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› DATOUBOSS 48V 100Ah LiFePO4 Lithium Battery User Manual (Model DT-3U-48V 100A)

## DATOUBOSS DT-3U-48V 100A

# DATOUBOSS 48V 100Ah LiFePO4 Lithium Battery User Manual

Model: DT-3U-48V 100A

## 1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your DATOUBOSS 48V 100Ah LiFePO4 Lithium Battery. This high-performance battery is designed for various applications including off-grid systems, solar energy storage, RVs, and home backup power. It features advanced communication capabilities, a robust Battery Management System (BMS), and a durable 3U rack-mount design.

Please read this manual thoroughly before installation and use, and retain it for future reference.

## 2. SAFETY INFORMATION

### General Safety Precautions:

- Always wear appropriate personal protective equipment (PPE) including insulated gloves and eye protection during installation and maintenance.
- Do not short-circuit the battery terminals.
- Do not expose the battery to fire, excessive heat, or direct sunlight.
- Do not immerse the battery in water or other liquids.
- Ensure proper ventilation around the battery during operation.
- Keep the battery away from children and pets.
- Only use compatible chargers and inverters.
- In case of fire, use a Class D fire extinguisher. Water can exacerbate lithium battery fires.

### Electrical Safety:

- Before connecting or disconnecting any cables, ensure all power sources are turned off.
- Verify correct polarity before making any connections. Reverse polarity can cause severe damage to the battery and connected equipment.
- Ensure all connections are tight and secure to prevent arcing and overheating.

- Do not attempt to open or disassemble the battery case. There are no user-serviceable parts inside.

### 3. PACKAGE CONTENTS

Upon unpacking, please verify that all components are present and undamaged:

- DATOUBOSS 48V 100Ah LiFePO4 Lithium Battery Unit(s)
- Parallel Wires (for multi-unit configurations)
- Communication Cables (CAN/RS485)
- Grounding Wires
- Terminal Screws
- User Manual (this document)



Image: The DATOUBOSS 48V 100Ah LiFePO4 Battery shown with its included accessories, such as cables and terminal screws.

### 4. PRODUCT FEATURES

The DATOUBOSS 48V 100Ah LiFePO4 Lithium Battery offers advanced features for reliable power storage:

- **Real-time Monitoring and Protection:** Supports CAN/RS485 communication for seamless integration with popular all-in-one solar inverters. Monitor battery status via a mobile app with Bluetooth connectivity.
- **High-Performance Cells:** Manufactured with 16Pcs Automotive Grade A prismatic cells, ensuring higher energy density, stable performance, and greater power output. Each unit provides 5.12kWh of energy.
- **Integrated 100A BMS:** The built-in Battery Management System protects against overcharge, over-discharge, over-current, and short circuits. It includes high-temperature cutoff (prevents charging over 149°F / 65°C) and low-temperature cutoff protection to prevent damage in cold environments. A 125A air switch and battery power switch enhance system safety.
- **3U Rack-Mount Design:** Fully compatible with standard 3U racks, allowing for vertical installation to maximize space. Each battery weighs 94.8 pounds and can be connected in parallel with up to 15 other batteries for scalable energy storage.
- **Ultra-Long Lifespan:** Delivers up to 15,000 cycles at 80% Depth of Discharge (DOD) and over 6,000 cycles at 100% DOD, designed for a 10–15 year service life.



Image: A diagram illustrating the communication capabilities, including WiFi, Bluetooth, inverter/PC connection, and battery-to-battery communication.



Image: An internal view of the DATOUBOSS battery highlighting the Grade A prismatic cells and the integrated 100A Battery Management System (BMS).

## 5. SETUP AND INSTALLATION

Follow these steps for proper installation of your DATOUBOSS battery:

### 5.1 Physical Installation

1. **Unpacking:** Carefully remove the battery from its packaging and inspect for any visible damage.
2. **Placement:** Install the battery in a dry, well-ventilated area, away from direct sunlight, heat sources, and flammable materials. Ensure the ambient temperature is within the recommended operating range.
3. **Rack Mounting:** The battery is designed for standard 3U rack mounting. Secure the battery using appropriate rack screws and mounting ears.

# Product Detail

Rated voltage	51.2V
Max. voltage range	40~58.4V
Charge voltage	58.4V
Low voltage cut-off	40.0V
Nominal energy	5.12KWh
Usable energy	5.12KWh
Nominal capacity	100Ah
Dimension	22.09*19.02*5.24in/56.1*48.3*13.3cm
Weight	94.8 lb / 43kg
Standard charge current	≤50A
Max. charge current	100A
Communication port	RS485 / CAN/RS232

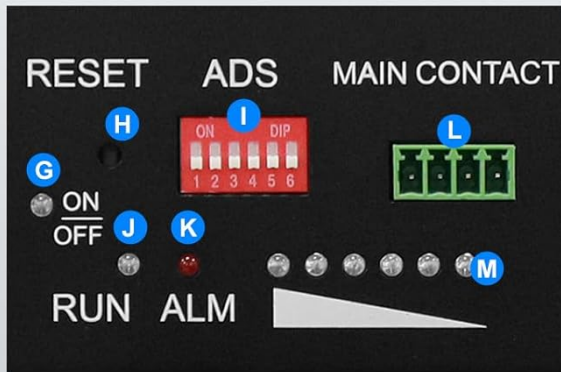


Image: Multiple DATOUBOSS batteries shown installed in a rack, demonstrating the capability to connect up to 15 units in parallel.

## 5.2 Electrical Connections

**Important:** Ensure all power sources are disconnected before making any electrical connections.

- Terminal Connections:** Connect the positive (+) terminal of the battery to the positive input of your inverter/charger, and the negative (-) terminal to the negative input. Use the provided terminal screws and ensure connections are tight.
- Grounding:** Connect the grounding wire from the battery to a reliable ground point in your system.
- Parallel Connection (for multiple batteries):** If connecting multiple batteries in parallel, use the provided parallel power cables to connect the positive terminals of all batteries together, and similarly for the negative terminals. Ensure all batteries are at a similar State of Charge (SOC) before connecting in parallel.
- Communication Connections:** Connect the communication cables (CAN/RS485) between the battery and your inverter or monitoring device. Refer to your inverter's manual for specific communication port requirements.



- A** Handles
- B** Grounding
- C** Negative terminal
- D** Positive terminal
- E** 125A breaker
- F** Power switch
- G** ON/OFF indicator
- H** Reset
- I** ADS
- J** RUN
- K** ALM
- L** Dry contact
- M** SOC
- N** RS485-1
- O** CAN
- P** RS232
- Q** RS485 IN / RS485 OUT
- R** Mounting ear

Image: A detailed view of the battery's front panel, labeling handles, grounding, negative/positive terminals, 125A breaker, power switch, indicators, reset button, ADS, RUN, ALM, dry contact, SOC, and various RS485, CAN, and RS232 communication ports.

### 5.3 Initial Power-On

1. After all connections are secure, turn on the battery's main power switch (often a 125A air switch).
2. Observe the indicator lights on the battery for normal operation.
3. Power on your inverter/charger and other connected equipment according to their respective manuals.

## 6. OPERATING INSTRUCTIONS

### 6.1 Power Switch Operation

The battery features a main power switch (125A air switch) on the front panel. Flip the switch to the 'ON' position to activate the battery and to the 'OFF' position to power it down. Always power down the battery before performing any maintenance or disconnection.

# Smart Communication & Real-Time Monitoring

## RS485 & RS232

Connects seamlessly with upper computer systems

## RS485 & CAN

Ensures smooth communication with inverters

## Bluetooth & WiFi

Wireless monitoring via mobile app



Image: A close-up showing the one-touch ON/OFF switch and the dual terminals for each pole on the battery.

## 6.2 Monitoring via Bluetooth App

Download the DATOUBOSS mobile application from your device's app store. Enable Bluetooth on your smartphone and pair it with the battery. The app allows you to monitor real-time battery status, including voltage, current, State of Charge (SOC), temperature, and individual cell voltages.

## 6.3 Inverter Communication

The battery supports CAN and RS485 communication protocols, enabling seamless data exchange with compatible inverters. This allows the inverter to optimize charging and discharging based on the battery's status, enhancing overall system efficiency and longevity. Refer to your inverter's manual for specific communication setup instructions.

# Communication with Inverter

Supports both CAN and RS485 protocols



Image: The DATOUBOSS battery connected to an inverter, with logos of various compatible inverter brands displayed, indicating support for both CAN and RS485 protocols.

## 7. MAINTENANCE

The DATOUBOSS LiFePO4 battery requires minimal maintenance. Follow these guidelines to ensure optimal performance and longevity:

- **Regular Inspection:** Periodically inspect the battery and its connections for any signs of damage, corrosion, or loose terminals. Tighten any loose connections.
- **Cleaning:** Keep the battery clean and free from dust and debris. Use a dry, soft cloth to wipe the exterior. Do not use solvents or abrasive cleaners.
- **Temperature Control:** Ensure the battery operates within its specified temperature range. Avoid prolonged exposure to extreme heat or cold.
- **Storage:** If storing the battery for an extended period, ensure it is charged to approximately 50% State of Charge (SOC) and stored in a cool, dry place. Disconnect it from all loads and chargers.

## 8. TROUBLESHOOTING

If you encounter issues with your DATOUBOSS battery, refer to the following common troubleshooting steps:

Problem	Possible Cause	Solution
Battery not powering on	Power switch off, loose connections, low voltage cutoff	Ensure power switch is ON. Check all cable connections. If battery is deeply discharged, connect to a compatible charger.
No communication with inverter/app	Incorrect communication cable, wrong protocol settings, Bluetooth off	Verify communication cable type and connection. Check inverter/app settings for correct protocol (CAN/RS485). Ensure Bluetooth is enabled on your device.
Battery not charging/discharging	BMS protection activated (overcharge, over-discharge, over-current, temperature), faulty charger/inverter	Check battery status via app for BMS alerts. Ensure charging/discharging parameters are within specifications. Verify charger/inverter functionality. Allow battery temperature to normalize if protection is due to extreme temperatures.
Unusual noises or smells	Internal fault, overheating	Immediately disconnect the battery from all loads and chargers. Contact customer support. Do not attempt to open the battery.

If the problem persists after following these steps, please contact DATOUBOSS customer support for further assistance.

## 9. SPECIFICATIONS

Detailed technical specifications for the DATOUBOSS 48V 100Ah LiFePO4 Lithium Battery:

Parameter	Value
Rated Voltage	51.2V
Max. Voltage Range	40-58.4V
Charge Voltage	58.4V
Low Voltage Cut-off	40.0V
Nominal Energy	5.12kWh
Usable Energy	5.12kWh
Nominal Capacity	100Ah
Dimensions (L x W x H)	22.09 x 19.02 x 5.24 inches (56.1 x 48.3 x 13.3 cm)
Item Weight	94.8 pounds (43 kg)
Standard Charge Current	≤50A
Max. Charge Current	100A
Communication Port	RS485 / CAN / RS232
Battery Cell Composition	Lithium Iron Phosphate (LiFePO4)
Recommended Uses	RV, Solar System, Off-Grid, Marine, Backup Power, Camping, Home Energy Storage

## 10. WARRANTY AND SUPPORT

### Warranty Information:

Specific warranty terms and duration may vary. Please refer to the warranty card included with your product or contact the seller/manufacturer directly for detailed warranty information.

### Customer Support:

For technical assistance, troubleshooting not covered in this manual, or warranty claims, please contact DATOUBOSS customer support through the retailer where the product was purchased or visit the official DATOUBOSS website for contact information.