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Litime L12V100-100-TM-4-A100

Litime 12V 100Ah LiFePO4 Battery Instruction Manual

MODEL: L12V100-100-TM-4-A100

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1. INTRODUCTION

This manual provides essential information for the safe and efficient use of your Litime 12V 100Ah Trolling Motors LiFePO4 Battery. Designed for high performance and durability, this battery features advanced protection mechanisms and is suitable for various applications including marine, RV, and off-grid solar systems. Please read this manual thoroughly before installation and operation.



Figure 1: Litime 12V 100Ah LiFePO4 Battery

2. WHAT'S IN THE BOX

Upon opening the package, verify that all the following components are included:

- 1 x 12V 100Ah TM LiFePO4 Battery
- 2 x M8 - 5/8" (16MM) Terminal Bolts
- 2 x Insulating Caps for Bolts
- 1 x Product Manual

LOW-TEMPERATURE CHARGING PROTECTION



**Below
-4°F (-20°C)**
Discharging Off

**Below
32°F (0°C)**
Charging Off

**Above
41°F (5°C)**
Charging Recovery

Figure 2: Contents of the product packaging, including the battery, terminal bolts, insulating caps, and product manual.

3. SETUP AND INSTALLATION

Before installation, ensure the battery is fully charged. For initial setup, follow these general guidelines:

- Unpacking:** Carefully remove the battery and all accessories from the packaging.
- Inspect Components:** Check the battery and accessories for any visible damage.
- Terminal Connection:** Use the provided M8 terminal bolts and insulating caps to securely connect your system's cables to the battery terminals. Ensure proper polarity (positive to positive, negative to negative) to prevent damage.
- Secure Placement:** Install the battery in a dry, well-ventilated area, ensuring it is secured to prevent movement during operation, especially in marine or RV environments.

For a visual guide on unpacking and initial inspection, refer to the unboxing video below:

Video 1: *Li Time 12V 100Ah TM LiFePO4 Battery Unboxing.* This video demonstrates the unpacking process

and shows the included components.

4. OPERATING YOUR LiFePO4 BATTERY

The Litime 12V 100Ah LiFePO4 battery is engineered for optimal performance and longevity across various demanding applications.

4.1. Advanced Battery Management System (BMS)

The integrated BMS provides comprehensive protection for the battery, ensuring safe and reliable operation. This includes protection against overcharging, over-discharging, over-current, overheating, and short circuits. Additionally, it offers triple protection against dust, water, and salt spray, making it ideal for harsh environments.

**THE ULTIMATE POWER SOLUTION
FOR TROLLING MOTORS**

100% BMS PROTECTION

- overcharging ✓
- over-discharging ✓
- over-current ✓
- overheating ✓
- short circuits ✓

EXTRA BMS PROTECTION

- ✓ Moisture-proof
- ✓ Dust-proof
- ✓ Salt-spray-resistant

Li Time
LiFePO₄ 12.8V 100Ah
Trolling Motor
x LTCP
Low Temp

CE FC

www.litime.com

Figure 3: Illustration of the comprehensive BMS protection, including safeguards against overcharging, over-discharging, over-current, overheating, and short circuits, along with moisture, dust, and salt-spray resistance.

4.2. Low-Temperature Protection

The battery is equipped with a low-temperature cut-off function to ensure safe operation in cold conditions. Discharging is automatically cut off below -4°F (-20°C), and charging is cut off below 32°F (0°C). Charging resumes above 41°F (5°C).



Figure 4: Diagram showing the low-temperature charging and discharging cut-off points for battery protection.

4.3. Auto Sleep Mode

To preserve charge and extend battery life, the 12V 100Ah TM LiFePO₄ battery features an auto sleep mode that activates after 24 hours of non-use. This reduces self-discharge to approximately 3% per month. The battery can be reactivated by connecting it to a load.

4.4. Marine and Trolling Motor Applications

Specifically designed for marine use, this battery includes an advanced built-in TVS (Transient Voltage Suppressor) for superior protection against voltage spikes and surges, enhancing shock resistance in rough water conditions. It is ideal for 30-70 lb thrust trolling motors, yachts, and other marine vessels.

BUILT FOR TROLLING MOTORS



Figure 5: The Litime battery integrated into a boat setup, highlighting its suitability for marine applications and trolling motors.

4.5. Expandability

The battery can be expanded up to 4 units in series and 4 units in parallel (Max 4S4P) to create higher voltage and capacity systems. This allows for configurations such as a 48V 400Ah system, providing up to 20.48kWh energy and 20.48kW load power, suitable for RVs, solar energy storage, and off-grid systems.

PERFECT REPLACEMENT FOR LEAD ACID



12V100Ah Lead Acid



LiTime 12V 100Ah TM

63.93lb

≈1/3 WEIGHT

22lb

50Ah

2X CAPACITY

100Ah

1-3 Years

5X LIFESPAN

>10 Years

200-500

8X LIFE CYCLES

4000-15000

0.1C

5X CHARGE RATE

0.5C

Figure 6: Visual representation of how multiple Litime batteries can be configured for 12V, 24V, and 36V systems, demonstrating expandability.

4.6. Lifespan and Efficiency

Utilizing Grade A LiFePO₄ cells, the battery offers an impressive 10-year lifespan with 4000+ cycles at 100% Depth of Discharge (DOD), 6000 cycles at 80% DOD, and 15000 cycles at 60% DOD. This significantly surpasses the typical lifespan and cycle count of traditional SLA/AGM batteries.

WHAT'S IN THE BOX



Figure 7: A comparative chart highlighting the advantages of the Litime LiFePO₄ battery over traditional lead-acid batteries in terms of weight, capacity, lifespan, and charge rate.

5. MAINTENANCE

To ensure the longevity and optimal performance of your Litime LiFePO₄ battery, follow these maintenance guidelines:

- **Regular Inspection:** Periodically check the battery terminals for corrosion and ensure connections are tight. Clean terminals with a wire brush if necessary.
- **Storage:** For optimal long-term storage, charge the battery to 30%~50% capacity and disconnect it from the system. The auto sleep mode will help maintain charge during storage.
- **Temperature:** Avoid exposing the battery to extreme temperatures outside its operating range. The built-in low-temperature protection will manage charging and discharging in cold conditions.
- **Cleaning:** Keep the battery clean and free of dust and debris. Use a dry cloth for cleaning.

6. TROUBLESHOOTING

This section addresses common issues you might encounter with your Litime LiFePO4 battery.

6.1. Battery Shuts Down During Use

Symptom: The battery suddenly stops providing power during operation.

Possible Cause: The battery's internal Battery Management System (BMS) has activated a protection function, most commonly due to over-discharge. This is a safety feature designed to protect the battery from damage.

Solution:

- Immediately disconnect the load from the battery.
- Connect the battery to a compatible LiFePO4 charger. The BMS will reset and allow charging once a charging current is detected.
- Ensure your application's power draw is within the battery's continuous discharge limits. Consider reducing the load or using a higher capacity battery if frequent shutdowns occur.

If you experience issues not covered here, or if the problem persists, please contact Litime customer support.

7. SPECIFICATIONS

Feature	Specification
Brand	Litime
Model	L12V100-100-TM-4-A100
Item Weight	22.1 pounds
Product Dimensions (L x W x H)	13 x 6.7 x 8.4 inches
Voltage	12.8 Volts
Battery Cell Composition	Lithium-Phosphate (LiFePO4)
Battery Capacity	100 Amp Hours
Number of Batteries (in pack)	2

DIMENSIONS



Figure 8: Detailed dimensions of the Litime 12V 100Ah LiFePO4 Battery.

8. WARRANTY AND SUPPORT

Litime LiFePO4 batteries come with a **5-year Warranty**. We are committed to providing excellent customer service and technical support.

If you have any product-related issues or questions, please contact our support team directly. We aim to provide fast feedback within 24 hours.

For further assistance, visit the official Litime Store: [Litime Store on Amazon](#).

