



Manuals.plus /

- › 100 BALANCE /
- › 100 BALANCE DALY BMS 250A 4S-8S Instruction Manual

## 100 BALANCE 100BALANCE

# DALY BMS 250A 4S-8S Instruction Manual

Model: 100BALANCE | Brand: 100 BALANCE

## 1. INTRODUCTION

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The DALY BMS 250A 4S-8S is an intelligent Battery Management System designed for 12V-24V LiFePO<sub>4</sub>, Li-ion, and LTO battery packs. It provides essential protection and active cell balancing to ensure the safety and longevity of your battery system. This manual provides detailed instructions for proper installation, operation, and maintenance.



Image: The DALY BMS 250A 4S-8S unit, showcasing its compact design.

Video: An introduction to the 100BALANCE Smart Active Balance BMS, highlighting its features and design.

## 2. KEY FEATURES

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- **Enhanced Battery Safety:** Offers protection against overcharging, overdischarging, overcurrent, short circuits, and extreme temperatures.
- **Extra Protection Features:** Includes pre-charge protection, wrong connection or missing connection of wires, parallel connection current limiting, and cell balancing.
- **Battery Management System:** Manage your battery easily with the Android or iOS mobile app.
- **Bluetooth Connectivity:** Allows monitoring status, adjusting settings, and controlling charge/discharge from your device.
- **Voltage Compatibility:** Works with 4S, 6S, 8S; 12V, 24V battery packs.

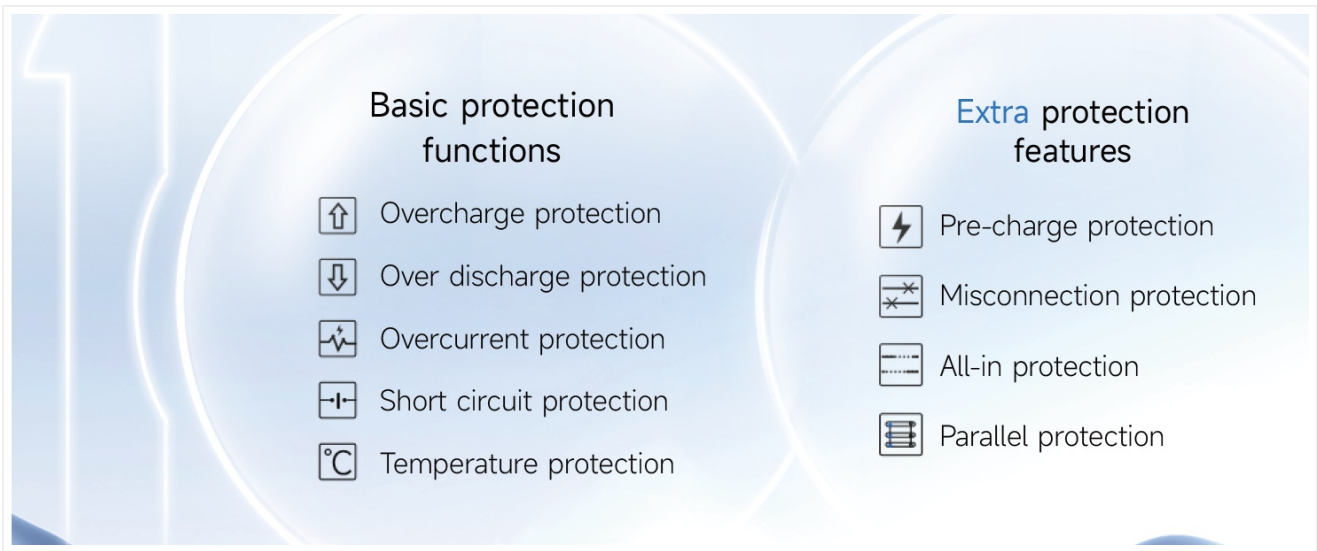


Image: Overview of basic and extra protection functions provided by the BMS.

### 3. PACKAGE CONTENTS

The standard package includes the following items:

- 250amp Smart BMS x 1
- Sampling Cable x 1
- P- & B- Cable x 1
- B+ cable x 1
- NTC x 1
- Screw x 2
- Operation manual x 1



Image: The BMS unit displayed with its accompanying accessories.

### 4. SETUP AND WIRING INSTALLATION

Proper wiring is crucial for the safe and effective operation of your DALY BMS. Follow these steps carefully:

1. **Prepare Battery Pack:** Ensure your battery pack is assembled correctly, paying attention to the total positive and total negative terminals.
2. **Connect Black Wire:** Connect the black wire of the sampling cable to the total negative terminal of the battery pack.
3. **Connect Red Wires:** Connect the red wires sequentially to the positive terminals of each cell string, starting from the first string. Ensure wires are soldered in the correct order before plugging into the BMS.
4. **Verify Wiring Harness Voltage:** Use a multimeter to measure the voltage of the wiring harness to confirm consistency.
5. **Connect NTC Cable:** Plug the NTC (Negative Temperature Coefficient) cable into the NTC-A port on the BMS.
6. **Connect B- and Sampling Wire:** Connect the B- terminal of the BMS to the total negative terminal of the battery pack. Then, insert the sampling wire into the designated port on the BMS.

**Important: Follow the wiring sequence strictly. If the wiring sequence is reversed, it will damage your BMS.**

Video: Detailed instructions on wiring and installation of the 100BALANCE Smart Active Balance BMS.

## 5. OPERATING INSTRUCTIONS

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### 5.1 Mobile App Operation

The DALY BMS can be managed via a mobile app on Android or iOS devices. This allows you to monitor battery status, adjust settings, and control charge/discharge functions.

1. **Download the App:** Search for "Smart BMS" or "Balance BMS" in your device's app store.
2. **Connect via Bluetooth:** Once installed, open the app and connect to your BMS via Bluetooth. The app will display the serial number of your connected battery pack.
3. **Monitor and Control:** View real-time battery information such as total voltage, current, temperature, SOC, and cell voltage. You can also adjust various parameters.

Video: Guide on how to download and install the DALY BMS mobile application.

### 5.2 PC Software Operation

For advanced monitoring and configuration, you can connect the BMS to a PC using a UART cable or RS485/CAN communication modules.

1. **Download PC Host Software:** Obtain the PC Host software and necessary drivers (for CAN or RS485) from the official 100 BALANCE website.
2. **Connect to PC:** Connect the UART cable (or RS485/CAN module) to the BMS and then to your PC.
3. **Monitor and Configure:** Open the PC Host software to view live data, historical data, and modify parameters. The software allows for precise calibration and detailed diagnostics.

Video: Instructions on how to connect the 100BALANCE Smart BMS to a PC host for monitoring and configuration.

### 5.3 Accessories Usage

The BMS supports various accessories to extend its functionality:

- **UART Cable:** Supports PC connection for monitoring and parameter changes.
- **RS485/CAN Modules:** Enable multi-channel communication with other equipment.
- **LCD Screen:** Can be connected via UART or RS485 to display real-time battery information and change

parameters via a touch interface.

- **Key Switch:** Can be used to switch the discharge MOSFET on and off. Other functions can be customized.
- **Heating Module:** Used in cold environments to start the BMS.
- **Inverter Cable:** Allows direct connection to compatible inverters.



Image: Diagram illustrating multi-channel communication options for the BMS, including PC Host, Mobile APP, IoT Cloud, WiFi, RS485, CAN, and various accessories.

## 6. MAINTENANCE AND PARALLEL CONNECTION PRECAUTIONS

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### 6.1 Parallel Connection

When connecting multiple battery packs in parallel, ensure the voltage of each pack is consistent (voltage difference less than 1 volt) to prevent triggering short-circuit protection by high current. The parallel module helps ensure voltage consistency across packs.

Before paralleling lithium battery packs, manually disconnect the discharging MOSFET in the Bluetooth APP or PC software. This prevents potential firing due to current surges.

### 6.2 SOC Calibration

For 100% SOC calibration, the BMS will automatically calibrate to 100% SOC when the single cell overvoltage protection level 2 is triggered.

## 7. TROUBLESHOOTING

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- **Connection Issues:** Ensure all cables are securely connected and the wiring sequence is correct. Verify voltage with a multimeter.
- **App/Software Not Connecting:** Check Bluetooth on your mobile device or ensure correct drivers are installed for PC communication. Restart the app/software and BMS if necessary.
- **BMS Not Functioning:** Verify power supply to the BMS. Check for any error codes or alarms displayed in the app or PC software. Consult the detailed error code list in the full manual.
- **Balancing Issues:** Ensure balancing parameters are correctly set in the app or PC software. Check individual cell voltages for discrepancies.

## 8. SPECIFICATIONS

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<b>Feature</b>	<b>Detail</b>
Package Dimensions	13 x 7 x 2.3 inches
Item Weight	2.2 pounds
Item Model Number	100BALANCE
Brand	100 BALANCE
Voltage Compatibility	12 Volts (4S-8S configurations)
Color	Blue
Batteries Required	No



# Product Specification

【Intelligent strings 4~8S/8~17S/8~24S,  
Continuous current 250~500A】



\*Li-ion: 4~8S/8~17S/8~20S | Lifepo4: 4~8S/8~17S/8~24S  
LTO: 6~8S/8~17S/8~24S      Weight≈660g

\*Data tolerance range  $\pm 0.5\text{mm}$ .

Image: Detailed product specifications including dimensions and cell compatibility.

## 9. WARRANTY AND SUPPORT

This DALY BMS comes with a **1-year warranty** from the manufacturer, Dongguan Balanced Management Technology Co., Ltd. For technical support, troubleshooting assistance, or warranty claims, please contact the seller or refer to the official 100 BALANCE website for contact information.

Additional protection plans may be available for purchase, offering extended coverage beyond the standard manufacturer's warranty.

