24V 100Ah LiFePO4 Lithium Battery User Manual

Brand: LiTime | Model: L24V100-100-Basic-8-A160-Parent-1

1. PRODUCT OVERVIEW

The LiTime 24V 100Ah LiFePO4 Lithium Battery is designed for various deep cycle applications, offering high energy density and stable performance. This manual provides essential information for the safe and efficient use of your battery.

- **Automotive-Grade Cells:** Utilizes automotive-grade cells for enhanced energy density and stable performance, featuring a low 3% self-discharge rate per month.
- **Extended Cycle Life:** Offers 4000+ deep cycles at 100% Depth of Discharge (DOD), extending to 6000 cycles at 80% DOD and 15000 cycles at 60% DOD. Designed for a 10-year lifespan, significantly longer than lead-acid batteries.
- **High Energy Capacity:** Provides 2.56kWh of energy, equivalent to two 12V 100Ah batteries. Supports series/parallel expansion up to 48V 400Ah (20.48kWh) for versatile power solutions.
- **Integrated Protection:** Features a built-in 100A Battery Management System (BMS) to protect against overcharge, over-discharge, over-current, short circuits, and high temperatures.
- **Wide Application Range:** Ideal for 24V trolling motors (70-100lbs thrust), marine systems, RVs, home energy storage, and off-grid solar systems.

ABUNDANT POWER SUPPLY

Supports More Loads For One Time



2560Wh

Usable Energy



25.6 hrs



12.8 hrs



3.2 hrs



1.7 hrs

Figure 1: The LiTime 24V 100Ah LiFePO4 battery offers 2560Wh of usable energy, capable of powering a TV for 25.6 hours, a refrigerator for 12.8 hours, a coffee maker for 3.2 hours, or a heater for 1.7 hours.

2. SETUP AND INSTALLATION

2.1 Unboxing

Upon receiving your LiTime 24V 100Ah LiFePO4 battery, carefully unbox the product and inspect for any damage. Ensure all components are present, including the battery and M8 terminal bolts.

Your browser does not support the video tag.

Video 1: This video demonstrates the unboxing process for the LiTime 24V 100Ah Basic LiFePO4 Battery, showing how to safely remove the battery and accessories from its packaging.

2.2 Terminal Specifications

The battery is equipped with M8 terminal bolts for secure connections. Ensure proper torque is applied during

installation to prevent loosening and overheating.



Figure 2: The battery dimensions are 21 inches (L) x 8.2 inches (W) x 8.5 inches (H). The M8 terminal bolts have a diameter of 8mm and a length of 16mm with a 1.25mm metric thread.

2.3 Connection Guidelines

- To connect batteries in series or parallel, all batteries must be identical (same brand, type, voltage, capacity, and BMS) and purchased within a 1-month period.
- If using OT terminals directly with screws and their thickness is less than 2mm, add gaskets for lock attachment to prevent loosening and overheating.
- Do not use this battery for golf carts or as an engine starting battery.



Figure 3: Important usage guidelines: Do not use for golf carts or engine starting. For thin OT terminals, add gaskets to ensure secure connections and prevent overheating.

2.4 Initial Charging

Charge the battery fully before first use. A 29.2V 20A charger (not included) can charge the battery in approximately 5 hours. Ensure your charger is compatible with LiFePO4 batteries.



Figure 4: Charging the LiTime 24V 100Ah battery with a compatible 25.6V 20A charger takes about 5 hours.

3. OPERATING INSTRUCTIONS

3.1 General Operation

The LiTime 24V 100Ah LiFePO4 battery is designed for reliable power delivery in various environments. Its lightweight design (45.8 pounds) makes it easier to handle compared to traditional lead-acid batteries.

LIGHTER WEIGHT & HIGHER ENERGY DENSITY

When Compared to Lead Acid Battery

L330*W171*H215mm *2



Dimension

L532*W207*H215mm

31.75kg *2=63.5kg



Weight

45.85 lbs/20.8kg

300~500



Cycle Times

4000~15000



Figure 5: The LiTime LiFePO4 battery weighs 45.8 lbs, significantly lighter than two 12V 100Ah SLA batteries (63.5 kg) that would be needed for equivalent capacity.

3.2 Application Areas

This battery is suitable for a wide range of applications:

- **RV & Camper:** Provides reliable power for recreational vehicles.
- **Marine & Boat:** Powers marine electronics and trolling motors.
- **Solar Power:** Integrates with solar systems for energy storage.
- **Off-Grid Systems:** Essential for remote power setups.

24V 100Ah Applications

Li Time

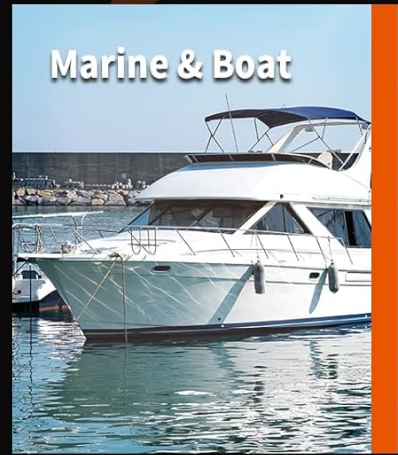


Figure 6: The LiTime 24V 100Ah battery is versatile for RVs, marine use, solar power systems, and off-grid applications.

3.3 System Expansion

The battery supports series and parallel connections to achieve higher voltage or capacity. You can expand your system up to 48V 400Ah, providing up to 20.48kWh of energy. Always ensure all batteries in a series or parallel bank are identical and purchased together for optimal performance and safety.



Figure 7: A single 24V 100Ah battery offers twice the capacity of two 12V 100Ah batteries, simplifying wiring and saving space.

4. MAINTENANCE AND STORAGE

4.1 General Care

To ensure the longevity of your LiTime LiFePO₄ battery, follow these care guidelines:

- Keep the battery terminals clean and free from corrosion.
- Avoid exposing the battery to extreme temperatures outside its operating range of -20°C to 60°C.
- The battery is IP65 rated for dust and water resistance, but avoid prolonged submersion or direct high-pressure water jets.

4.2 Storage

For long-term storage, ensure the battery is charged to approximately 50% of its capacity. Store in a cool, dry place away from direct sunlight and extreme temperatures. The battery has a low self-discharge rate of less than 2% per

month.

5. TROUBLESHOOTING

5.1 Battery Management System (BMS) Protections

The integrated 100A BMS provides comprehensive protection for the battery. If the battery stops functioning, it may be due to one of the following protections:

- **Overcharge Protection:** Prevents damage from excessive charging voltage.
- **Over-discharge Protection:** Shuts off power to prevent deep discharge below safe levels.
- **Over-current Protection:** Disconnects the battery if current draw exceeds safe limits.
- **Short Circuit Protection:** Immediately cuts off power in case of a short circuit.
- **High Temperature Protection:** Prevents operation if internal temperature exceeds safe limits.

BMS PROTECTION FUNCTIONS & MORE DURABLE CELLS

ZOOM IN
DETAIL

SUPERIOR

BMS

Overcharge
Over-discharge
Over-current
Short Circuits
High Temp

BMS



4000 to 15000 Cycles
10-year Lifespan

AUTOMOTIVE GRADE

CELLS

ZOOM IN
DETAIL

Figure 8: The battery's superior BMS protects against various electrical faults and temperature extremes, ensuring safety and extending lifespan.

5.2 Reactivating a Discharged Battery

If the battery voltage drops below 10V due to over-discharge protection, it may enter a sleep mode. To reactivate it, use a LiFePO4 charger with an activation function. Connect the charger, and it should wake up the battery and begin charging.

6. SPECIFICATIONS

Feature	Specification
Brand	Litime
Size	24V 100Ah Basic
Voltage	25.6 Volts
Battery Cell Composition	Lithium-Phosphate (LiFePO4)
Item Weight	48 Pounds
Product Dimensions (D x W x H)	8.15"D x 20.95"W x 8.5"H
Number Of Cells	8
Resistance	40 Milliohms
Terminal Type	M8*16mm
Manufacturer Part Number	L24V100-100-Basic-8-A160-Parent-1
Included Components	24V100Ah Lithium Battery
Unit Count	4 Count (for this specific product listing)

7. WARRANTY INFORMATION

The LiTime 24V 100Ah LiFePO4 Lithium Battery comes with a manufacturer warranty for 5 years from the date of purchase. Please retain your proof of purchase for warranty claims.

8. SUPPORT

For technical assistance, troubleshooting, or warranty inquiries, please contact LiTime customer service. Refer to the contact information provided in your product packaging or visit the official LiTime website.

