WEIZE TPLI-12100AH

Weize 12V 100Ah LiFePO4 Lithium Battery Instruction Manual

Model: TPLI-12100AH

1. Introduction and Product Overview

The Weize 12V 100Ah LiFePO4 Lithium Battery is a high-performance, deep-cycle rechargeable battery designed for various applications including trolling motors, RVs, solar systems, marine use, overland/van setups, and off-grid power. Featuring a built-in Smart Battery Management System (BMS), it offers enhanced safety, longevity, and efficiency compared to traditional lead-acid batteries.

This manual provides essential information for the safe and effective use of your Weize LiFePO4 battery. Please read it thoroughly before installation and operation.

Figure 1: Weize 12V 100Ah LiFePO4 Lithium Battery. This image displays the front view of the battery, highlighting its brand, voltage, and capacity.

2. Safety Information

Always prioritize safety when handling and operating the battery. Failure to follow safety guidelines can result in injury or damage.

- **Do Not Short Circuit:** Avoid connecting positive and negative terminals directly.
- **Do Not Crush:** Do not subject the battery to physical impact or crushing.
- **Do Not Heat or Incinerate:** Keep the battery away from heat sources and open flames.
- **Do Not Disassemble:** Do not attempt to open or modify the battery.
- **Do Not Immerse in Any Liquid:** Keep the battery dry and away from water.
- **Only Use Approved LiFePO4 Charger:** Use a dedicated lithium battery charger for optimal performance and safety.
- **Storage:** Store at >50% capacity. Recharge every 3 months if not in use.
- **Application Restriction:** This battery is intended for energy storage purposes. Do not use this battery as a car battery, starting battery, or golf cart battery. Do not use it to start any device.

3. What's in the Box

Upon opening the package, you should find the following items:

- Weize 12V 100Ah LiFePO4 Lithium Battery
- Terminal Bolts (M8)
- Protective Terminal Caps (Red for positive, Black for negative)
- User Manual

Figure 2: Battery dimensions and F12 Terminal-M8 specifications. The image shows the battery with its length (13 inches), width (6.77 inches), and height (8.46 inches) clearly marked, along with a detailed view of the M8 terminal.

4. Setup and Installation

Proper setup is crucial for battery performance and safety. Ensure all connections are secure and correct.

4.1 Terminal Connection

Connect your cables to the battery terminals using the provided M8 bolts. Ensure a tight and secure connection to prevent overheating and power loss. Apply the protective caps after connection.

4.2 Parallel and Series Connection

The Weize LiFePO4 battery can be connected in series or parallel to achieve higher voltage or capacity. Up to 4 batteries can be connected in series or parallel. Refer to the diagrams on the battery label and in the user manual for correct wiring configurations.

4.3 Initial Charging

Before first use, fully charge the battery with a dedicated LiFePO4 charger. The built-in BMS will manage the charging process, ensuring optimal battery health.

Figure 3: This image illustrates three methods for recharging the battery: using a 12V (14.6V) 20A Lithium Battery Charger (5 hours), a Generator with a 20A DC to DC Charger (5 hours), or a Solar Panel + MPPT (recommended >400W) for a full charge in one sunny day.

Your browser does not support the video tag.

Video 1: WEIZE 12V 100Ah LiFePO4 Lithium Battery Unboxing. This video provides a detailed unboxing experience, showing the battery, included accessories like terminal bolts and caps, and initial setup steps.

5. Operating Instructions

The Weize LiFePO4 battery is designed for deep cycle applications, providing stable and consistent power. Its advanced BMS ensures safe operation across various conditions.

5.1 Battery Management System (BMS)

The built-in Smart BMS protects your battery from overcharge, over-discharge, overcurrent, short-circuiting, and extreme temperatures (both low and high). This significantly increases the battery's performance and lifespan. The BMS will automatically cut off power if the voltage drops below 1V, and reactivate after 1 second once the circuit is reconnected.

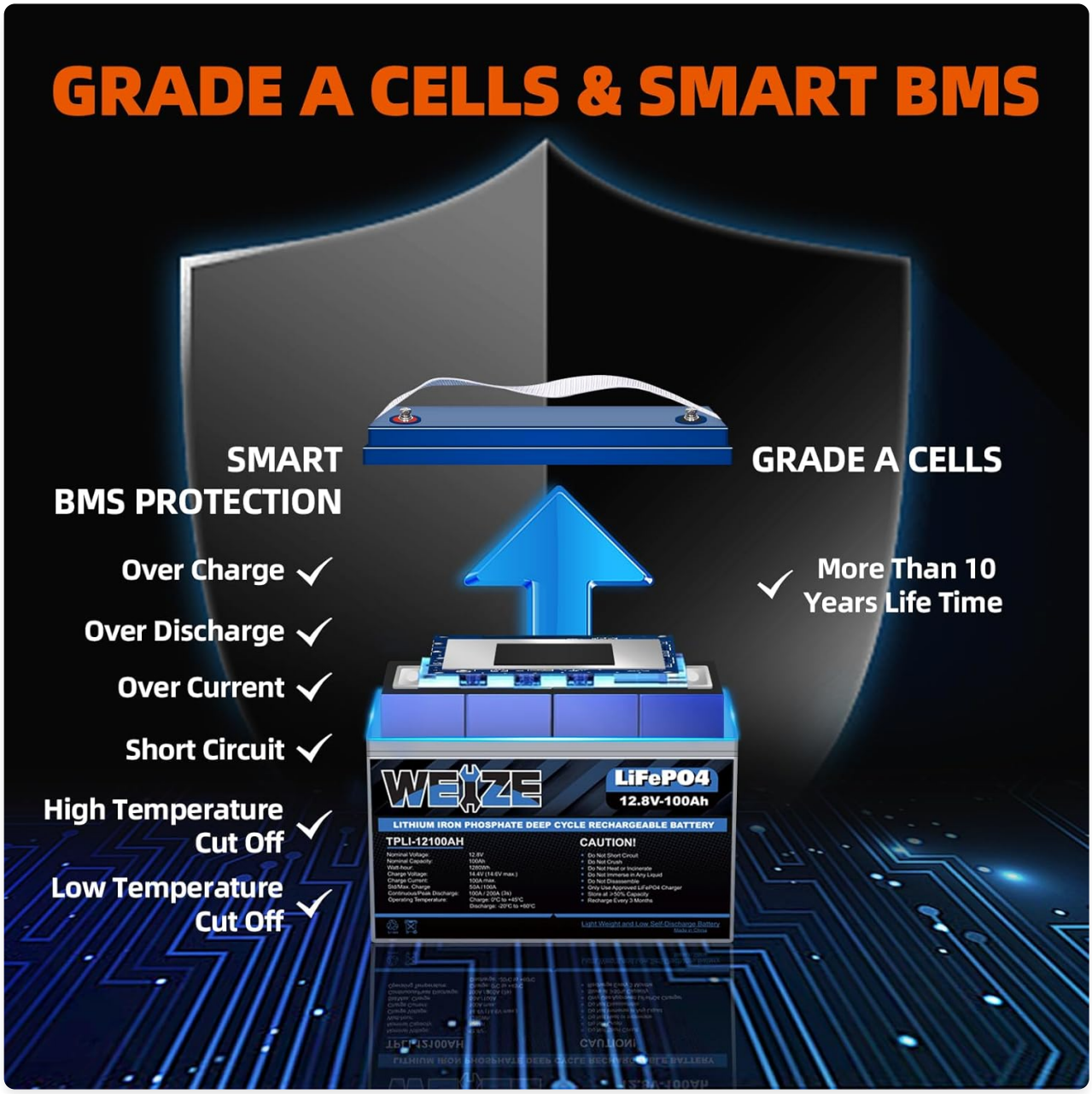

Figure 4: This graphic illustrates the various protection features provided by the Smart BMS, including overcharge, over-discharge, overcurrent, short circuit, high temperature cut-off, and low temperature cut-off.

5.2 Versatile Applications

This battery is ideal for a wide range of uses due to its high energy density and lightweight design (approximately 1/2 the mass of lead-acid batteries). Common applications include:

- Fish Finders & Ice Fishing
- RV & Camping Power
- Solar Systems & Off-Grid Applications
- Home Alarm Systems
- E-Scooters
- Marine Applications

Figure 5: A collage of images demonstrating various applications for the Weize LiFePO4 battery, including solar energy systems, RVs, camping setups, fish finders, e-scooters, home alarm systems, and electric wheelchairs.

Your browser does not support the video tag.

Video 2: WEIZE Lithium LiFePO4 Battery. This short video provides a quick overview of the battery's features and its suitability for various power needs.

Your browser does not support the video tag.

Video 3: Litime1000w + Weize 100ah VS an Instant Pot - Does it Perform. This video demonstrates the battery's real-world performance by powering an Instant Pot via an inverter, showcasing its capability under load.

6. Maintenance

The Weize LiFePO4 battery is designed to be maintenance-free. However, to ensure its longevity and optimal performance, follow these guidelines:

- **Regular Recharging:** If the battery is not in regular use, recharge it every 3 months to maintain its capacity and health.
- **Proper Storage:** Store the battery at greater than 50% capacity in a cool, dry place, away from direct

sunlight and extreme temperatures.

- **Clean Terminals:** Periodically inspect and clean the terminals to ensure good conductivity and prevent corrosion.

7. Troubleshooting

If you encounter issues with your Weize LiFePO4 battery, refer to the following common problems and solutions:

7.1 Cannot Discharge

- Check whether the battery is securely connected.
- Check whether the positive and negative battery terminals are correctly connected.
- Check whether the battery voltage is greater than 12V. If it is less than 12V, charge the battery first.
- Check whether the load voltage matches the battery.
- Check whether the load current is greater than 100A; ensure it is less than 100A.
- Ensure that the ambient discharge temperature ranges from -15°C to +55°C.

7.2 Cannot Charge

- Check whether the battery is securely connected.
- Check whether the positive and negative battery terminals are correctly connected.
- Check the charging voltage matches the battery; the charging parameters are set correctly.
- Check whether the charging current is greater than 100A and ensure that it is less than 100A.
- Check whether the battery voltage is less than 9V. If it is less than 9V, use a charger with 0V charging function to charge.
- Ensure the charging environment temperature ranges from 0°C to +45°C.
- After the battery is protected by over-discharge, disconnect the load and wait for the battery to recover voltage before charging, or use a charger with 0V charging function to charge.

7.3 Battery Heats Up

- Check whether the battery is securely connected. The connecting wire should be in contact with the battery terminal. Do not clamp screws to discharge.
- Check whether the battery cable matches the working current. 6AWG or 4AWG cable is recommended.
- Check whether the load power exceeds the battery discharge power of 1280 Watt; ensure the load power is lower than the required battery power.
- Ensure the working temperature is lower than 55°C.

8. Specifications

Specification	Value
Model	TPLI-12100AH

Specification	Value
Nominal Voltage	12.8V
Nominal Capacity	100Ah
Watt-hour	1280Wh
Charge Voltage	14.4V (14.6V max.)
Charge Current	50A max.
Std/Max. Charge	20A / 50A
Continuous/Peak Discharge	50A / 100A (3s)
Operating Temperature (Charge)	0°C to +45°C
Operating Temperature (Discharge)	-20°C to +60°C
Item Dimensions (LxWxH)	13 x 6.77 x 8.48 inches
Item Weight	26.4 pounds
Cycle Life (100% DOD)	>2000 cycles
Cycle Life (50% DOD)	>8000 cycles

Parameter

MODEL	12V 6Ah	12V 10Ah	12V 12Ah	12V 18Ah	12V 20Ah	12V 36Ah	12V 50Ah	12V 100Ah	12V 200Ah
Nominal voltage	12.8V	12.8V	12.8V	12.8V	12.8V	12.8V	12.8V	12.8V	12.8V
Nominal capacity	6Ah	10Ah	12Ah	18Ah	20Ah	36Ah	50Ah	100Ah	200Ah
Nominal energy	76.8 Wh	128 Wh	153.6 Wh	230.4 Wh	256 Wh	460.8 Wh	640 Wh	1280 Wh	2560 Wh
Standard charge voltage	14.4V	14.4V	14.4V	14.4V	14.4V	14.4V	14.4V	14.4V	14.4V
Discharge cut-off voltage	10V	10V	10V	10V	10V	10V	10V	10V	10V
Standard charge current	2A	2A	3A	5A	5A	6A	10A	20A	20A
Allowed Max. charge current	6A	10A	12A	18A	20A	30A	50A	100A	100A
Allowed Max. Discharge current	10A	10A	20A	30A	30A	40A	50A	100A	100A
Peak discharge current	20A	20A	30A	50A	50A	80A	100A	200A	200A
Terminal	T1 (4.8)	T2 (6.3)	T2 (6.3)	F13 (M5)	F13 (M5)	F12 (M8)	F11 (M6)	F12 (M8)	F12 (M8)
temperature	Charge temperature:0℃~+45℃ / Discharge temperature -20℃~+60℃								
Cycle Life	>2000 cycles @1C 100%DOD / > 8000 cycles @0.5C 50%DOD								

Figure 6: Detailed parameter table for various Weize LiFePO4 battery models, including nominal voltage, capacity, energy, charge/discharge currents, terminal types, temperature ranges, and cycle life.

9. Warranty and Support

Weize Lithium Iron Phosphate Batteries are confidently guaranteed for 10 years. We are committed to quality products and customer service.

If you have any questions or require support, please contact the seller directly. The Weize support team is available to assist you with any battery-related inquiries.

For additional safety information, please refer to theSafety Information PDF and the User Manual PDF provided

by the manufacturer.