### DALY 48V 16S 200A Smart BMS with 5A Active Balancer

# DALY Smart BMS 48V 16S 200A with 5A Active Balancer User Manual

Model: 48V 16S 200A Smart BMS with 5A Active Balancer | Brand: DALY

## 1. Introduction

This user manual provides essential information for the safe and efficient operation of your DALY Smart BMS (Battery Management System) 48V 16S 200A with 5A Active Balancer. This system is designed to protect and optimize 16-series 48-volt LiFePO4 battery packs, commonly used in applications such as golf carts, electric outboard motors, and solar energy power systems. Please read this manual thoroughly before installation and use.


*Image 1.1: DALY Smart BMS 48V 16S 200A with 5A Active Balancer, highlighting the 5-year extended warranty.*

## 2. Safety Information

Always prioritize safety when working with battery systems. Improper installation or handling can lead to serious injury or damage to equipment. Adhere to the following safety guidelines:

- **Professional Installation:** Installation should be performed by qualified personnel with experience in electrical systems and battery management.
- **Insulated Tools:** Use only insulated tools to prevent short circuits.
- **Correct Polarity:** Ensure all connections are made with correct polarity. Reversing polarity can cause severe damage to the BMS and battery.
- **Voltage and Current Limits:** Do not exceed the specified voltage and current ratings of the BMS and battery pack.
- **Environmental Conditions:** Install the BMS in a dry, well-ventilated area, away from flammable materials and direct sunlight.
- **Emergency Procedures:** Familiarize yourself with emergency shutdown procedures for your battery system.


*Image 2.1: The DALY BMS provides comprehensive protection against overcharging, overdischarging, overcurrent, short circuits, and extreme temperatures.*

## 3. Product Overview

### 3.1 Key Features

- **Comprehensive Protection:** Includes low voltage cutoff, high voltage cutoff, short circuit protection, and temperature protection for enhanced battery performance and longevity.
- **Smart Monitoring:** Features a 2-in-1 Bluetooth/Wi-Fi dongle for local and remote battery monitoring via the Smart BMS mobile app. Provides real-time system alerts and customizable parameters.
- **Parallel System Support:** Built-in parallel circuit allows for scaling capacity by connecting up to 8+ battery packs.
- **5A Active Balancer:** Enables faster cell balancing, reduces heat generation, improves energy efficiency, and increases system runtime.
- **Communication Interfaces:** Supports RS485 and CAN communication protocols.

## 3.2 Packing List

The package includes the following components:

- 16S 48V 200 Amps Smart BMS (x1)
- 5A 16S Active Balancer (x1)
- B-P-Output line (x1)
- 2-in-1 BT/WiFi dongle (x1)
- Sampling cable (x1)
- NTC (Temperature Sensor) (x1)
- Instruction Manual (x1)
- Screws (for mounting)


*Image 3.1: Contents of the DALY BMS package.*

# 4. Setup and Installation

Careful installation is crucial for the proper functioning and safety of your BMS. Follow these steps for setup:

## 4.1 Pre-Installation Checks

- Verify that your battery pack is a 16S (16 series) LiFePO4 system with a nominal voltage of 48V.
- Confirm that the total current draw of your application does not exceed the 200A rating of this BMS.
- Ensure all battery cells are balanced before connecting the BMS.

## 4.2 Wiring Instructions

1. **Connect B- wire:** Connect the thick black B- wire from the BMS to the negative terminal of your battery pack.
2. **Connect P- wire:** Connect the thick black P- wire from the BMS to the negative terminal of your load/charger.
3. **Connect Balance Wires:** Carefully connect the multi-pin sampling cable to the balance port on the BMS. Then, connect each individual wire of the sampling cable to the corresponding positive terminal of each cell in your battery pack, starting from B0 (negative of the first cell) up to B16 (positive of the last cell). Ensure the order is correct.
4. **Connect Active Balancer:** Connect the 5A active balancer to its dedicated port on the BMS.
5. **Connect NTC (Temperature Sensor):** Attach the NTC sensor to a central cell or area within the battery pack to monitor temperature.
6. **Connect BT/WiFi Dongle:** Plug the 2-in-1 Bluetooth/Wi-Fi dongle into the communication port on the BMS.
7. **Connect Positive Terminal:** Finally, connect the main positive wire from your battery pack to the positive terminal of your load/charger.

*Note: Refer to the detailed wiring diagram provided in the separate installation guide or contact DALY support for specific wiring configurations if unsure.*

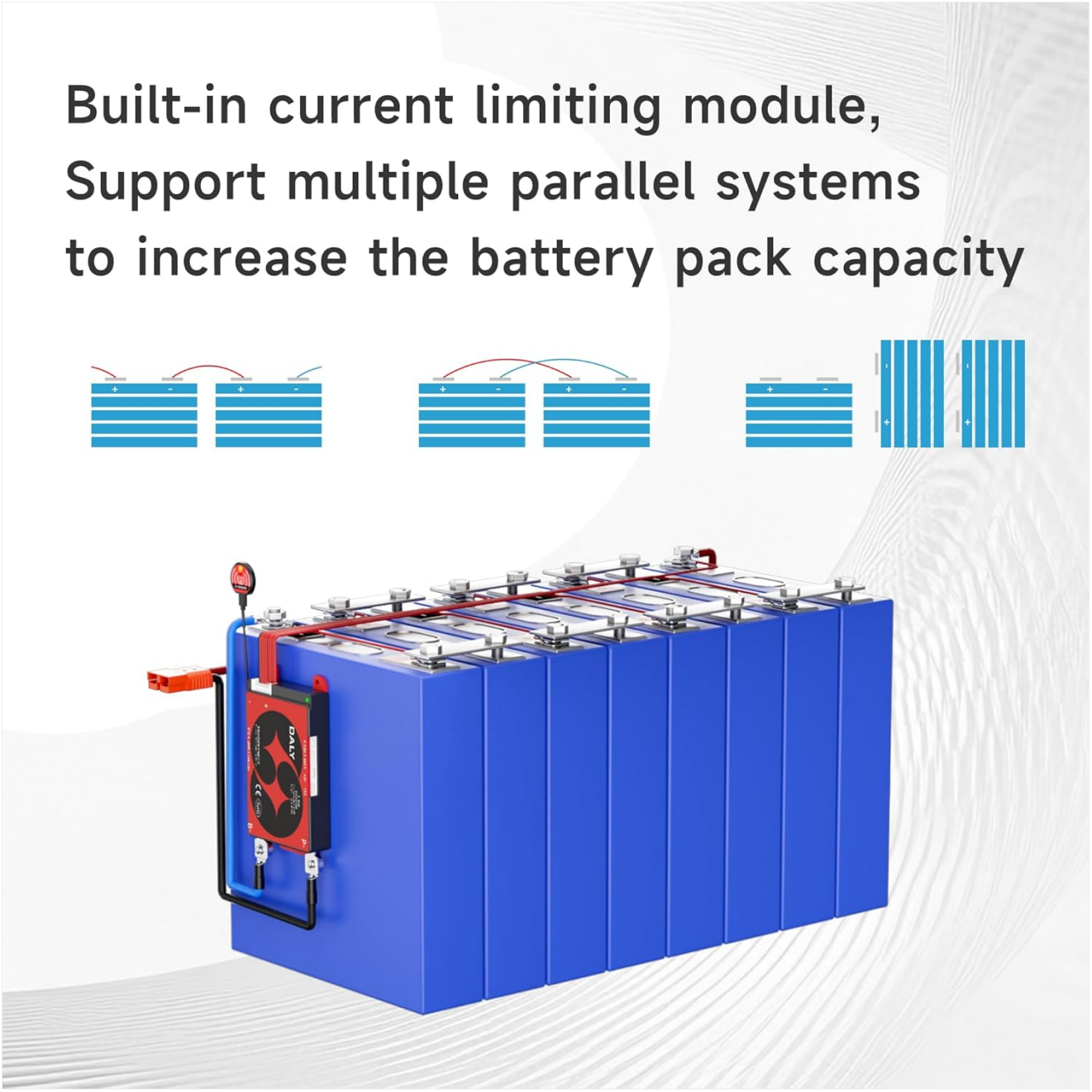


*Image 4.1: The DALY BMS supports multiple parallel systems to increase battery pack capacity.*

## 5. Operating Instructions

The DALY Smart BMS offers advanced monitoring and control capabilities via its mobile application.

### 5.1 Mobile App Installation and Connection

1. **Download App:** Search for "Smart BMS" in your device's app store (iOS/Android) and install the application.
2. **Enable Bluetooth/Wi-Fi:** Ensure Bluetooth or Wi-Fi is enabled on your mobile device.
3. **Connect to BMS:** Open the Smart BMS app. The app should detect your BMS via the connected dongle. Select your BMS from the list to establish a connection.

### 5.2 Monitoring and Customization

Once connected, the app provides real-time data and allows for parameter adjustments:

- **Real-time Data:** View battery voltage, current, individual cell voltages, temperature, State of Charge (SOC), and balance status.

- **Alerts:** Receive notifications for any protection triggers (e.g., over-voltage, under-voltage, over-temperature).
- **Parameter Settings:** Customize various protection thresholds and operational parameters as needed for your specific battery configuration and application. Refer to the app's help section for detailed explanations of each setting.


*Image 5.1: The 2-in-1 Bluetooth/Wi-Fi Dongle enables smart monitoring via the mobile app.*

## 6. Maintenance

Regular maintenance ensures the longevity and optimal performance of your DALY Smart BMS and battery system.

- **Periodic Inspection:** Visually inspect all wiring and connections for signs of wear, corrosion, or damage. Ensure all terminals are secure.
- **Cleanliness:** Keep the BMS unit clean and free from dust and debris. Do not use liquid cleaners directly on the unit.
- **Firmware Updates:** Check the DALY website or app periodically for firmware updates for your BMS to ensure you have the latest features and bug fixes.
- **Battery Health Monitoring:** Regularly monitor cell voltages and temperatures via the Smart BMS app to detect any anomalies early.
- **Active Balancer Check:** The 5A active balancer works continuously. Monitor its status via the app to ensure it is

functioning correctly, contributing to faster cell balancing and higher energy efficiency.

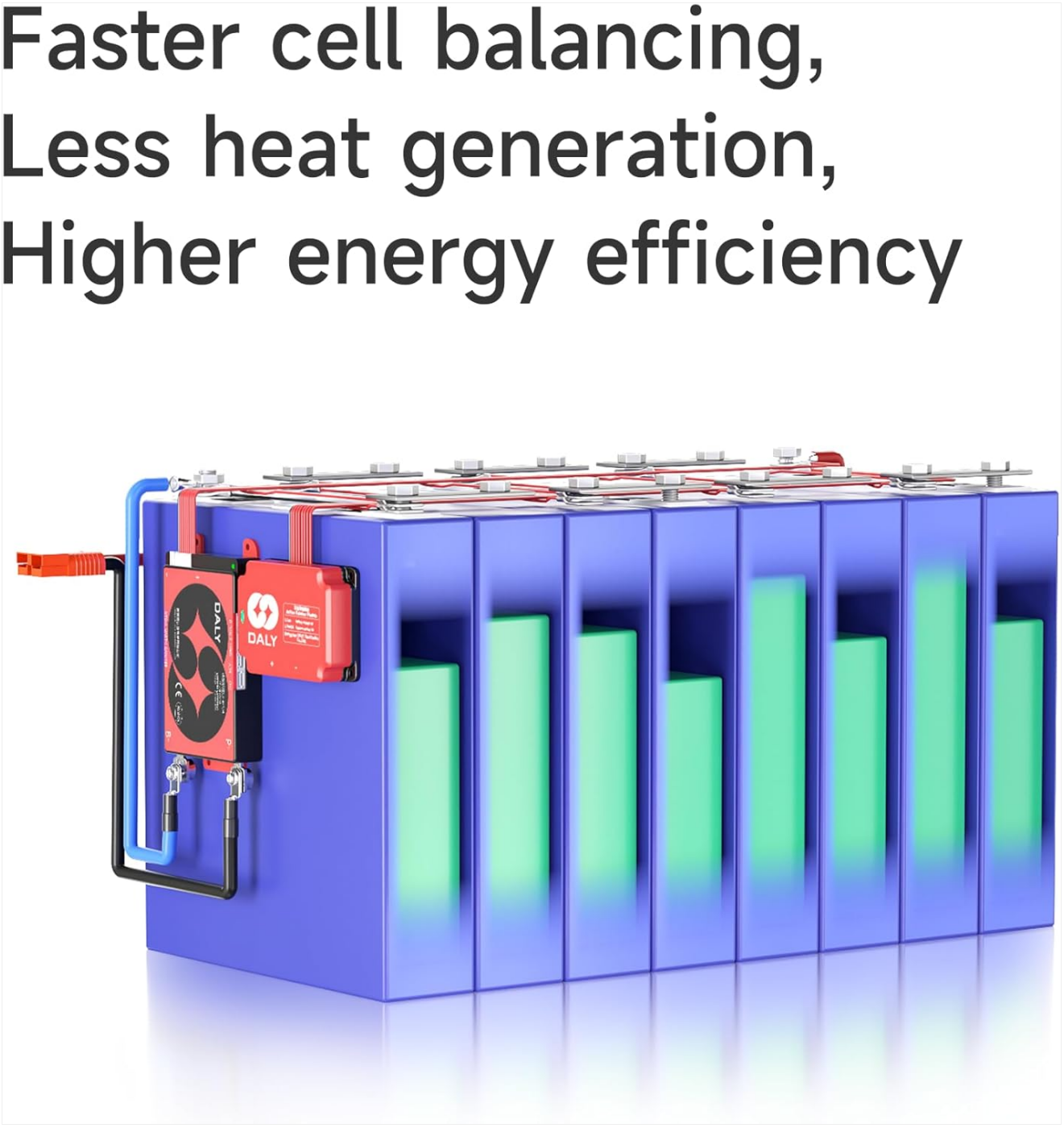


*Image 6.1: The active balancer ensures faster cell balancing, less heat generation, and higher energy efficiency.*

## 7. Troubleshooting

This section addresses common issues you might encounter. For more complex problems, consult DALY technical support.

### 7.1 Common Issues and Solutions

| Problem | Possible Cause | Solution |
|---|---|---|
| BMS not powering on / No display | Incorrect wiring (B-, P-), loose connections, battery voltage too low. | Check all main power connections. Verify battery voltage is within operating range. Ensure balance wires are correctly connected. |

| Problem | Possible Cause | Solution |
|---|---|---|
| Cannot connect via Bluetooth/Wi-Fi | Dongle not properly connected, Bluetooth/Wi-Fi disabled on device, app issues, signal interference. | Ensure dongle is securely plugged in. Restart mobile device and app. Move closer to the BMS. Check app permissions. |
| Battery not charging/discharging | BMS protection triggered (e.g., over-voltage, under-voltage, over-current, over-temperature), faulty charger/load. | Check app for active protection alerts. Address the cause of the protection (e.g., reduce load, allow cooling). Verify charger/load functionality. |
| Cell imbalance issues | Active balancer not functioning, significant cell degradation, incorrect balance wire connection. | Verify active balancer connection and status via app. Check individual cell voltages. If imbalance persists, inspect battery cells. |

## 7.2 General Troubleshooting Advice

The image below provides a helpful guide for determining the right BMS for your battery and addressing common questions.

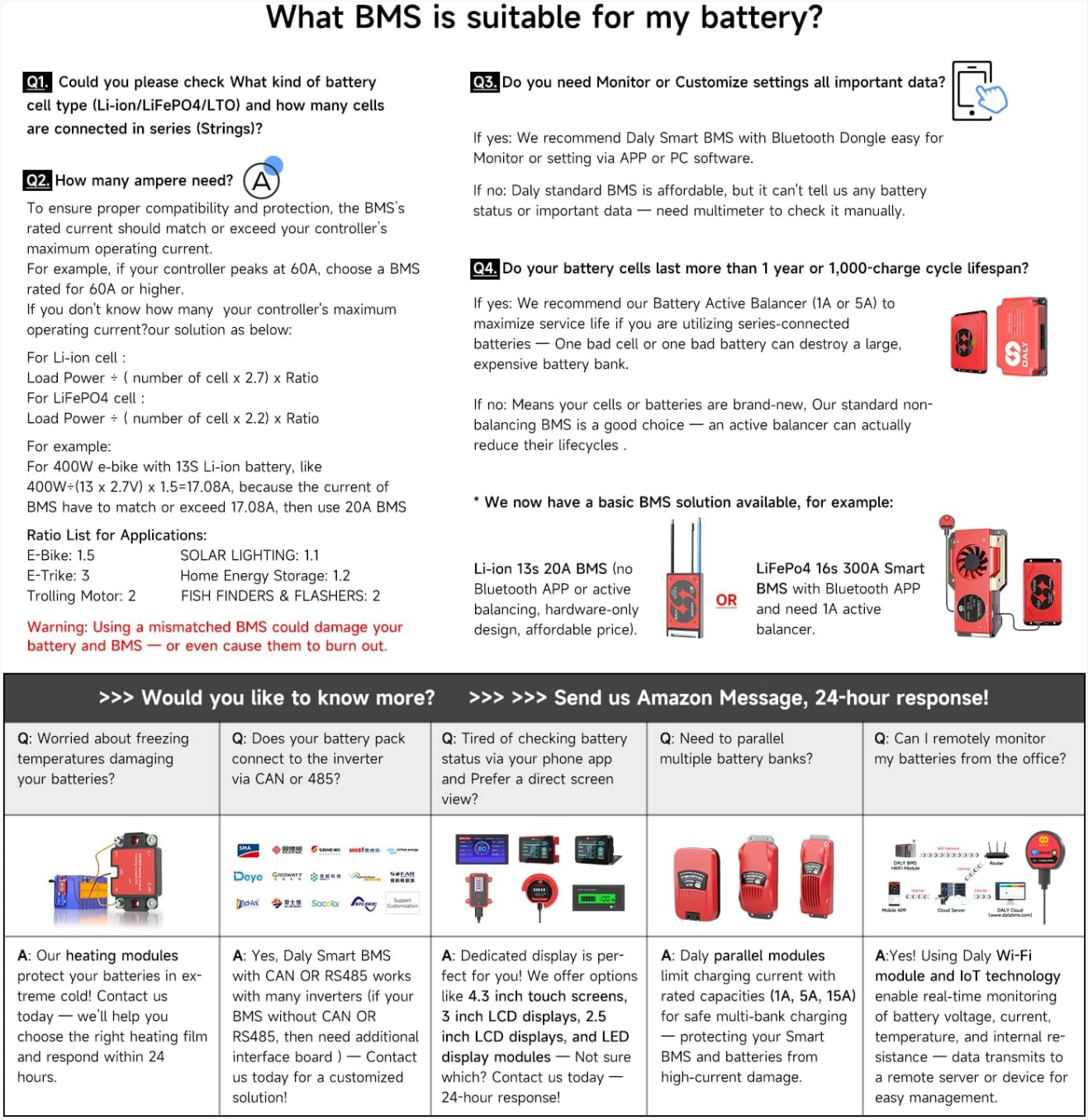

*Image 7.1: Guide to selecting the correct BMS and addressing common battery management questions.*

## 8. Specifications

Key technical specifications for the DALY Smart BMS 48V 16S 200A with 5A Active Balancer:

- **Model:** 48V 16S 200A Smart BMS with 5A Active Balancer
- **Battery Type:** LiFePO4
- **Series Configuration:** 16S
- **Continuous Discharge Current:** 200A
- **Active Balancing Current:** 5A
- **Communication:** Bluetooth, Wi-Fi (via dongle), RS485, CAN
- **Input Voltage:** 48 Volts (DC)
- **Output Voltage:** 48 Volts (DC)
- **Protection Features:** Overcharge, Overdischarge, Overcurrent, Short Circuit, Overtemperature
- **Certifications:** ISO/FCC/RoHS/PSE/CE approved
- **Package Dimensions:** 13.39 x 9.8 x 2.24 inches
- **Item Weight:** 2.01 pounds

## 9. Warranty and Support

### 9.1 Warranty Information

The DALY Smart BMS 48V 16S 200A with 5A Active Balancer comes with a **5-year warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use. It does not cover damage caused by improper installation, misuse, accidents, unauthorized modifications, or natural disasters.

### 9.2 Technical Support

For technical assistance, troubleshooting, or warranty claims, please contact DALY customer support through the official DALY website or your point of purchase. When contacting support, please have your product model number and purchase date available.
You can also visit the DALY Store on Amazon for additional resources and product information.