

## Aoleaby B2A8S20P-Heat-CAN

# Aoleaby JK Smart BMS B2A8S20P-Heat-CAN User Manual

Comprehensive instructions for installation, operation, and maintenance.

## 1. INTRODUCTION

This manual provides detailed instructions for the Aoleaby JK Smart BMS B2A8S20P-Heat-CAN. This Battery Management System is designed to protect and optimize the performance of LiFePO<sub>4</sub>, Li-ion, and LTO battery packs ranging from 3S to 8S. It features active balancing, over-charge/discharge protection, over-current protection, short circuit protection, low-temperature charging cutoff, and integrated heating and CANBUS functions. Please read this manual thoroughly before installation and operation to ensure safe and efficient use.

## 2. SAFETY INFORMATION

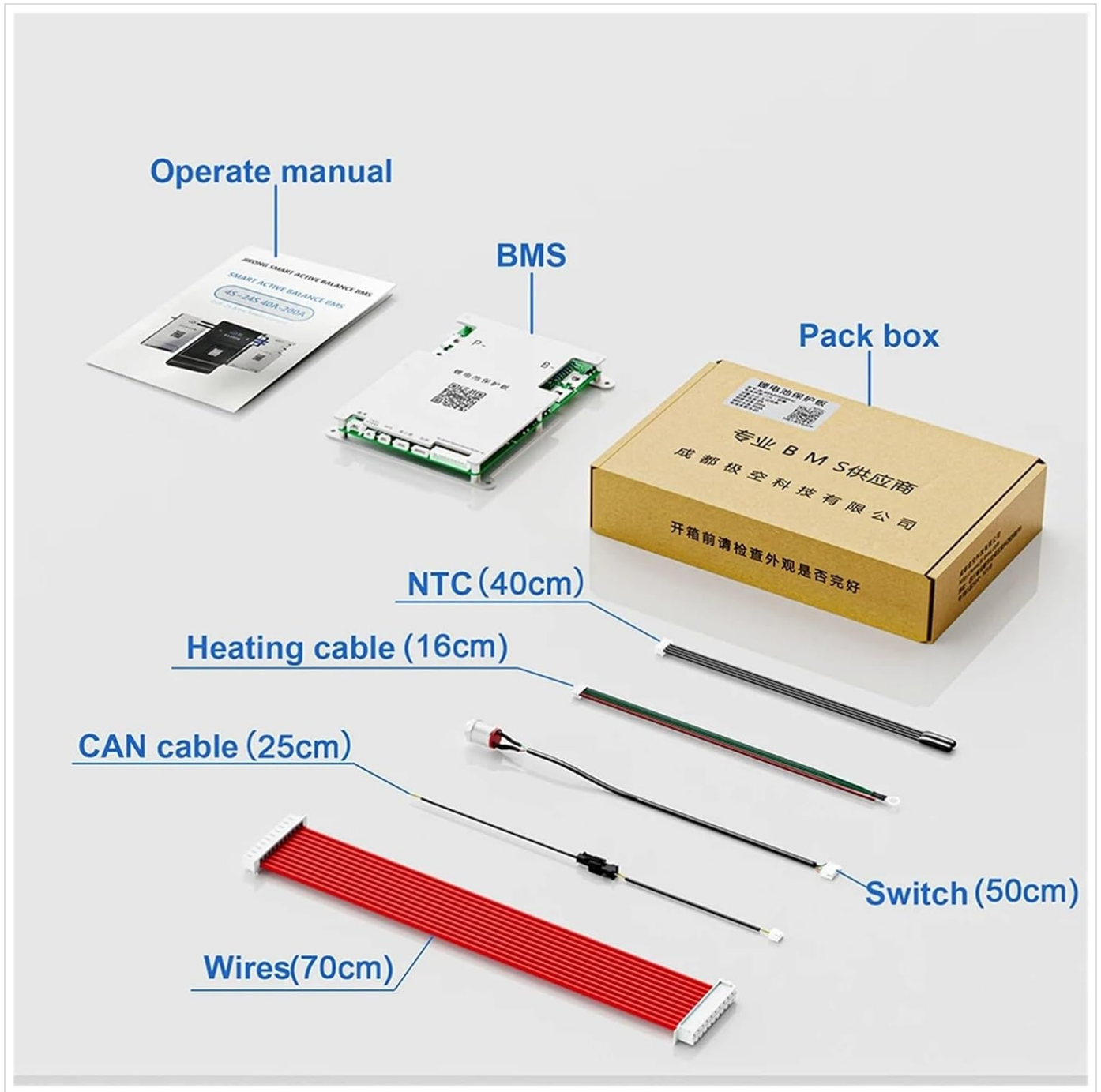
- Always disconnect the battery pack before performing any wiring or maintenance on the BMS.
- Ensure all connections are correct and secure to prevent damage to the BMS, battery, or connected equipment. Incorrect wiring can lead to fire or explosion.
- Wear appropriate personal protective equipment (PPE), including safety glasses and insulated gloves, when working with batteries.
- Do not short-circuit the battery terminals or BMS connections.
- Install the BMS in a well-ventilated area, away from flammable materials.
- This device is intended for use with LiFePO<sub>4</sub>, Li-ion, and LTO battery types only. Do not use with other battery chemistries.
- If the BMS shows signs of damage or malfunction, discontinue use immediately and consult a qualified technician.

## 3. PACKAGE CONTENTS

Verify that all items listed below are present in your package:

- JK Smart BMS Unit (B2A8S20P-Heat-CAN)
- Operating Manual (Printed)
- NTC Temperature Sensor Cable (40cm)

- Heating Cable (16cm)
- CAN Cable (25cm)
- Switch (50cm)
- Balance Wires (70cm)

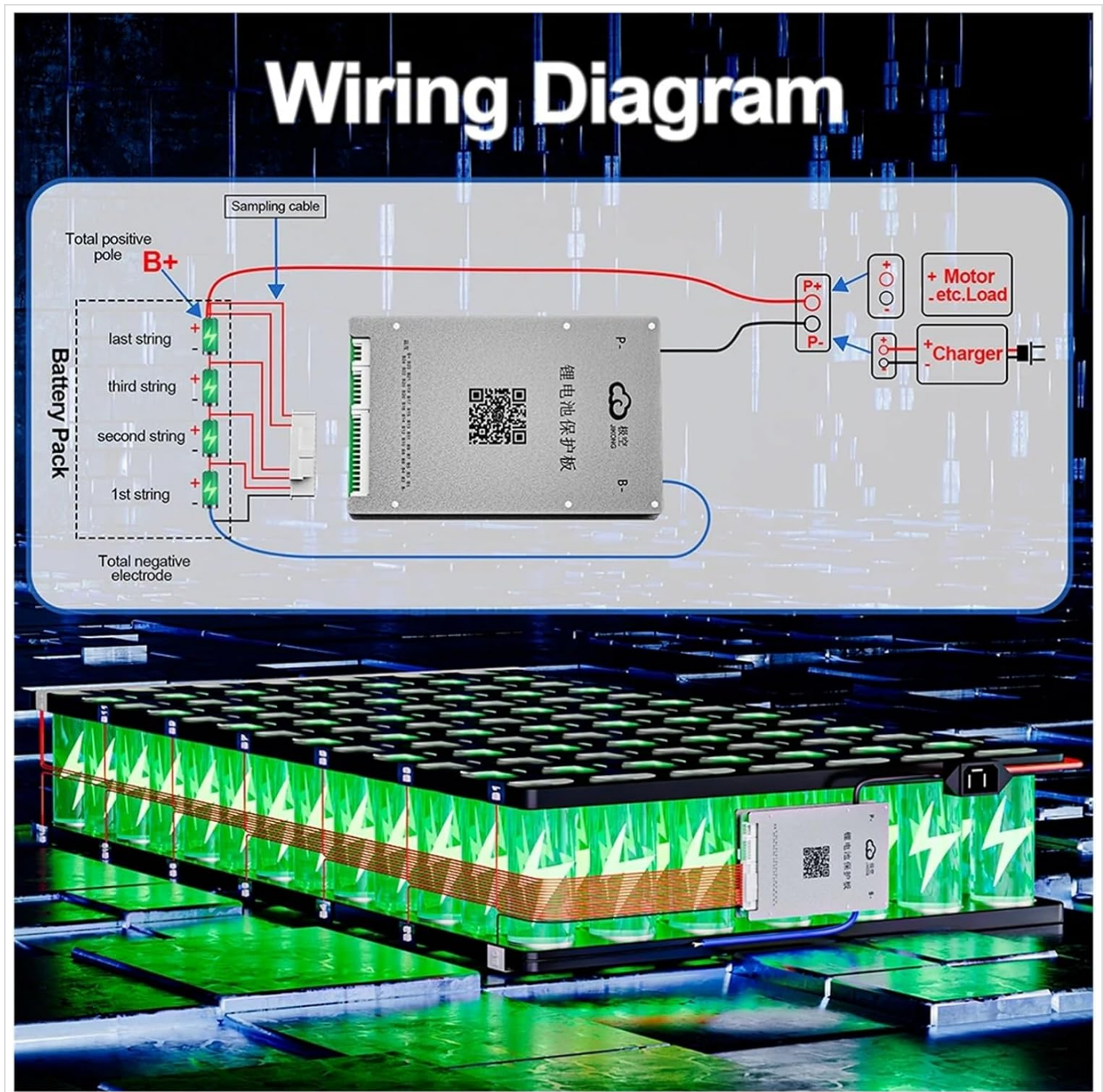


**Figure 3.1:** Contents of the Aoleaby JK Smart BMS B2A8S20P-Heat-CAN package. This image displays the main BMS unit, a printed manual, NTC temperature sensor cable, heating cable, CAN cable, switch, and balance wires.

## 4. SETUP AND INSTALLATION

### 4.1 Wiring Diagram

Follow the wiring diagram carefully to connect the BMS to your battery pack, charger, and load. Ensure the balance wires are connected to the correct cell terminals, starting from the negative terminal (B-) of the first cell to the positive terminal of the last cell (B+).



**Figure 4.1:** Detailed wiring diagram illustrating connections for the battery pack, BMS (P- and B- terminals), charger, and motor/load. The sampling cable for cell voltage monitoring is also shown.

## 4.2 Initial Connection Steps

1. Connect the main negative terminal (B-) of the BMS to the negative terminal of your battery pack.
2. Connect the balance wires to each cell of the battery pack, ensuring the correct sequence from B0 (negative of the first cell) to B8 (positive of the last cell for an 8S system).
3. Connect the main positive terminal (P+) of your load/charger to the positive terminal of your battery pack.
4. Connect the main negative terminal (P-) of your load/charger to the P- terminal on the BMS.
5. Connect the NTC temperature sensor to the battery pack for accurate temperature monitoring.
6. If using the heating function, connect the heating cable as per the specific instructions provided with the heating element (not detailed here, refer to heating element manual).
7. Connect the CAN cable if integrating with a CANBUS system.
8. Connect the switch for power control.

## 4.3 Mobile Application Setup

The JK Smart BMS features a dedicated mobile application for monitoring and control via Bluetooth. To download the app, scan the QR code provided on the BMS unit or in the product documentation, or visit the official download link:

[Download JK BMS App](#)



**Figure 4.2:** The JK Smart BT APP interface, showing real-time battery data, cell voltages, and options to monitor, modify parameters, and control the BMS balance switch. The app supports both Android and iOS systems.

After installation, open the app and connect to your BMS via Bluetooth. The app allows you to monitor real-time battery data, modify related parameters, and control the BMS balance switch.

## 5. OPERATING INSTRUCTIONS

### 5.1 Basic Operation

- Once properly wired and powered, the BMS will automatically begin monitoring the battery pack.

- The active balancing function will engage automatically to equalize cell voltages, improving battery life and efficiency.
- The BMS will protect the battery from over-charge, over-discharge, over-current, and short-circuit conditions by disconnecting the load or charger as necessary.
- Low-temperature charging cutoff prevents damage to the battery when temperatures are too low for safe charging.

## 5.2 Using the Mobile Application

The mobile application provides a detailed overview and control capabilities:

- **Monitor Data:** View real-time battery voltage, current, temperature, individual cell voltages, and balance status.
- **Modify Parameters:** Adjust various protection parameters such as over-voltage, under-voltage, over-current thresholds, and temperature limits. Exercise caution when modifying parameters.
- **Control Balance Switch:** Manually enable or disable the active balancing function if needed.

## 5.3 Heating Function (Heat-CAN Model)

The B2A8S20P-Heat-CAN model includes a heating function. This feature is designed to warm the battery cells when ambient temperatures are too low for safe charging, preventing damage and extending battery lifespan. The heating function is typically controlled automatically by the BMS based on temperature sensor readings and configured thresholds within the mobile application.

## 5.4 CANBUS Communication (Heat-CAN Model)

The CANBUS function allows the BMS to communicate with other compatible devices in a system, such as inverters or motor controllers. This enables advanced system integration and data exchange. Refer to the specific CANBUS protocol documentation for detailed integration instructions.

# 6. MAINTENANCE

- Regularly inspect all wiring connections for tightness and corrosion.
- Keep the BMS unit clean and free from dust and moisture.
- Periodically check the battery cell voltages via the mobile app to ensure they remain balanced.
- Ensure adequate ventilation around the BMS and battery pack to prevent overheating.
- Update the mobile application to the latest version for optimal performance and features.

# 7. TROUBLESHOOTING

| Problem                            | Possible Cause                                                                                       | Solution                                                                                                                              |
|------------------------------------|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| BMS not powering on/no data in app | Incorrect wiring, loose connections, BMS fault.                                                      | Check all wiring according to the diagram. Ensure main power connections are secure. Verify balance wire connections.                 |
| Battery not charging/discharging   | Over-charge/discharge protection active, over-current protection, low temperature cutoff, BMS fault. | Check app for active protection alarms. Allow battery to cool/warm. Reduce load/charge current. Inspect P- and B- connections.        |
| Cell voltages unbalanced           | Active balance not enabled, faulty balance wires, significant cell degradation.                      | Ensure active balance is enabled in the app. Check balance wire integrity. If cells are severely degraded, consider cell replacement. |

| Problem                     | Possible Cause                                            | Solution                                                                                                                                    |
|-----------------------------|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Bluetooth connection issues | BMS not powered, app permissions, distance, interference. | Ensure BMS is powered. Grant necessary Bluetooth permissions to the app. Reduce distance to BMS. Avoid strong electromagnetic interference. |

If you encounter issues not listed here or if the suggested solutions do not resolve the problem, please contact customer support.

## 8. SPECIFICATIONS

| Feature                             | Detail                                                   |
|-------------------------------------|----------------------------------------------------------|
| Model                               | B2A8S20P-Heat-CAN                                        |
| Battery Type Compatibility          | LiFePO4, Li-ion, LTO                                     |
| Battery String Support              | 3S to 8S (e.g., 12V/4S, 24V/8S)                          |
| Continuous Charge/Discharge Current | 200A                                                     |
| Peak Current                        | 350A                                                     |
| Active Balance Current              | 0.6A - 2A                                                |
| Communication Interfaces            | Bluetooth (BT), CANBUS (CAN), RS485                      |
| Special Functions                   | Heating Function (Heat), Low Temperature Charging Cutoff |
| Protection Features                 | Over-charge, Over-discharge, Over-current, Short Circuit |
| Dimensions                          | 153 x 136 x 18 mm (approximate, from image)              |
| Item Weight                         | 1000 Grams (2.2 pounds)                                  |

**B2A8S20P-Heat-CAN**

**Function: BT/RS485/Heat/CAN**

**Balance Current:2A**

**Battery Strings:4S-8S**

**Charge/Discharge:200A**

**153\*136\*18mm**

**Battery Type: Li-ion/Lifepo4/LTO**



**Figure 8.1:** Front view of the Aoleaby JK Smart BMS B2A8S20P-Heat-CAN, highlighting its functions (BT/RS485/Heat/CAN), 2A balance current, 4S-8S battery string support, 200A charge/discharge current, dimensions (153\*136\*18mm), and compatibility with Li-ion/LiFePO4/LTO battery types.

# B2A8S20P-HC

BT / RS485 / CAN / Heat / NTC

Balance Current: 2A

Battery Strings: 4S~8S

Charge / Discharge: 200A

LiFePo4 / Li-ion / LTO

Size: 153\*136\*18mm



**Figure 8.2:** Detailed view of the Aoleaby JK Smart Active Balance BMS, model B2A8S20P-HC, showing key specifications such as 2A balance current, 4S-8S battery strings, 200A charge/discharge current, and compatibility with LiFePO<sub>4</sub>, Li-ion, and LTO battery types. Dimensions are also indicated.

## 9. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation included with your purchase or contact the seller directly. Ensure you have your product model number (B2A8S20P-Heat-CAN) and purchase details available when seeking support.

### ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

**Name**

Anonymous

**Email**

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

**Question**

Example: How do I reset this device or fix this error?

**Details**

Model number, symptoms, what you tried, or the section of the manual you are using.

**Submit question**