

[Manuals.plus](#) /

> [WEIZE](#) /

> WEIZE 12V 100Ah Mini LiFePO4 Battery User Manual

WEIZE LP12-100Mini

WEIZE 12V 100Ah Mini LiFePO4 Battery User Manual

Model: LP12-100Mini | Brand: WEIZE


1. INTRODUCTION

Thank you for choosing the WEIZE 12V 100Ah Mini LiFePO4 Battery. This deep cycle lithium iron phosphate battery is designed for a wide range of applications, including RVs, solar energy systems, marine use, trolling motors, and off-grid power solutions. Its compact size and lightweight design offer superior performance and longevity compared to traditional lead-acid batteries.



Figure 1: Front view of the WEIZE 12V 100Ah Mini LiFePO4 Battery, showing its compact design and key specifications.

SMALLER AND LIGHTER

 lbs 21.8lbs

25% SMALLER
Than a WEIZE Lithium 100 Ah Battery

75% LIGHTER
Than a 100 Ah SLA Battery



Figure 2: The WEIZE 12V 100Ah Mini LiFePO4 Battery, illustrating its compact dimensions (10.24 x 6.61 x 8.27 inches) and lightweight design (21.8 lbs).

This manual provides essential information for the safe and efficient use of your battery, covering setup, operation, maintenance, and troubleshooting.


Video 1: An overview of WEIZE Lithium LiFePO4 Batteries, highlighting their strength, reliability, and performance for various applications.

2. SAFETY PRECAUTIONS

Always adhere to the following safety guidelines to prevent injury or damage to the battery and connected equipment:

- **Do Not Short Circuit:** Avoid connecting the positive and negative terminals directly.

- **Do Not Crush:** Protect the battery from physical impact or crushing.
- **Do Not Heat or Incinerate:** Do not expose the battery to high temperatures or fire.
- **Do Not Immerse in Any Liquid:** Keep the battery dry and away from water.
- **Do Not Disassemble:** Do not attempt to open or modify the battery.
- **Only Use Approved LiFePO4 Charger:** Use a charger specifically designed for LiFePO4 batteries.
- **Storage:** Store the battery at $\geq 50\%$ capacity.
- **Recharge Every 3 Months:** For prolonged storage, recharge the battery periodically.
- **Series Connection Limit:** Do not connect more than 4 batteries in series.

The WEIZE LiFePO4 battery is made from 100% safe, non-toxic, and non-hazardous energy. It has higher chemical stability, making it less prone to thermal runaway, overheating, or catching fire even if punctured. With no acid, it can be safely mounted in any position.

3. TECHNICAL SPECIFICATIONS

The following table outlines the key technical specifications for the WEIZE 12V 100Ah Mini LiFePO4 Battery (Model: LP12-100Mini):

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°C~+45°C / Discharge temperature -20°C~+60°C								
Cycle Life	>2000 cycles @1C 100%DOD / > 8000 cycles @0.5C 50%DOD								

Figure 3: Detailed parameter table for various WEIZE LiFePO4 battery models, including the 12V 100Ah.

WEIZE 12V 100Ah Mini LiFePO4 Battery Specifications

Parameter	Value
Nominal Voltage	12.8V
Nominal Capacity	100Ah
Nominal Energy	1280Wh
Watt-hour	1280Wh

Parameter	Value
Standard Charge Voltage	14.4V (14.6V max.)
Charge Current (Max)	100A max.
Std/Max. Charge Current	50A / 100A (3s)
Discharge Cut-off Voltage	10V
Allowed Max. Discharge Current	100A
Peak Discharge Current	200A
Continuous/Peak Discharge Temperature	Charge: 0°C to +45°C / Discharge: -20°C to +60°C
Operating Temperature	Discharge: -20°C to +60°C
Cycle Life	>2000 cycles @ 1C 100%DOD / >8000 cycles @ 0.5C 50%DOD
Item Weight	21.8 pounds
Product Dimensions (D x W x H)	6.61 x 10.24 x 8.27 inches
Terminal Type	Marine Terminal
Item Model Number	LP12-100Mini
UPC	784853220999

4. SETUP AND INSTALLATION

4.1 Charging the Battery

Before initial use, ensure your battery is fully charged. Always use a dedicated LiFePO4 battery charger. Using chargers designed for other battery chemistries (e.g., lead-acid) can damage the battery and void the warranty.

- Connect the positive (+) terminal of the charger to the positive (+) terminal of the battery.
- Connect the negative (-) terminal of the charger to the negative (-) terminal of the battery.
- Plug in the charger and allow the battery to charge until the charger indicates a full charge.
- The recommended charge voltage is 14.4V, with a maximum of 14.6V.

4.2 Connecting Multiple Batteries

For increased voltage or capacity, multiple WEIZE LiFePO4 batteries can be connected. However, it is crucial to follow these guidelines:

- **Series Connection:** For higher voltage, connect batteries in series. **Do not connect more than 4 batteries in series.** Ensure all batteries have the same voltage and capacity.
- **Parallel Connection:** For higher capacity, connect batteries in parallel. Ensure all batteries have the same voltage and capacity.
- Always use appropriate gauge cables and ensure all connections are secure to prevent overheating and

power loss.

4.3 Mounting

The WEIZE LiFePO4 battery can be safely mounted in any position due to its sealed, acid-free design. Ensure the mounting location is secure, well-ventilated, and protected from extreme temperatures or direct sunlight.

5. OPERATION

5.1 Built-in Battery Management System (BMS)

Your WEIZE LiFePO4 battery is equipped with an advanced Battery Management System (BMS) that provides comprehensive protection and ensures optimal performance and longevity. The BMS protects against:

- **Over Charge and Discharge:** Prevents damage from overcharging or excessive discharging.
- **Over Current:** Protects against currents exceeding safe limits.
- **Short Circuiting:** Automatically cuts off power in case of a short circuit.
- **Low and High Temperature:** Monitors battery temperature and prevents operation outside safe ranges (Charge: 0°C to +45°C / Discharge: -20°C to +60°C).

GRADE A CELLS & SMART BMS

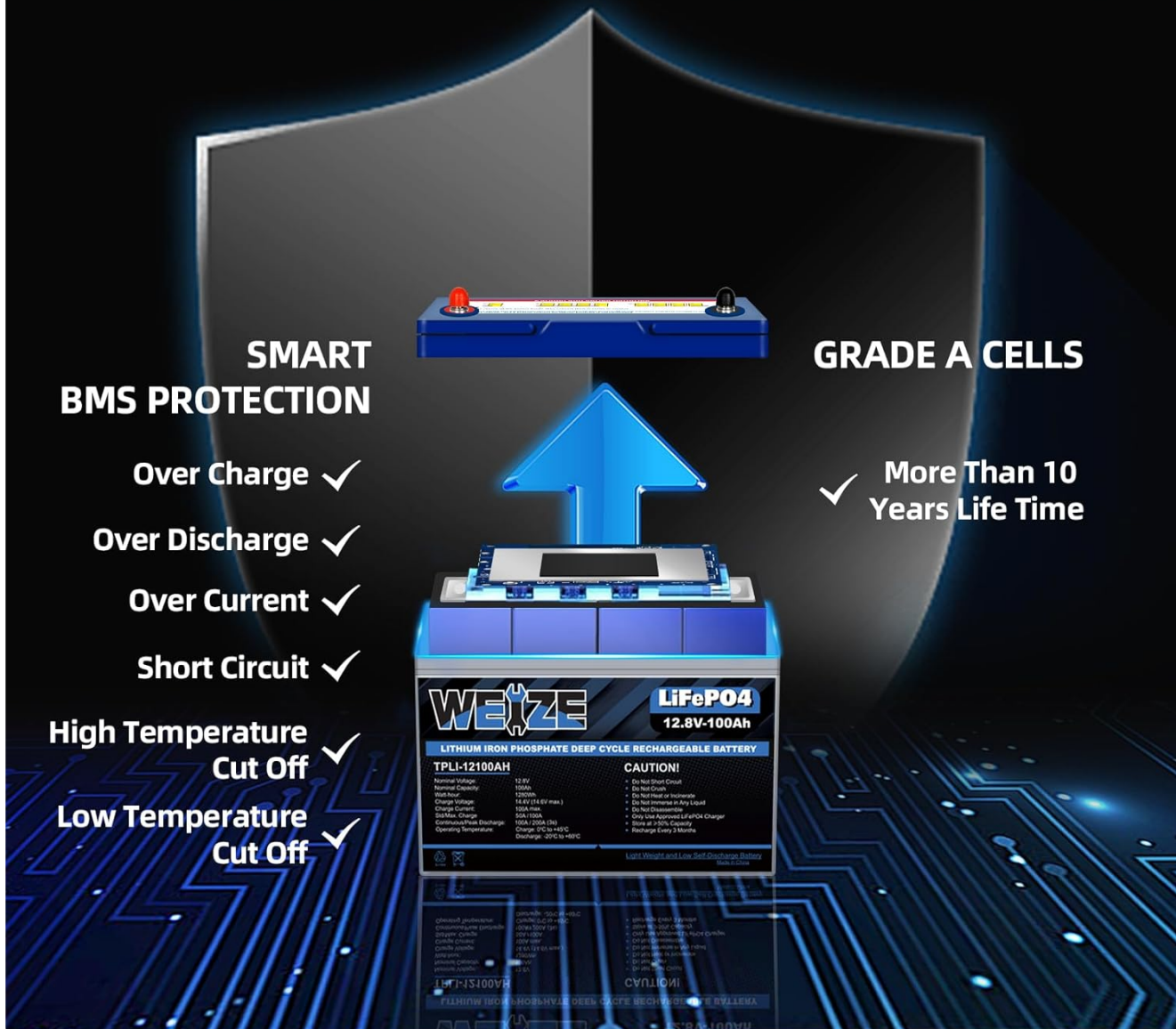


Figure 4: Illustration of the Smart BMS protection features, including safeguards against overcharge, over discharge, over current, short circuit, high temperature cut-off, and low temperature cut-off.

If the BMS detects an unsafe condition, it will automatically cut off the battery. If the voltage drops below 1V due to a cut-off, the battery will automatically reactivate after 1 second, without requiring a higher voltage input.

5.2 Applications

The WEIZE 12V 100Ah Mini LiFePO4 Battery is ideal for various deep cycle applications:

- **RV and Camping:** Powers appliances, lights, and electronics in recreational vehicles and during camping trips.
- **Solar Energy Systems:** Efficient energy storage for off-grid or grid-tied solar installations.
- **Marine Applications:** Suitable for boats, fish finders, and trolling motors due to its lightweight and deep cycle capabilities.
- **Off-Grid and Backup Power:** Reliable power source for remote cabins, backup sump pumps, and home alarm systems.



Figure 5: Examples of common applications for the WEIZE LiFePO₄ battery, including RVs, solar panel systems, and marine vessels.

PORTABLE AND POWERFUL MINI LiFePO4 BATTERY



10W
appliance

128 hrs



100W
appliance

12.8 hrs



600W
appliance

2.1 hrs



1,200W
appliance

1 hrs



1280Wh
Energy

Figure 6: The 1280Wh energy capacity of the WEIZE 12V 100Ah battery, demonstrating its ability to power various appliances for extended durations.

6. MAINTENANCE

WEIZE LiFePO4 batteries are largely maintenance-free. However, following these simple guidelines will ensure maximum lifespan and performance:

- **Regular Inspection:** Periodically check battery terminals for cleanliness and tightness. Ensure there is no corrosion.
- **Storage:** If storing the battery for an extended period, ensure it is charged to at least 50% capacity. Recharge the battery every 3 months to prevent self-discharge and maintain cell health.
- **Cleaning:** Use a dry cloth to wipe down the battery casing. Do not use solvents or abrasive cleaners.
- **Temperature:** Operate and store the battery within the specified temperature ranges to prevent damage and ensure optimal performance.

Compared to lead-acid batteries, LiFePO4 batteries offer significantly longer cycle life (2000+ cycles at 100% DOD, 8000+ cycles at 50% DOD) and consistent power output without performance degradation.

WHY CHOOSE US ?

WEIZE LiFePO4	Lead Acid
	
100% DISCHARGE	50% DISCHARGE
2000+ CHARGE CYCLES	500 CHARGE CYCLES
CONSTANT POWER	STEADY POWER DROP
EFFICIENT AND FAST CHARGING	SLOW MULTI-STAGE CHARGING
LIGHTWEIGHT	HEAVY
BMS	NO
10 YEAR	3 YEAR

Figure 7: A comparison highlighting the advantages of WEIZE LiFePO4 batteries over traditional lead-acid batteries, including discharge depth, cycle life, power consistency, charging efficiency, weight, BMS presence, and warranty.

7. TROUBLESHOOTING

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

- **Battery Not Providing Power:**

- Check if the BMS has activated its protection mode (e.g., due to over-discharge, over-current, or temperature).
- If the voltage has dropped below 1V, the BMS will automatically reactivate after 1 second. Ensure the

load is removed or the condition causing the cut-off is resolved.

- Verify all connections are secure and free of corrosion.
- Ensure the battery is adequately charged.

- **Battery Not Charging:**

- Confirm you are using a dedicated LiFePO4 charger.
- Check the charger's connections to the battery and power source.
- Ensure the battery temperature is within the charging range (0°C to +45°C). The BMS will prevent charging outside this range.

- **Reduced Performance/Capacity:**

- Ensure the battery is fully charged before use.
- Verify that the load does not exceed the battery's continuous or peak discharge current limits.
- Check for any parasitic drains on your system when the battery is not in use.

If you continue to experience issues after following these steps, please refer to the "Warranty and Support" section for assistance.

8. WARRANTY AND SUPPORT

WEIZE confidently guarantees its Lithium Iron Phosphate Batteries for **10 years** from the date of purchase. This warranty covers defects in materials and workmanship under normal use and service.

For any questions, technical assistance, or warranty claims, please contact the seller directly. The WEIZE support team is available to assist you. Please note that Amazon does not handle returns for battery-related products directly, so contacting the seller is the correct procedure for support and returns.

Before contacting support, please have your purchase information, including the date of purchase and product model number (LP12-100Mini), ready to expedite the process.