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› DATOUBOSS 12V 100Ah Group 24 LiFePO4 Battery User Manual

## DATOUBOSS DT-12V100AH

# DATOUBOSS 12V 100Ah Group 24 LiFePO4 Battery User Manual

Model: DT-12V100AH

## 1. INTRODUCTION

This manual provides comprehensive instructions for the safe and efficient use of your DATOUBOSS 12V 100Ah Group 24 LiFePO4 Deep Cycle Lithium Battery. Please read this manual thoroughly before installation and operation to ensure optimal performance and longevity of your battery.

The DATOUBOSS 12V 100Ah LiFePO4 battery is designed for deep cycle applications, offering high energy density, extended cycle life, and enhanced safety features compared to traditional lead-acid batteries. It is suitable for various applications including RVs, camping, solar energy systems, off-grid power, and marine use.

## 2. SAFETY INSTRUCTIONS

**WARNING: Failure to follow these safety instructions may result in serious injury, property damage, or damage to the battery.**

- Do not reverse the positive and negative terminals of the battery.
- Do not hit or throw objects at the battery, or step on it.
- Do not use metal objects to connect the positive and negative terminals of the battery directly.
- Do not weld the battery directly or pierce the battery with nails or other sharp objects.
- Do not immerse the battery in seawater or water.
- Do not use this battery as a car starter battery, trip starter battery, or engine starter battery.
- Avoid using the battery at excessively high temperatures, as this may lead to overheating, fire, or damage, shortening its service life.
- Ensure proper ventilation when charging or discharging the battery.
- Always use a charger specifically designed for LiFePO4 batteries.

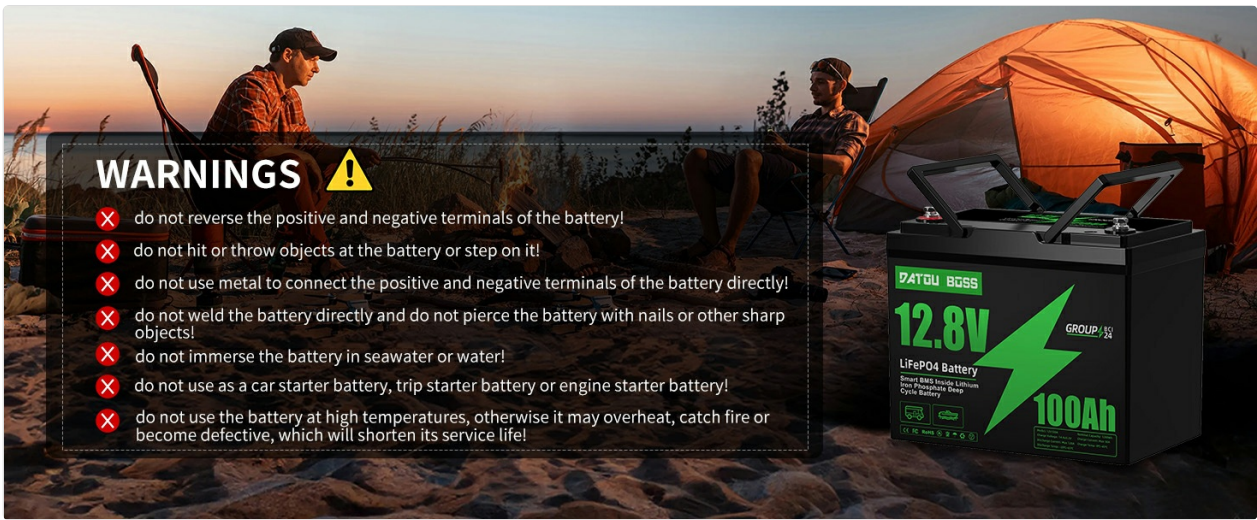


Image: Important safety warnings for handling and using the DATOUBOSS LiFePO4 battery.



Image: Visual representation of the comprehensive safety protections provided by the built-in Battery Management System (BMS), including overcharge, over-discharge, overvoltage, overcurrent, overload, short circuit, and temperature protection.

### 3. PRODUCT OVERVIEW

The DATOUBOSS 12V 100Ah LiFePO4 battery features a robust design with a built-in 100A Battery Management System (BMS) for comprehensive protection. It offers a long cycle life and stable performance across various temperatures.

#### Key Features:

- **High Energy Density:** Twice the capacity of traditional lead-acid batteries at half the weight.
- **Extended Cycle Life:** Up to 4,000-15,000 cycles, offering a service life of over 10 years.
- **Integrated BMS:** Provides protection against short circuit, overvoltage, overheating, overcharge, over-discharge, overcurrent, and overload. Includes low-temperature protection.
- **Wide Temperature Range:** Excellent discharge performance from -4°F to 140°F (-20°C to 60°C).
- **Flexible Expansion:** Supports series and parallel connections for increased voltage and capacity (up to 4 series and 4 parallel, 4S4P).



Image: The DATOUBOSS 12V 100Ah LiFePO4 Deep Cycle Battery, showcasing its compact design and top terminals.

# ALL-AROUND SAFETY

With GRADE-A Cells & superb **100A BMS**

**4000+**

Cycles @100% DOD

**10+**

Years Lifespan

**100A**

BMS Protection



Image: An illustration highlighting the battery's internal structure and the benefits of its Grade-A cells and 100A BMS, including 4000+ cycles, 10+ years lifespan, and comprehensive protection.

## 4. SPECIFICATIONS

Attribute	Value
Model	DT-12V 100AH
Nominal Voltage	12.8V
Nominal Capacity	100Ah
Energy	1280Wh
Battery Type	LiFePO4 (Lithium Iron Phosphate)
Built-in BMS	100A
Cycle Life	4,000-15,000 cycles
Service Life	Up to 10 years
Operating Temperature (Discharge)	-4°F to 140°F (-20°C to 60°C)
Item Weight	24 pounds (10.92 kg)
Package Dimensions	10.2 x 8.5 x 6.6 inches (25.8 x 21.5 x 16.7 cm)
UPC	758061637856

# DEDICATED G24 LIFEPO4 BATTERY



Image: The DATOUBOSS 12V 100Ah LiFePO4 battery with its physical dimensions (10.2in x 8.5in x 6.6in) and weight (24 lbs / 10.92 kg) clearly indicated.

## 5. SETUP AND INSTALLATION

### 5.1 Unpacking

Carefully remove the battery from its packaging. Inspect the battery for any visible damage. The package should contain: 12V 100Ah LiFePO4 Battery.

### 5.2 Placement

The DATOUBOSS 12V 100Ah LiFePO4 battery is designed as a drop-in replacement for Group 24 lead-acid batteries. Ensure the installation location is dry, well-ventilated, and protected from extreme temperatures and direct sunlight.

# DROP-IN REPLACEMENT FOR GROUP 24

## 12V 100AH LEAD ACID BATTERY

- ✗ 504Wh Usable Energy
- ✗ 63Lb Weight
- ✗ 60% Deep of Discharge
- ✗ <33% Self Discharge Rate (Per Month)
- ✗ 500 Cycles (60% DOD)
- ✗ 3-5 Year Service Life



## 12V 100AH

## LIFEPO4 BATTERY

- ✓ 1280Wh Usable Energy
- ✓ 24.75 Lb Weight
- ✓ 100% Deep of Discharge
- ✓ <3% Self Discharge Rate (Per Month)
- ✓ 4000-15000 Cycles
- ✓ 10 Year Service Life



Image: A comparison illustrating the advantages of the 12V 100Ah LiFePO4 battery over a traditional 12V 100Ah lead-acid battery, highlighting its higher usable energy, lighter weight, 100% deep discharge capability, lower self-discharge rate, more cycles, and longer service life.

### 5.3 Electrical Connections

Connect the battery terminals to your system using appropriate cables and connectors. Ensure all connections are secure and correctly polarized (positive to positive, negative to negative) to prevent damage.

#### Series and Parallel Connections:

This battery supports flexible expansion by connecting multiple units in series and/or parallel. You can connect up to 16 batteries to form a 4-series 4-parallel (4S4P) system, achieving an output capacity of 12.8V to 51.2V and a power output of 1.28kW to 20.48kW.

- **Parallel Connection:** Connect batteries in parallel to increase total capacity (Ah) while maintaining the same voltage (V). Ensure all batteries have similar voltage levels before connecting in parallel.
- **Series Connection:** Connect batteries in series to increase total voltage (V) while maintaining the same capacity (Ah).

**IMPORTANT: When connecting batteries in series or parallel, always use batteries of the same brand,**

model, and capacity. Consult a qualified electrician if you are unsure about complex wiring configurations.

## FLEXIBLE CAPACITY EXPANSION support connecting up to 4s4p

Max. 400A continuous  
charge/discharge current  
Max. 20.48kW load power

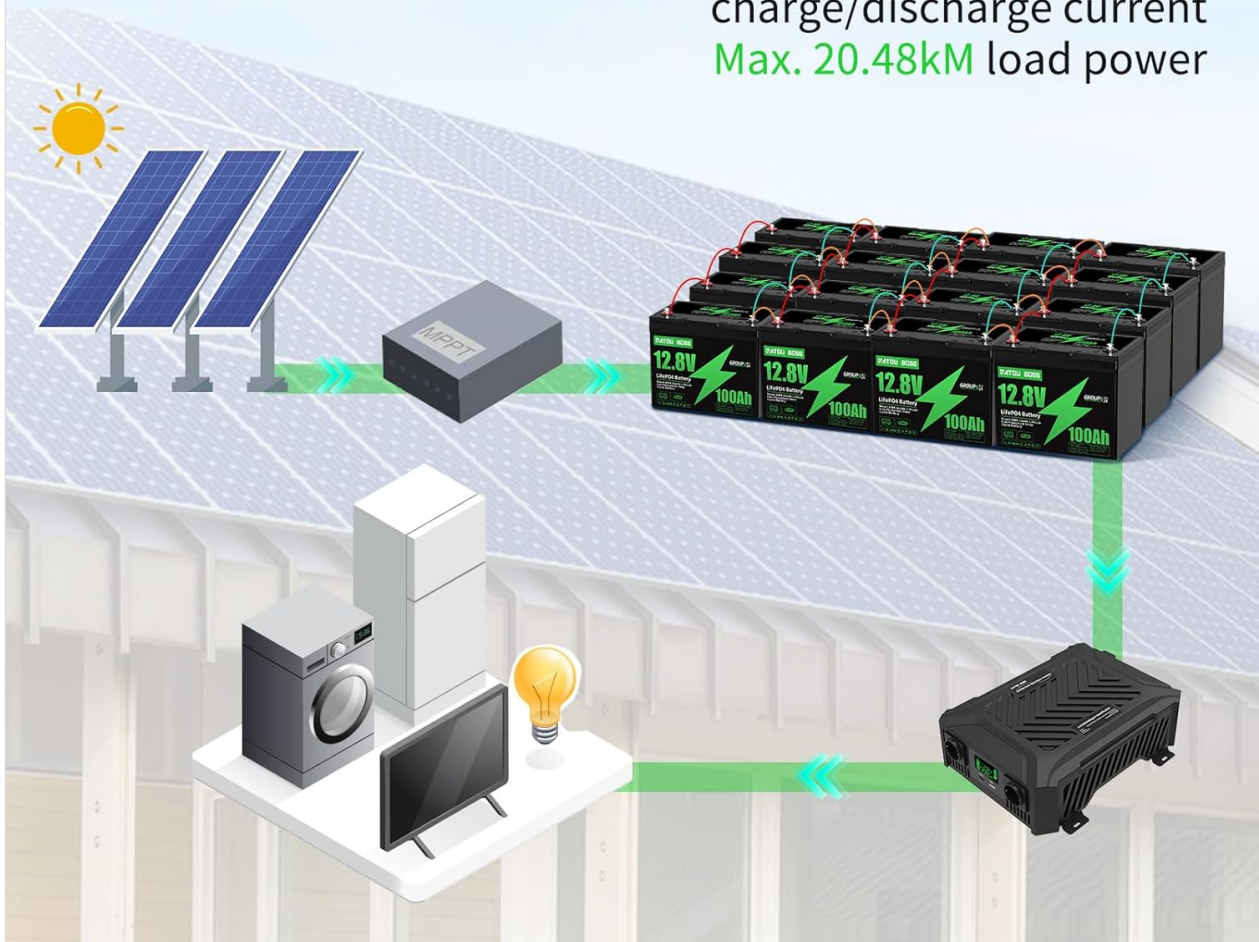


Image: A diagram illustrating how multiple DATOUBOSS LiFePO<sub>4</sub> batteries can be connected in series and parallel (up to 4S4P) to expand system capacity and voltage, suitable for solar power systems with solar panels, MPPT controllers, and inverters.

## 6. OPERATING INSTRUCTIONS

### 6.1 Charging

Always use a charger specifically designed for LiFePO<sub>4</sub> batteries. Using a charger intended for lead-acid batteries may damage the LiFePO<sub>4</sub> battery or reduce its lifespan. Ensure the charger's voltage and current settings are compatible with the battery's specifications.

#### Recommended Charging Methods:

- **Solar Panel:** Connect to a compatible solar charge controller (MPPT recommended) designed for LiFePO<sub>4</sub> batteries.

- **LiFePO4 Battery Charger:** Use a dedicated AC-to-DC LiFePO4 battery charger.
- **Generator:** Connect via a compatible LiFePO4 battery charger or inverter/charger system.

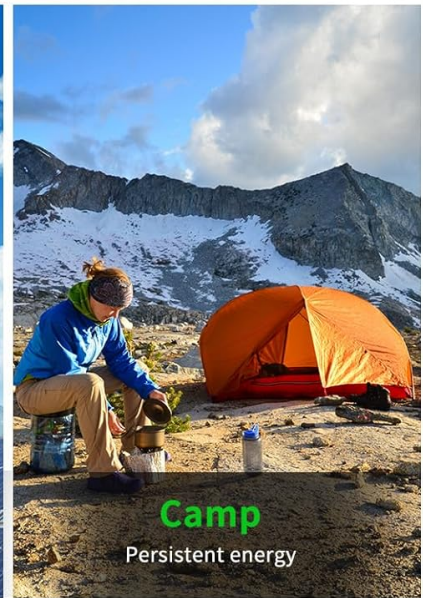
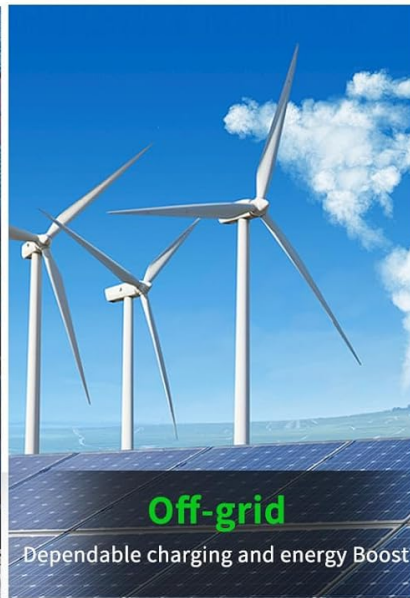


Image: An illustration showing three common methods for charging the DATOUBOSS LiFePO4 battery: via solar panels, a dedicated battery charger, or a generator.

## 6.2 Discharging

The DATOUBOSS LiFePO4 battery offers a stable discharge curve and up to 95% capacity utilization. The built-in BMS protects against over-discharge, ensuring the battery operates within safe limits.

### Temperature Performance:

The battery is designed to adapt to extreme temperatures, providing excellent discharge performance ranging from -4°F to 140°F (-20°C to 60°C). The low-temperature protection feature prevents charging below 32°F (0°C) to protect the battery cells.

# Adapt Better to Extreme Temperatures

Excellent discharge performance ranging from -4°F to 140°F



Image: An illustration demonstrating the battery's ability to adapt to extreme temperatures, with an excellent discharge performance range from -4°F (low temperature) to 150°F (high temperature).

## 6.3 Typical Applications

This battery is suitable for a wide range of deep cycle applications:

- RVs and Campers
- Marine applications (boats, kayaks)
- Off-grid solar power systems
- Backup power supplies
- Electric carts
- Outdoor camping and barbecues



**Long Lasting and Durable Battery**  
1280Wh energy for efficient daily living and RV traveling



Fan  
**100W**  
12.8Hrs



Refrigerator  
**300W**  
4.2Hrs



Coffee Maker  
**500W**  
2.56Hrs



Microwave  
**1000W**  
1.28Hrs



Image: A collage of various application scenarios for the DATOUBOSS LiFePO4 battery, including home storage, RVs, fishing, off-grid systems, and camping.

## 7. MAINTENANCE

LiFePO4 batteries generally require minimal maintenance compared to lead-acid batteries. However, following these guidelines will help ensure optimal performance and longevity:

- **Regular Inspection:** Periodically check the battery terminals for corrosion or loose connections. Clean terminals if necessary.
- **Storage:** If storing the battery for an extended period, ensure it is charged to approximately 50-70% State of Charge (SOC) and stored in a cool, dry place. Avoid storing in direct sunlight or extreme temperatures.
- **Avoid Deep Discharges:** While LiFePO4 batteries can handle 100% depth of discharge, consistently avoiding extremely deep discharges can further extend their lifespan.
- **Proper Charging:** Always use a compatible LiFePO4 charger.

## 8. TROUBLESHOOTING

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

- **Battery Not Charging:**
  - Ensure the charger is specifically designed for LiFePO4 batteries.
  - Check all connections for looseness or corrosion.
  - Verify the charger is receiving power.
  - Check if the battery's low-temperature protection has activated (if ambient temperature is below 32°F / 0°C).
- **Battery Not Discharging / No Power Output:**
  - Check all connections to the load for looseness or corrosion.
  - Verify the battery's State of Charge (SOC). The BMS may have disconnected the battery due to low voltage.
  - Check for any tripped circuit breakers or fuses in your system.
  - Ensure the load does not exceed the battery's maximum continuous discharge current or the BMS's overload protection limit.
- **Unusual Odor or Heat:**
  - Immediately disconnect the battery from all loads and chargers.
  - Contact customer support. Do not attempt to open or repair the battery.

If these steps do not resolve the issue, please contact DATOUBOSS customer support for further assistance.

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## 9. WARRANTY AND SUPPORT

DATOUBOSS provides a **5-year warranty service** for this product. We also offer **24-hour online technical support** to assist you with any pre-sales inquiries or after-sales issues.

For warranty claims, technical assistance, or any questions regarding your DATOUBOSS LiFePO4 battery, please contact our customer support team through the official DATOUBOSS website or your purchase platform.

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