DATOUBOSS DT-12V-50AH

DATOUBOSS 12V 50Ah LiFePO4 Lithium Battery User Manual

Brand: DATOUBOSS | Model: DT-12V-50AH

1. Product Overview

The DATOUBOSS 12V 50Ah LiFePO4 Lithium Battery is an advanced energy storage solution designed for deep cycle applications. It features a built-in Battery Management System (BMS) for enhanced safety and longevity, making it suitable for various uses including RVs, camping, solar systems, trolling motors, and fish finders.

This battery offers significant advantages over traditional lead-acid batteries, including a longer lifespan, lighter weight, and higher energy density.



Figure 1: DATOUBOSS 12V 50Ah LiFePO4 Lithium Battery with integrated handle and specifications label.

Key Features:

- **Built-in 50A BMS:** Protects against overcharge, over-discharge, overcurrent, and short circuit. Includes high-temperature shutdown and low-temperature protection.
- **Lightweight and Compact:** Weighs only 4.4 kg, significantly lighter than comparable lead-acid batteries (approx. 15 kg), facilitating easier installation and portability.
- **Extended Lifespan:** Offers 15,000+ deep cycles, providing a lifespan of over 10 years, which is approximately four times longer than lead-acid batteries.
- **High Performance:** Utilizes Grade A LiFePO4 cells for higher energy density, stable performance, 100% Depth of Discharge (DOD), and no memory effect.
- **Eco-Friendly:** A safer and more environmentally conscious battery technology, widely used in various applications.



Figure 2: Visual comparison highlighting the weight, size, cycle life, and lifespan advantages of DATOUBOSS LiFePO4 batteries over traditional lead-acid batteries.

2. What's in the Box

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

- 1 x DATOUBOSS 12V 50Ah LiFePO4 Battery

3. Setup and Installation

3.1 Safety Precautions

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

- Ensure proper ventilation during charging and operation.



Figure 3: The intelligent BMS provides comprehensive protection against overcharge, over-discharge, overcurrent, high temperature, and short circuits.

3.2 Initial Charging

Before first use, it is recommended to fully charge the battery. Use a dedicated LiFePO4 charger with an output voltage of 14.4±0.2V and a maximum charging current of 50A. The battery can also be charged via solar panels or a generator, provided they meet the charging specifications.

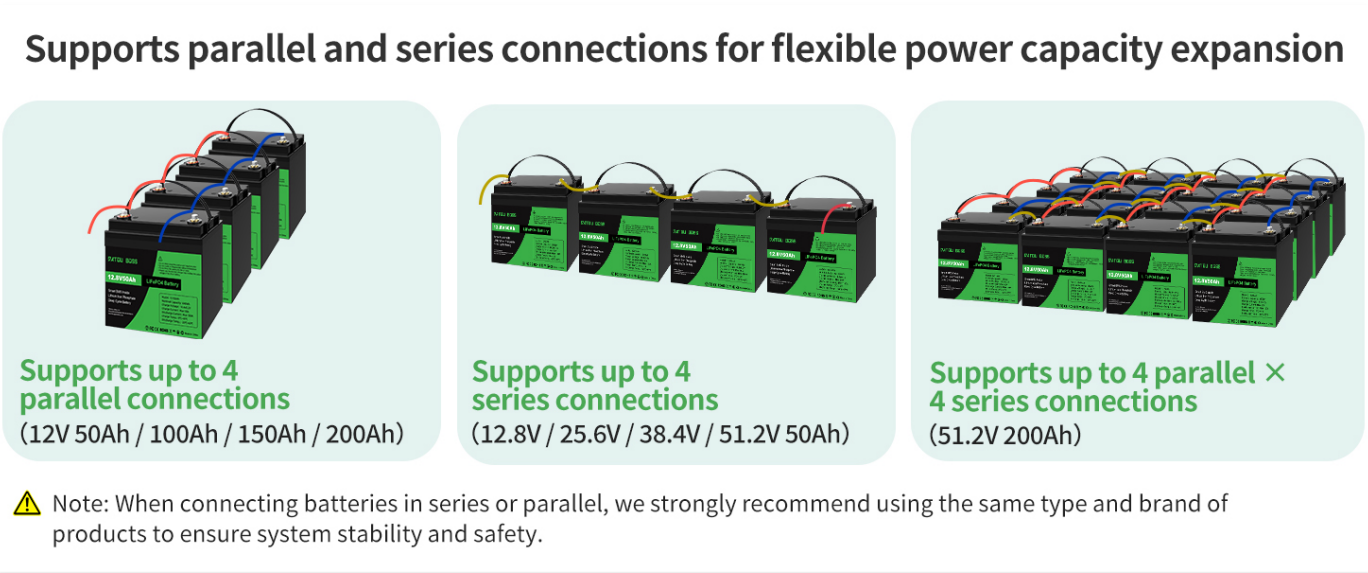


Figure 4: The battery supports charging via a dedicated LiFePO4 charger, solar panels, or a generator.

3.3 Connection Options

The DATOUBOSS 12V 50Ah LiFePO4 battery supports both series and parallel connections to expand power capacity. It can support up to 4 parallel connections (12V 50Ah / 100Ah / 150Ah / 200Ah) and up to 4 series connections (12.8V / 25.6V / 38.4V / 51.2V 50Ah). For optimal system stability and safety, it is strongly recommended to use the same type and brand of products when connecting batteries in series or parallel.

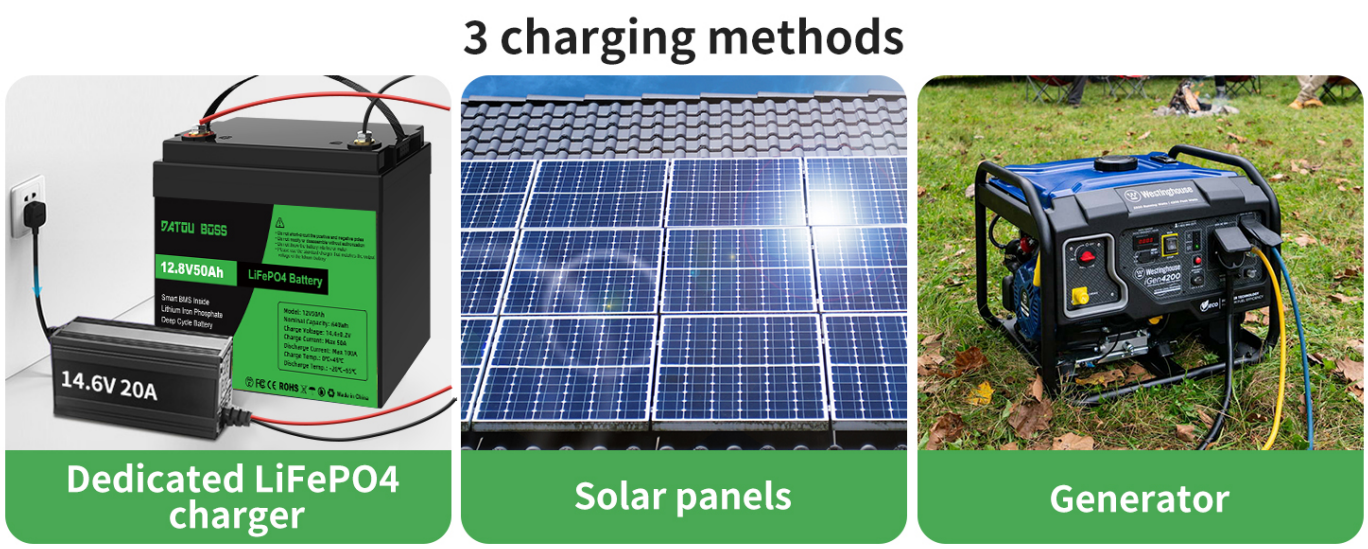


Figure 5: The battery can be configured in series or parallel to meet various power requirements.

4. Operating Instructions

4.1 General Use

The DATOUBOSS LiFePO4 battery is designed for deep cycle applications, providing reliable power for extended periods. It can be used in a wide range of scenarios:

- **Recreational Vehicles (RVs) & Trailers:** Powering onboard appliances and systems.
- **Camping & Outdoor Activities:** Providing portable power for lights, fans, and small electronics.
- **Solar Energy Systems:** Storing energy from solar panels for off-grid or backup power.
- **Marine Applications:** Ideal for trolling motors, fish finders, and other boat electronics.
- **Home Energy Storage:** As a backup power source or for general energy needs.



Figure 6: The battery is versatile for various applications, from marine to camping.

4.2 Temperature Ranges

The battery's performance is optimized within specific temperature ranges:

- **Discharge Temperature:** -20°C to 65°C (±5°C)
- **Charge Temperature:** 0°C to 45°C (±5°C)

The built-in BMS provides protection against extreme temperatures, shutting down operation if temperatures fall outside these safe ranges.

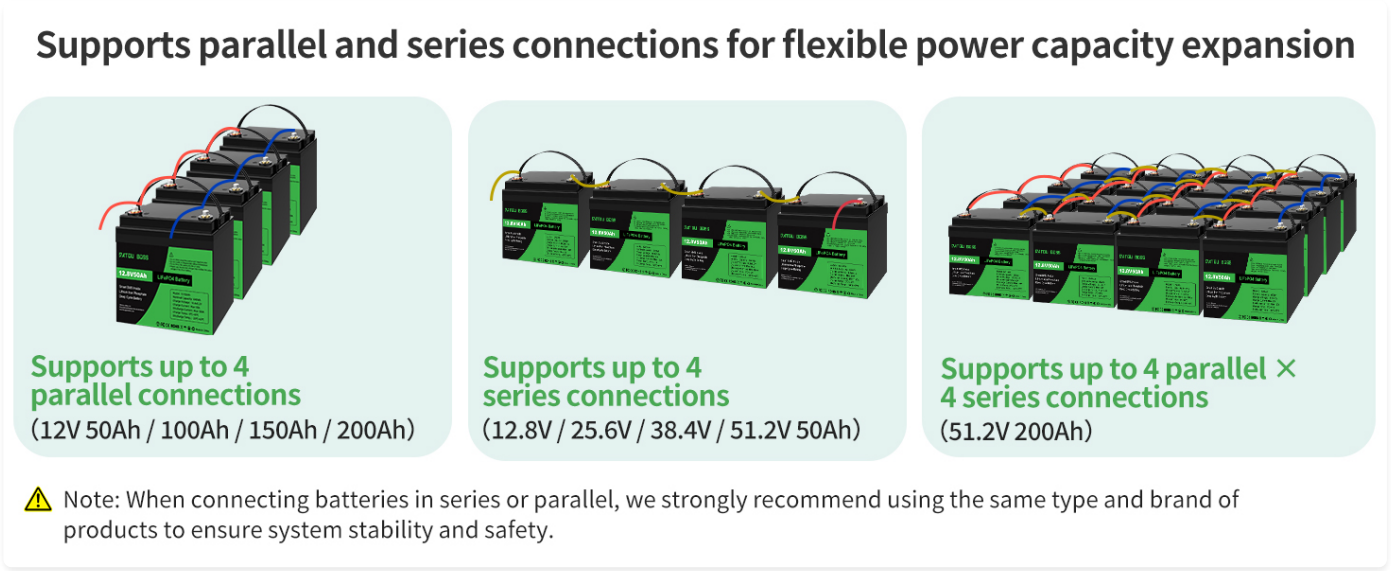


Figure 7: The battery is designed to operate within specific temperature ranges, with BMS protection for extreme conditions.

4.3 Trolling Motor Usage Guidelines

When using the 12V 50Ah battery with a trolling motor, ensure the maximum operating current does not exceed 50A. The following table provides approximate operating times based on thrust and operating current:

Thrust (lbs)	Operating Current (A)	Number of Batteries	High-speed Operating Time	Medium-speed Operating Time	Low-speed Operating Time
36lbs	30A (50Ah)	1	Approx. 1.6 Hours	Approx. 1.2 Hours	Approx. 1.0 Hour
46lbs	40A (50Ah)	1	Approx. 3.5 Hours	Approx. 2.5 Hours	Approx. 2.5 Hours

Thrust (lbs)	Operating Current (A)	Number of Batteries	High-speed Operating Time	Medium-speed Operating Time	Low-speed Operating Time
50 lbs or less	50A (50Ah)	1	Approx. 10 Hours	Approx. 8 Hours	Approx. 6 Hours

Hint: If you need longer cruising range or more power for your trolling motor, consider choosing a battery with a larger capacity or connecting multiple batteries in parallel.



Figure 8: Trolling motor performance guidelines for the 12V 50Ah battery.

4.4 Manufacturing Process (Video)

For insight into the quality and manufacturing process of DATOUBOSS products, please watch the official video below:

Your browser does not support the video tag.

Video 1: An overview of the DATOUBOSS manufacturing facility and assembly process for LiFePO4 batteries and related power products. This video demonstrates the attention to detail and quality control measures in place during production.

5. Maintenance

Proper maintenance ensures the longevity and optimal performance of your DATOUBOSS LiFePO4 battery:

- **Regular Inspection:** Periodically check battery terminals for corrosion or loose connections. Clean terminals with a dry cloth if necessary.
- **Storage:** If storing the battery for an extended period, ensure it is charged to approximately 50-70% capacity. Store in a cool, dry place away from direct sunlight and extreme temperatures.
- **Avoid Deep Discharge:** While LiFePO4 batteries can handle 100% DOD, consistently discharging to 0% can reduce overall lifespan. The built-in BMS will protect against over-discharge.
- **Charging:** Always use a compatible LiFePO4 charger. Avoid using chargers designed for lead-acid batteries, as this can damage the LiFePO4 battery.

6. Troubleshooting

The built-in BMS is designed to prevent most common issues. However, if you encounter problems, consider the following:

- **Battery Not Charging:**
    - Ensure the charger is compatible with LiFePO4 batteries and its output voltage matches the battery's requirements (14.4±0.2V).

- Check all connections for proper seating and ensure no loose wires.
- Verify the ambient temperature is within the charging range (0°C to 45°C). The BMS may prevent charging if too cold or too hot.

- **No Power Output:**
  - Check if the battery is fully discharged. The BMS will shut off output to prevent over-discharge. Recharge the battery.
  - Inspect for short circuits in the connected load. The BMS will activate short-circuit protection.
  - Ensure the operating current does not exceed the maximum discharge current (100A). Overcurrent protection will activate.
- **Unusual Odor or Swelling:**
  - Immediately disconnect the battery from all loads and chargers. This indicates a serious internal issue. Do not attempt to use or repair. Contact customer support.

For issues not covered here, please refer to the warranty and support section for contact information.

7. Product Specifications

Specification	Value
Brand	DATOUBOSS
Model	DT-12V-50AH
Battery Capacity	50Ah
Battery Energy	640Wh
Battery Voltage	12.8V
Maximum Charging Current	50A
Maximum Discharging Current	100A
Maximum Charging Voltage	14.6V
End of Discharge Voltage	10V
Product Dimensions (L×W×H)	8.9"D x 8.1"W x 5.5"H (22.6 x 20.6 x 14 cm)
Item Weight	4.4 kg (9.7 lbs)
Series and Parallel Connections	Up to 4S4P (4 series, 4 parallel)

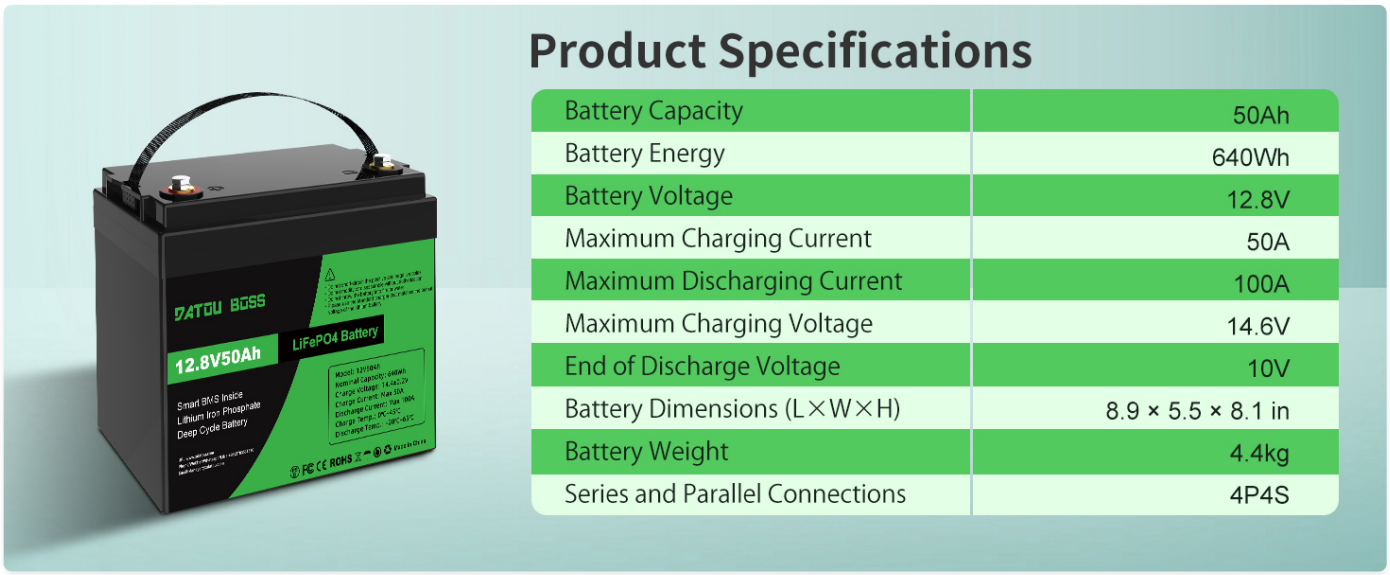


Figure 9: Detailed product specifications for the DATOUBOSS 12V 50Ah LiFePO4 battery.

8. Warranty and Support

DATOUBOSS stands behind the quality of its products. This LiFePO4 battery comes with a**5-year protection**, ensuring peace of mind for your investment.

For any technical assistance, questions, or concerns, our dedicated support team is available. We offer**24-hour technical support** to help you with installation, operation, or troubleshooting.

Please visit the official DATOUBOSS Store on Amazon for more information and to contact support.

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Ask a question about this manual

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Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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