



Manuals.plus /

- › DATOUBOSS /
- › DATOUBOSS 12V 100Ah LiFePO4 Battery User Manual

DATOUBOSS 12V100Ah

DATOUBOSS 12V 100Ah LiFePO4 Battery User Manual

1. INTRODUCTION

This manual provides essential information for the safe and efficient use of your DATOUBOSS 12V 100Ah LiFePO4 Battery. Please read this manual thoroughly before installation and operation to ensure optimal performance and longevity of the battery. This battery is designed for various deep cycle applications including RVs, solar energy systems, trolling motors, and camping setups.



Image 1.1: The DATOUBOSS 12V 100Ah LiFePO4 Battery, showcasing its compact design and terminal connections.

2. SAFETY INFORMATION

Always prioritize safety when handling batteries. Failure to follow safety instructions can result in personal injury or damage to equipment.

- **Built-in BMS Protection:** The DATOUBOSS LiFePO4 battery features a built-in 100A Battery Management System (BMS) that protects against over-voltage, under-voltage, over-current, over-temperature, and short-circuit conditions. This system enhances operational safety.
- **UL-Certified Cells:** The internal battery cells are UL-certified, ensuring high safety and reliability standards.
- **Avoid Short Circuits:** Do not short-circuit the battery terminals. Use insulated tools during installation.
- **Proper Ventilation:** Ensure adequate ventilation around the battery, especially during charging and discharging.
- **Temperature Range:** Operate the battery within the specified temperature ranges. Extreme temperatures can affect performance and safety.
- **Waterproof Rating:** The battery has an IP65 waterproof rating, providing protection against dust and low-

pressure water jets. However, avoid submerging the battery in water.

- **Disposal:** LiFePO4 batteries must be recycled or disposed of according to local regulations. Do not dispose of in household waste.

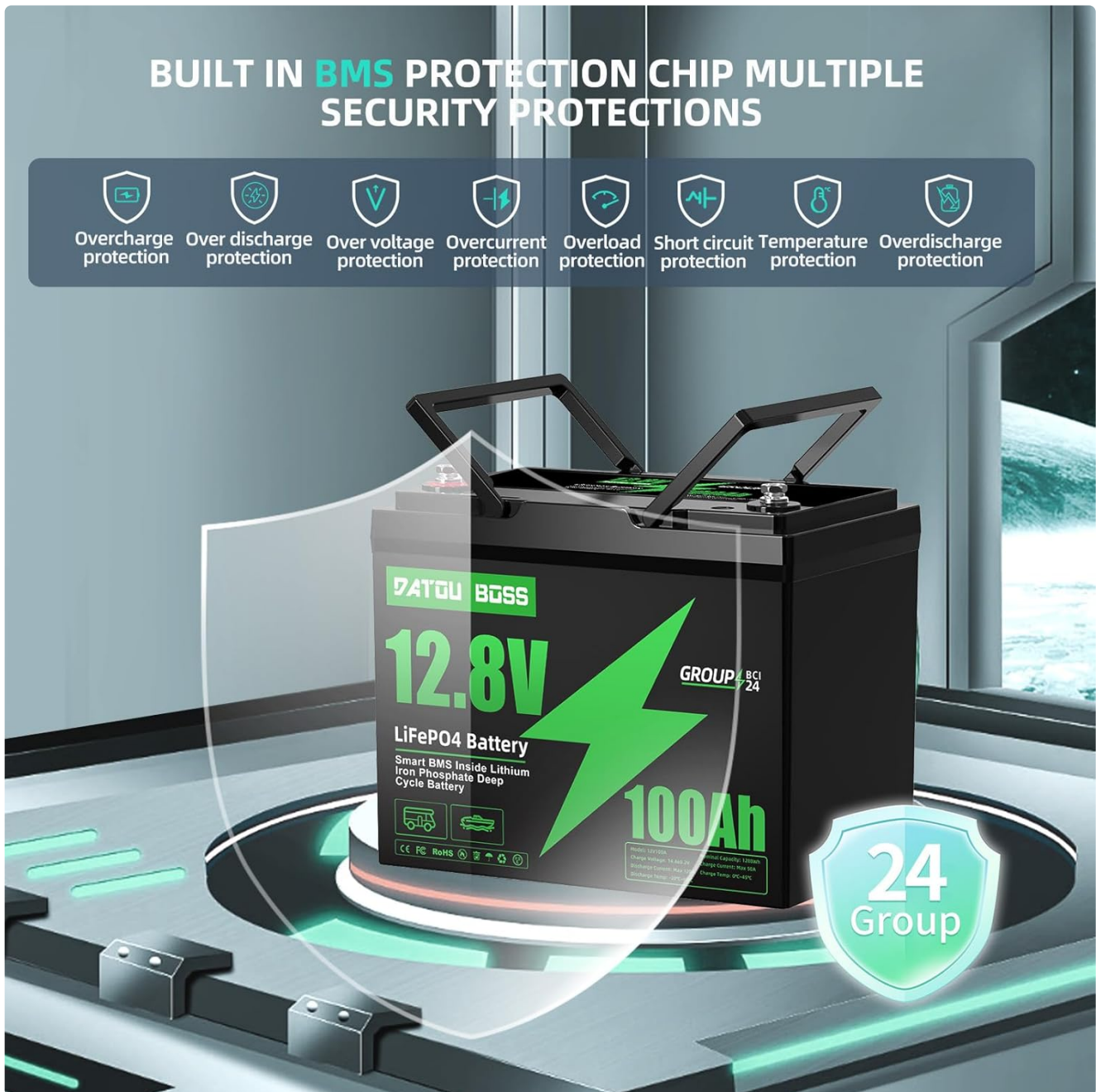


Image 2.1: Visual representation of the multiple security protections offered by the built-in BMS, including overcharge, over-discharge, over-voltage, overcurrent, overload, short circuit, and temperature protection.

3. PRODUCT FEATURES

The DATOUBOSS 12V 100Ah LiFePO4 Battery offers advanced features for reliable power storage:

- **Integrated 100A BMS:** Provides comprehensive protection for enhanced safety and battery lifespan.
- **High Cycle Life:** Designed for 15,000+ deep cycles, offering extended durability compared to traditional lead-acid batteries.
- **Lightweight and Compact:** Weighs approximately 10.92 kg (24 lbs), which is significantly lighter than comparable lead-acid batteries, facilitating easier installation and portability.
- **Flexible Expansion:** Supports series and parallel connections up to 4P4S, allowing for configurations up to

48V (51.2V) 400Ah, delivering up to 20.48kWh energy.

- **Wide Operating Temperature:** Capable of operating effectively in a broad temperature range from -4°F to 150°F (-20°C to 65°C).
- **IP65 Waterproof Rating:** Ensures protection against dust ingress and low-pressure water jets.

PERFECT REPLACEMENT FOR LEAD ACID

DATOU BOSS	VS	Others
12V 100Ah LiFePO4 Battery		12V 100Ah Lead Acid
24lb	≈1/3 WEIGHT	63.93lb
>10 Years	5X LIFESPAN	1-3 Years
4000-15000	8X LIFE CYCLES	200-500
0.5C	5X CHARGE RATE	0.1C

Image 3.1: A visual comparison highlighting the advantages of the DATOU BOSS 12V 100Ah LiFePO4 Battery over a traditional 12V 100Ah Lead-Acid battery, including lighter weight, longer lifespan, and more life cycles.

4. SETUP

4.1 Unpacking and Initial Inspection

Upon receiving your battery, carefully unpack it and inspect for any visible damage. If damage is found, contact your supplier immediately.

4.2 Terminal Connections

The battery is equipped with M8 terminal bolts. Ensure all connections are clean, tight, and secure to prevent resistance and overheating. Use appropriate cable gauges for your application.

TERMINALSPECIFICATIONS: M8 TERMINAL BOLTS



Image 4.1: Detailed view of the battery terminals, indicating M8 terminal bolts, along with the physical dimensions of the battery (25.8cm/10.2in length, 16.7cm/6.6in width, 21.5cm/8.5in height).

4.3 Series and Parallel Connections

The DATOU BOSS 12V 100Ah LiFePO4 battery supports both series and parallel connections for increased voltage or capacity. It can be expanded up to 4P4S (4 batteries in parallel, 4 sets in series) to achieve a 48V (51.2V) 400Ah system.

- **Parallel Connection:** Connect positive terminals to positive terminals and negative terminals to negative terminals to increase capacity while maintaining 12V.
- **Series Connection:** Connect the positive terminal of one battery to the negative terminal of the next battery to increase voltage. Ensure all batteries are of the same voltage and capacity when connecting in series.
- **Balancing:** For optimal performance and longevity in series or parallel configurations, ensure all batteries are at a similar state of charge before connecting.

SUPPORT 4S4P



5120WH

48V100AH

Became to a system

Increase voltage up to 4 inline

5120WH

12V400AH

Became to a system

Increased capacity up to 4 in parallel

Image 4.2: Illustration of how DATOU BOSS LiFePO4 batteries can be configured in series (to increase voltage, e.g., 48V 100Ah) or parallel (to increase capacity, e.g., 12V 400Ah) to form a larger battery system.

5. OPERATING INSTRUCTIONS

5.1 Charging

Use a LiFePO4 compatible charger. The maximum recommended charge current is 50A. Avoid overcharging, though the built-in BMS provides protection against this.

5.2 Discharging

The maximum continuous discharge current is 120A. The BMS will disconnect the battery if the discharge current exceeds this limit or if the voltage drops below a safe threshold.

5.3 Environmental Conditions

The battery is designed to operate in temperatures ranging from -4°F to 150°F (-20°C to 65°C). Operating outside this range may reduce performance or lifespan.

MORE EFFECTIVELY COPE WITH EXTREME TEMPERATURE VARIATIONS

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



Image 5.1: Illustration demonstrating the DATOU BOSS LiFePO4 battery's ability to operate effectively in extreme temperatures, from -4°F (low temperature) to 150°F (high temperature).

5.4 System Integration

The battery can be integrated into various systems, including solar power setups, RVs, and home backup systems. Ensure compatibility with your inverter and charge controller.

FLEXIBLE CAPACITY EXPANSION SUPPORT CONNECTING UP TO 4S4P

Max.400A continuous
charge/discharge current

Max. 20.48KW load power

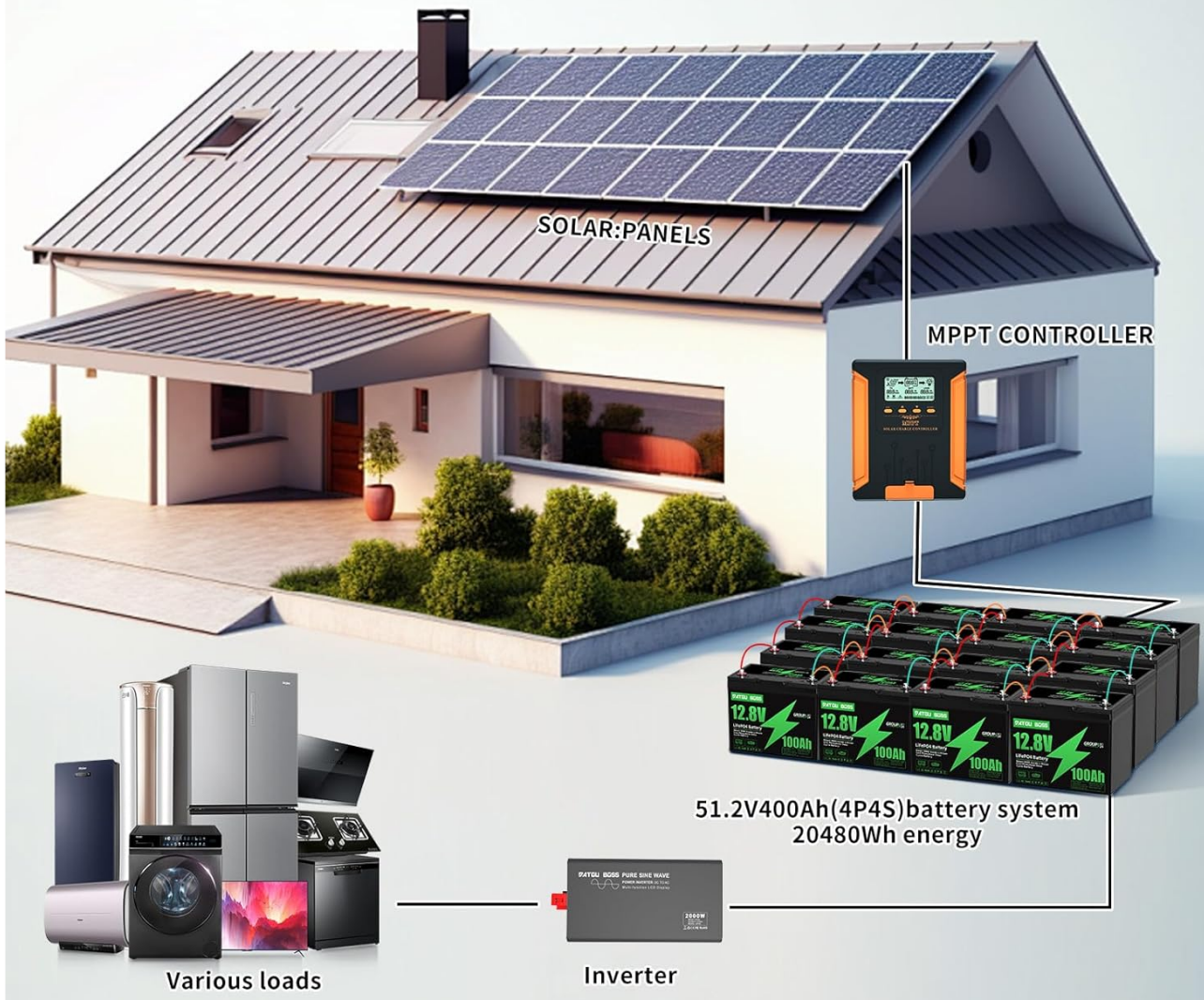


Image 5.2: Diagram showing a flexible capacity expansion setup, illustrating how multiple DATOU BOSS LiFePO4 batteries can be connected to solar panels via an MPPT controller and inverter to power various household loads.

6. MAINTENANCE

LiFePO4 batteries require minimal maintenance, but following these guidelines will help ensure maximum lifespan:

- **Regular Inspection:** Periodically check battery terminals for corrosion or loose connections. Clean terminals as needed.
- **Cleaning:** Keep the battery clean and free of dust and debris. Use a dry cloth for cleaning.
- **Storage:** If storing the battery for an extended period, ensure it is charged to approximately 50% state of charge and stored in a cool, dry place. Avoid storing in direct sunlight or extreme temperatures.
- **Avoid Deep Discharge:** While the BMS protects against over-discharge, consistently avoiding very deep discharges can contribute to longer battery life.

7. TROUBLESHOOTING

If you encounter issues with your DATOUBOSS LiFePO4 battery, consider the following common troubleshooting steps:

- **Battery Not Charging:**

- Check all cable connections for tightness and corrosion.
- Verify the charger is compatible with LiFePO4 batteries and is functioning correctly.
- Ensure the battery temperature is within the acceptable charging range.
- The BMS may have activated a protection mode (e.g., over-discharge). Try connecting to a charger to reset the BMS.

- **No Power Output:**

- Check for loose or corroded terminal connections.
- Confirm the battery is sufficiently charged.
- The BMS may have activated a protection mode (e.g., over-discharge, over-current, short-circuit). Disconnect the load, wait a few minutes, and reconnect.

- **Unusual Odor or Swelling:**

- Immediately disconnect the battery from all loads and chargers.
- Move the battery to a safe, well-ventilated area.
- Do not attempt to use or repair the battery. Contact DATOUBOSS support.

For issues not resolved by these steps, please contact DATOUBOSS customer support.

8. SPECIFICATIONS

Feature	Specification
Brand	DATOUBOSS
Model	12V 100Ah LiFePO4 Battery
Nominal Voltage	12.8V
Nominal Capacity	100Ah
Energy	1280Wh
Built-in BMS	100A
Cycle Life	15,000+ Deep Cycles
Max Charge Current	50A
Max Continuous Discharge Current	120A
Operating Temperature	-4°F to 150°F (-20°C to 65°C)
Waterproof Rating	IP65
Terminal Type	M8 Bolts
Weight	Approx. 10.92 kg (24 lbs)
Dimensions (L x W x H)	25.8cm x 16.7cm x 21.5cm (10.2in x 6.6in x 8.5in)
UPC	769230100583
Vehicle Service Type	Lawn Mower, RV, Truck
Automotive Fit Type	Universal Fit

9. WARRANTY AND SUPPORT

For warranty information and customer support, please refer to the documentation provided with your purchase or contact DATOUBOSS directly through their official channels. Ensure you retain your proof of purchase for any warranty claims.

Contact Information: Please visit the official DATOUBOSS website or your point of purchase for the most current support contact details.