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› DATOUBOSS 12V 100Ah LiFePO4 Battery User Manual

DATOUBOSS DT-LiFePO4 Battery

DATOUBOSS 12V 100Ah LiFePO4 Battery User Manual

Model: DT-LiFePO4 Battery

1. INTRODUCTION

Thank you for choosing the DATOUBOSS 12V 100Ah LiFePO4 Battery. This manual provides essential information for the safe and efficient operation, installation, and maintenance of your battery. Please read this manual thoroughly before using the product and retain it for future reference.



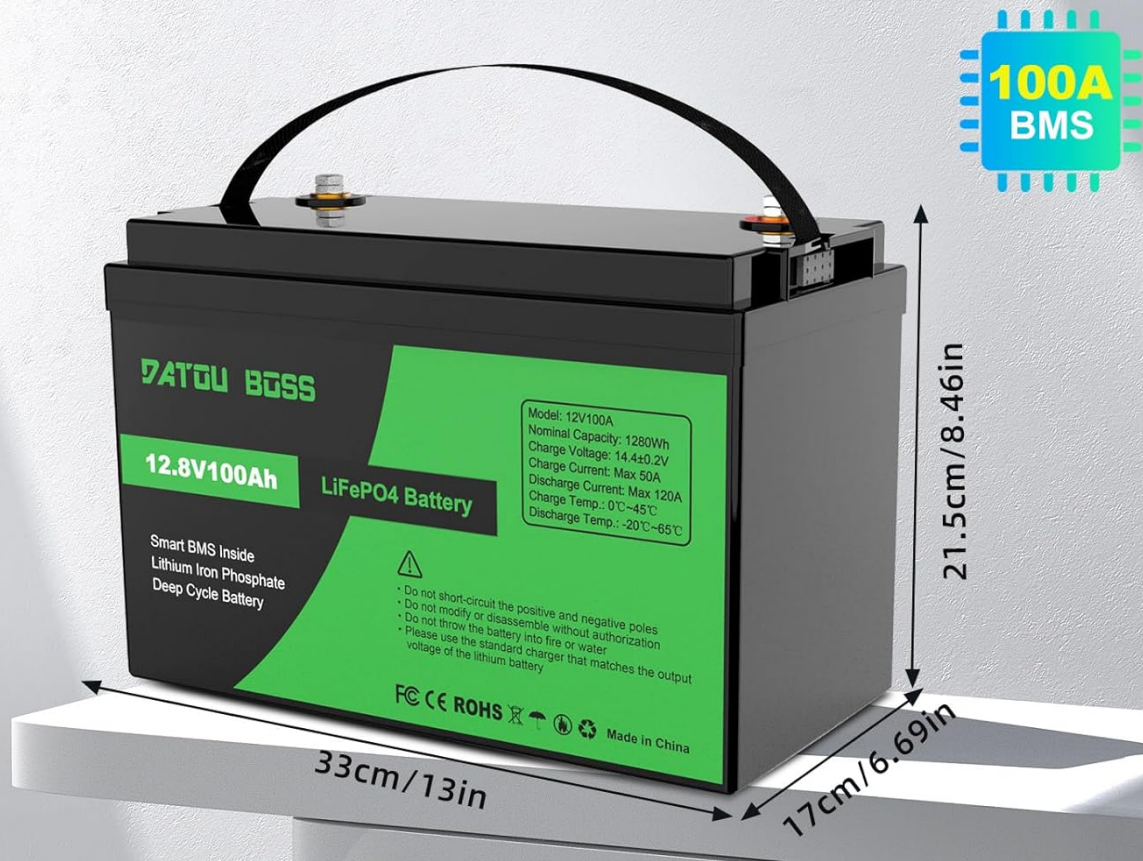
Image 1.1: Two DATOUBOSS 12V 100Ah LiFePO4 Batteries.

2. SAFETY INFORMATION

WARNING: Failure to follow these safety instructions may result in electric shock, fire, serious injury, or death.

- Always wear appropriate personal protective equipment (PPE) including safety glasses and insulated gloves when handling batteries.
- Do not short-circuit the positive and negative terminals. This can cause severe damage to the battery and pose a fire hazard.
- Do not disassemble, modify, or attempt to repair the battery without authorization. Internal components are not user-serviceable.
- Keep the battery away from fire, heat sources, and flammable materials.
- Do not immerse the battery in water or expose it to excessive moisture. The battery has an IP65 waterproof rating, but direct immersion is not recommended.
- Use only chargers specifically designed for LiFePO4 batteries that match the output voltage of this lithium battery.
- Ensure proper ventilation when charging or discharging the battery.
- Keep out of reach of children.
- In case of fire, use a Class D fire extinguisher or copious amounts of water.

TERMINAL SPECIFICATIONS: M8 TERMINAL BOLTS



 12.8V 100AH Battery Capacity	 1280Wh Storage capacity	 50A Maximum charging current	 120A Maximum discharge current
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Image 2.1: Built-in BMS Protection Features.

The DATOU BOSS LiFePO4 Battery includes a built-in 100A Battery Management System (BMS) to protect against common issues such as over-voltage, under-voltage, over-current, over-temperature, and short-circuit conditions, enhancing safety and reliability.

3. PRODUCT FEATURES

- **Integrated BMS:** Equipped with a 100A BMS for protection against over-voltage, overload, overcharge, over-discharge, overcurrent, short circuit, and high temperature.
- **Expandable Capacity:** Supports series and parallel connections up to 4P4S, allowing for a 48V (51.2V) 400Ah Li-Ion battery pack with up to 20.48kWh energy.
- **High Performance & Safety:** Constructed with automotive-grade LiFePO4 cells, UL-certified for safety, and features an IP65 waterproof rating.
- **Lightweight & Compact:** Weighs approximately 10.92kg, which is significantly lighter than comparable lead-acid batteries, facilitating easier installation and portability.
- **Wide Application:** Suitable for various uses including RVs, solar energy systems, trolling motors, marine applications, home backup power, and off-grid setups.

- **Extended Cycle Life:** Offers 4000-15000+ deep charge/discharge cycles, providing a long operational lifespan.
- **Temperature Tolerance:** Designed to operate effectively in a wide temperature range, from -4°F to 150°F (-20°C to 65°C).



Image 3.1: LiFePO4 Battery vs. Lead-Acid Battery Comparison.

FLEXIBLE CAPACITY EXPANSION SUPPORT CONNECTING UP TO 4S4P

Max. 400A continuous
charge/discharge current

Max. 20.48KW load power

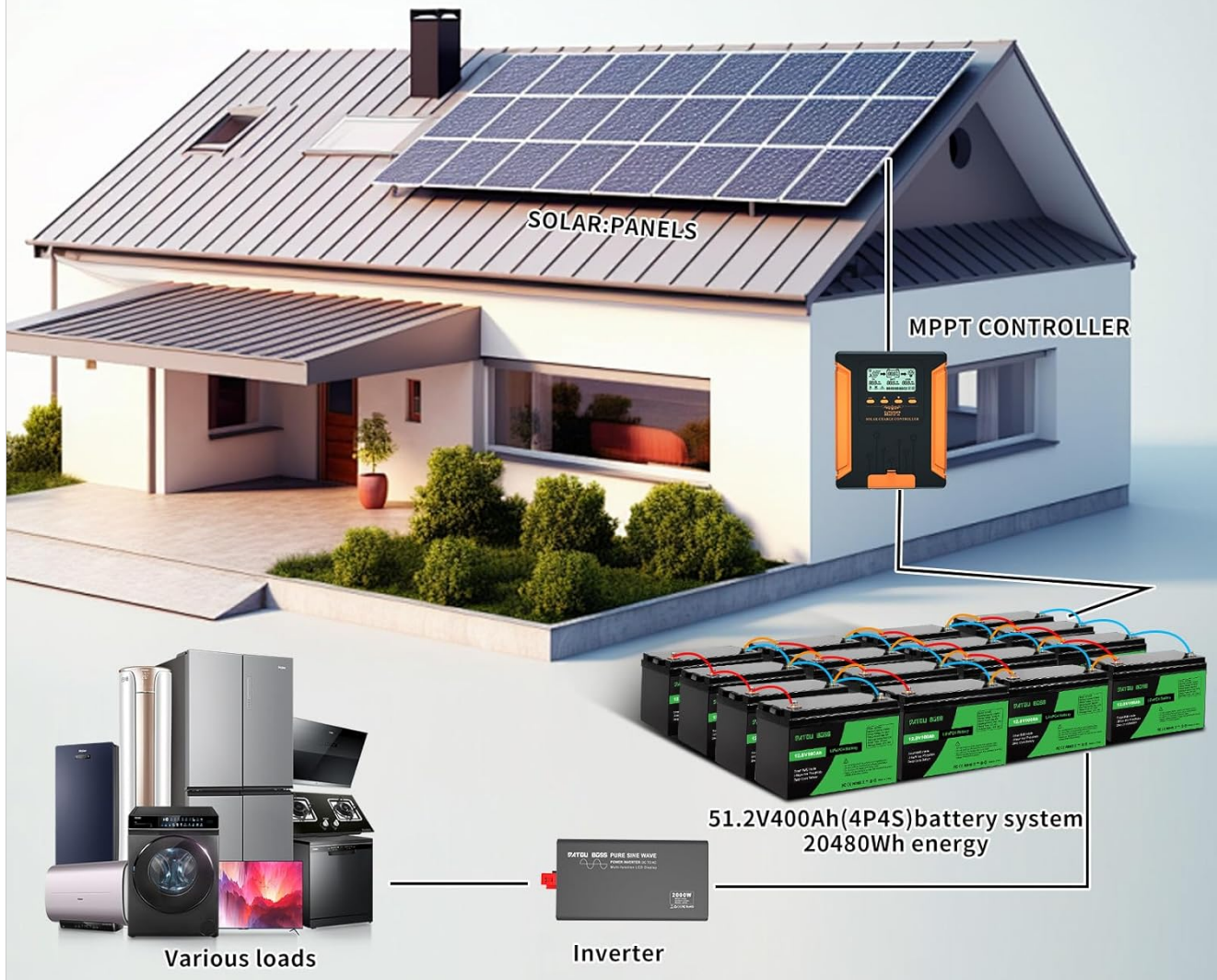


Image 3.2: Temperature Operating Range.

4. PACKAGE CONTENTS

The standard package includes:

- DATOUBOSS 12V 100Ah LiFePO4 Battery
- User Manual (this document)
- (Additional accessories may vary based on specific product bundles)

Please inspect the package upon arrival for any damage or missing components. Contact customer support immediately if any items are missing or damaged.

5. SETUP AND INSTALLATION

5.1 Initial Inspection

Before installation, visually inspect the battery for any physical damage. Ensure terminals are clean and free of

corrosion.

5.2 Connection Guidelines

Ensure all connections are secure and properly insulated to prevent short circuits. Use appropriate gauge cables for your application.

- **Single Battery Connection:** Connect the positive terminal of the battery to the positive input of your load/charger and the negative terminal to the negative input.
- **Parallel Connection (for increased capacity):** Connect positive terminals together and negative terminals together. Ensure all batteries are at a similar state of charge before connecting in parallel.
- **Series Connection (for increased voltage):** Connect the positive terminal of one battery to the negative terminal of the next battery. This battery supports up to 4 batteries in series (4S) for a 48V system.
- **Series-Parallel Connection (4P4S):** For maximum capacity and voltage, up to 16 batteries can be configured in a 4P4S arrangement to achieve a 48V 400Ah system (20.48kWh). Consult a qualified electrician for complex setups.

MORE EFFECTIVELY COPE WITH EXTREME TEMPERATURE VARIATIONS

Excellent continuous discharge Work from **-4°F to 150°F**

DATOU BOSS

12.8V100Ah **LiFePO4 Battery**

Smart BMS Inside
Lithium Iron Phosphate
Deep Cycle Battery

Model: 12V100A
Nominal Capacity: 1280Wh
Charge Voltage: 14.4±0.2V
Charge Current: Max 50A
Discharge Current: Max 120A
Charge Temp.: 0°C~45°C
Discharge Temp.: -20°C~65°C

• Do not short-circuit the positive and negative poles
• Do not modify or disassemble without authorization
• Do not throw the battery into fire or water
• Please use the standard charger that matches the output voltage of the lithium battery

FC CE ROHS Made in China

-4°F **150°F**

LOW TEMPERATURE HIGH TEMPERATURE

Image 5.1: Series and Parallel Connection Examples.

PERFECT FOR MANY APPLICATIONS



Image 5.2: Example of a Flexible Capacity Expansion System (4P4S).

6. OPERATING INSTRUCTIONS

6.1 Charging the Battery

Use a compatible LiFePO4 battery charger. The recommended charge voltage is 14.4V-14.6V. The maximum charge current is 50A. Avoid overcharging or using chargers not designed for LiFePO4 batteries.

Your browser does not support the video tag.

Video 6.1: Demonstration of DATOUBOSS 12V 100Ah LiFePO4 Battery charging and testing. This video shows the unboxing, initial voltage check, and charging process with various meters displaying voltage and current readings.

6.2 Discharging the Battery

The maximum continuous discharge current is 100A, with a peak discharge current of 120A. The BMS will protect the battery from over-discharge. Ensure your load does not exceed the battery's rated discharge current.

6.3 Storage

For long-term storage, charge the battery to approximately 50% of its capacity (around 13.2V). Store in a cool, dry place, away from direct sunlight and extreme temperatures. Periodically check the battery voltage during storage and recharge if necessary.

7. MAINTENANCE

- Regularly inspect battery terminals for cleanliness and tightness. Clean any corrosion with a wire brush and baking soda solution, then rinse with distilled water and dry thoroughly.
- Ensure the battery is kept within its recommended operating temperature range.
- Avoid fully discharging the battery frequently, as this can reduce its overall lifespan, although the BMS provides protection.
- Do not expose the battery to physical shock or vibration.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
Battery not charging	Incorrect charger, loose connections, BMS protection activated (over-discharge)	Verify charger compatibility and connections. If BMS is active, try a low-current charge to reactivate.
Battery not discharging	Overload, short circuit, BMS protection activated (over-charge, over-discharge, over-current)	Reduce load, check for short circuits. Allow battery to rest if BMS has tripped due to over-discharge.
Reduced capacity/runtime	Aging battery, extreme operating temperatures, improper charging habits	Ensure proper charging. Operate within recommended temperature range. If battery is old, consider replacement.
Unusual heat during operation/charging	Overload, internal fault, poor ventilation	Immediately disconnect the battery. Check for overload or short circuits. Ensure adequate ventilation. If problem persists, discontinue use and contact support.

If you encounter issues not listed here or if solutions do not resolve the problem, please contact DATOUBOSS customer support.

9. SPECIFICATIONS

Feature	Specification
Model	DT-LiFePO4 Battery
Nominal Voltage	12V
Nominal Capacity	100Ah
Energy	1280Wh
Built-in BMS	100A
Max Charge Current	50A
Max Continuous Discharge Current	100A
Peak Discharge Current	120A
Recommended Charge Voltage	14.4V - 14.6V
Operating Temperature (Discharge)	-4°F to 150°F (-20°C to 65°C)
Operating Temperature (Charge)	32°F to 113°F (0°C to 45°C)
IP Rating	IP65
Dimensions (Approx.)	33cm x 17cm x 21.5cm (13in x 6.69in x 8.46in)
Weight (Approx.)	10.92kg (24lb)

PERFECT REPLACEMENT FOR LEAD ACID

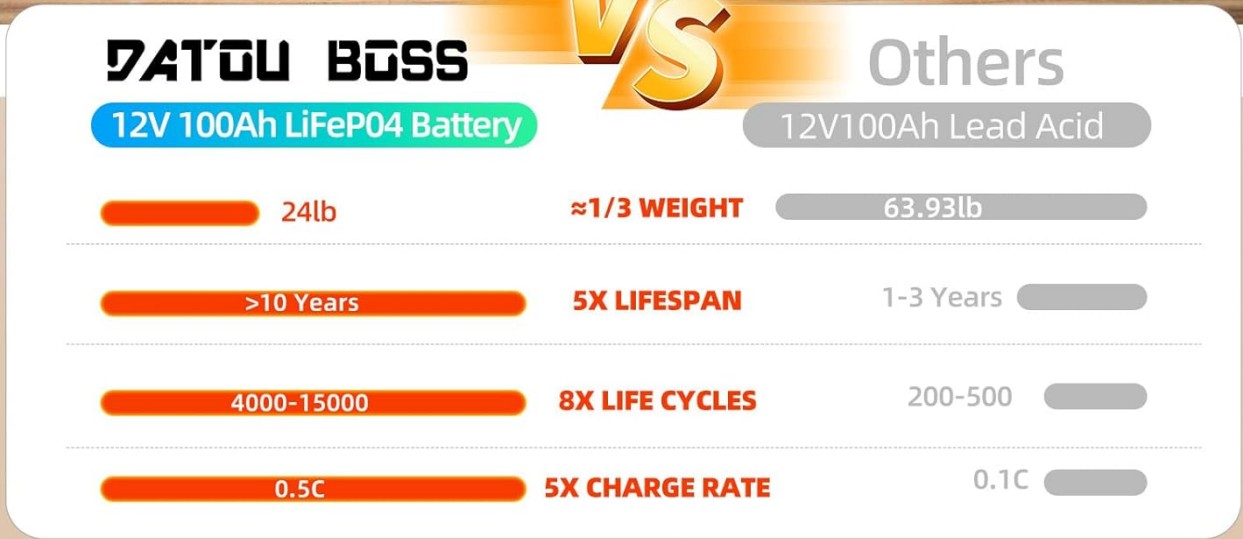


Image 9.1: Battery Dimensions and Key Specifications.

10. WARRANTY AND SUPPORT

DATOU BOSS provides a **5-year warranty** for this LiFePO4 battery, covering defects in materials and workmanship under normal use. This warranty does not cover damage caused by misuse, neglect, improper installation, or unauthorized modifications.

For technical support, warranty claims, or any questions regarding your DATOU BOSS 12V 100Ah LiFePO4 Battery, please contact DATOU BOSS customer service through the retailer where you purchased the product or visit the official DATOU BOSS website for contact information.

Please have your purchase receipt and product model number (DT-LiFePO4 Battery) ready when contacting support.