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> Aoleaby JK Smart BMS Jk-bd6a20s6p 60A User Manual

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Comprehensive instructions for installation, operation, and maintenance.

1. INTRODUCTION

The Aoleaby JK Smart BMS (Battery Management System) Jk-bd6a20s6p 60A is designed to manage and protect lithium battery packs ranging from 8S to 20S configurations (24V-72V). This BMS supports Li-ion, LiFePO4, and LTO battery types and features active balancing, comprehensive protection functions, and Bluetooth communication for real-time monitoring via a dedicated mobile application.

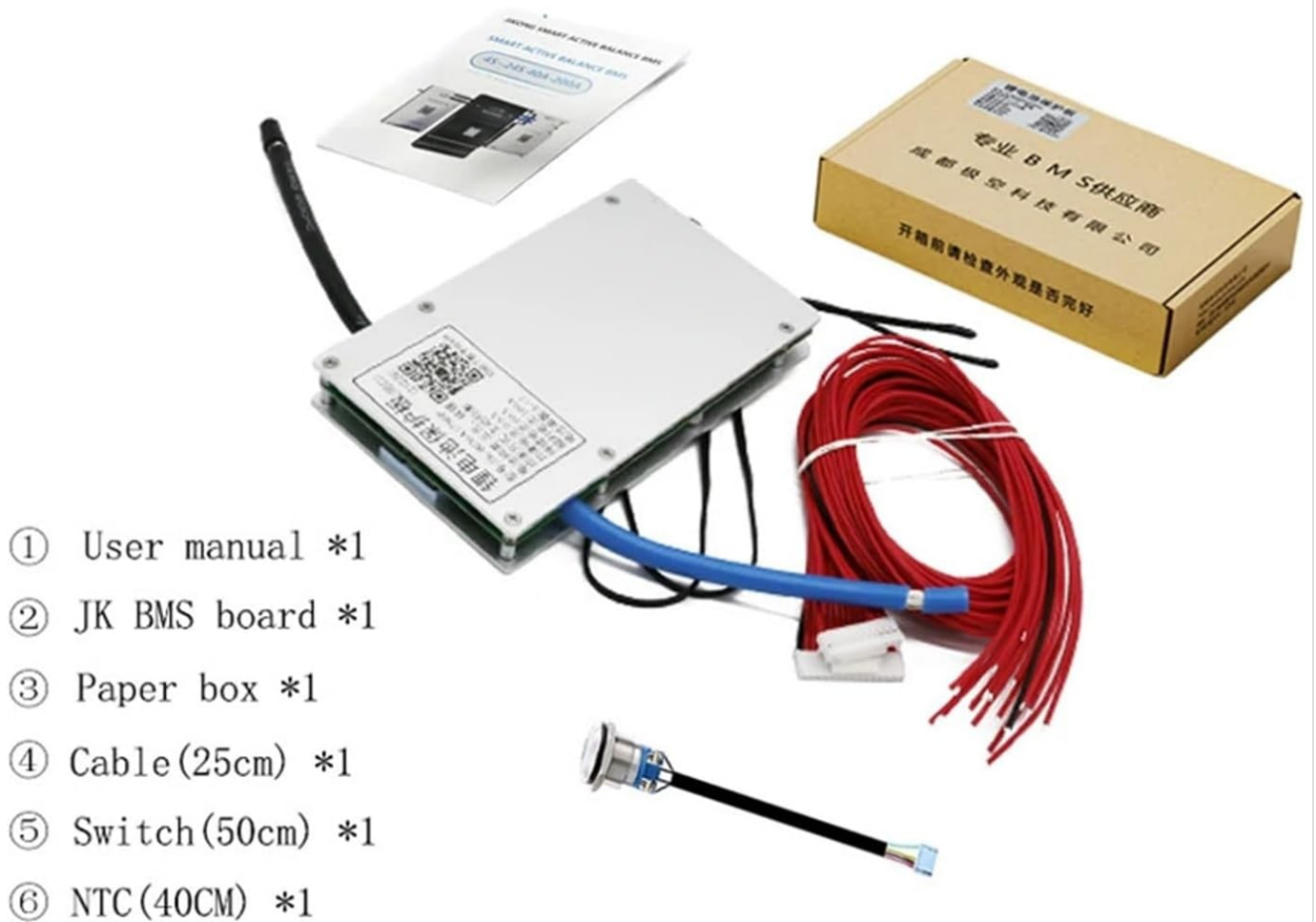
Key features include:

- **Active Balance Functionality:** Ensures all battery cells are balanced, maximizing battery capacity and extending lifespan.
- **Comprehensive Protection:** Guards against overcharging, over-discharging, overcurrent, and short circuits. Includes low-temperature charging cutoff.
- **Bluetooth Communication:** Allows real-time battery status display and parameter adjustments via a mobile application (iOS/Android).
- **Coulomb Meter Function:** Provides clear indication of remaining battery power.
- **Customizable Options:** Supports CAN communication and GPS module integration (contact manufacturer for details).

2. PACKAGE CONTENTS

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

Package List



- ① User manual *1
- ② JK BMS board *1
- ③ Paper box *1
- ④ Cable(25cm) *1
- ⑤ Switch(50cm) *1
- ⑥ NTC(40CM) *1

Image: Contents of the Aoleaby JK Smart BMS package.

- 1. User Manual x1
- 2. JK BMS Board x1
- 3. Paper Box x1 (packaging)
- 4. Cable (25cm) x1
- 5. Switch (50cm) x1
- 6. NTC (40cm) x1 (Temperature Sensor)

3. SPECIFICATIONS

The following table details the technical specifications of the JK Smart BMS Jk-bd6a20s6p 60A:



Image: Front view of the JK Smart BMS showing key specifications.

Feature	Specification
Model	Jk-bd6a20s6p
Dimensions	133mm x 81mm x 18mm
Supported Battery Types	Li-ion, LiFePO4, LTO
Cell Strings (Li-ion)	7S-20S
Cell Strings (LiFePO4)	8S-20S
Cell Strings (LTO)	12S-20S
Balance Method	Active Equalization
Active Equalization Current	0.6A
Internal Resistance	1.53mΩ
Rated Discharge Current	60A
Maximum Discharge Current	100A
Overcurrent Protection (Adjustable)	10-60A

Feature	Specification
Wiring Method	Common Port
Monomer Voltage Range	1V-5V
Voltage Acquisition Accuracy	5mV
Battery Cell Over-charge Protection Voltage (Adjustable)	1.2V-4.35V
Battery Cell Over-charge Protection Recovery Voltage (Adjustable)	1.2V-4.35V
Over Current Detect Delay (Adjustable)	2-120S
Battery Cell Over-discharge Protection Voltage (Adjustable)	1.2V-4.35V
Battery Cell Over-discharge Protection Recovery Voltage (Adjustable)	1.2V-4.35V
Quantity of Temperature Detection	3 PCS

4. SETUP

4.1. Wiring Instructions

Proper wiring is critical for the safe and correct operation of the BMS. Always ensure the battery pack is disconnected from any load or charger before wiring. Refer to the diagram below for general connection points. Specific wiring diagrams for your battery configuration (e.g., 8S, 16S, 20S) should be followed carefully.



Image: Overview of the JK Smart BMS board showing main terminals and balance port.

1. **Connect B- to Battery Negative:** Connect the main negative terminal of the battery pack to the B- terminal on the BMS.
2. **Connect Balance Leads:** Connect the balance wires from your battery pack to the corresponding balance port on the BMS. Ensure each cell's positive terminal is connected to the correct balance lead in sequential order (B1, B2, ..., Bn). *Incorrect balance lead connection can damage the BMS or battery.*
3. **Connect P- to Load/Charger Negative:** Connect the negative terminal of your load and charger to the P- terminal on the BMS. The positive terminals of the load and charger connect directly to the battery pack's positive terminal.
4. **Connect Temperature Sensors (NTC):** Connect the provided NTC sensors to the designated ports on the BMS. Position the sensors strategically on the battery pack to monitor temperature effectively.
5. **Connect Switch:** Connect the included switch to its designated port on the BMS. This switch can be used to activate/deactivate the BMS or put it into a low-power state.

Important: Always double-check all connections before applying power. Incorrect wiring can lead to severe damage to the BMS, battery, or connected devices.

4.2. Mobile Application Installation and Bluetooth Connection

The JK Smart BMS utilizes a proprietary mobile application for monitoring and configuration via Bluetooth.

1. **Download the App:** Scan the QR code on the BMS unit or in the product images, or visit the provided link to download the official JK BMS application for your iOS or Android device.
[Download JK BMS App](#)
2. **Enable Bluetooth:** Ensure Bluetooth is enabled on your mobile device.

3. **Power On BMS:** Ensure your BMS is powered on and connected to the battery pack.
4. **Connect in App:** Open the JK BMS application. The app should automatically scan for nearby JK BMS devices. Select your BMS from the list to establish a connection.
5. **Initial Setup:** Follow any on-screen prompts within the app for initial setup or calibration.

Self-developed APP, convenient and easy to use

JKBMS APP, a personal lithium battery steward
installed in the mobile phone, monitors battery data at any time.



- * Support IOS/Android dual system.
- * Support multiple languages, and switch automatically with mobile phone system.

Image: JK BMS mobile application interface showing real-time battery data.

5. OPERATING INSTRUCTIONS

Once the BMS is properly installed and connected to the mobile application, you can monitor and manage your battery pack.

5.1. Monitoring Battery Status

The JK BMS app provides a comprehensive overview of your battery's health and status:

- **Real-time Voltage:** View the total battery pack voltage and individual cell voltages.
- **Current:** Monitor charge and discharge currents.
- **State of Charge (SOC):** The coulomb meter function provides an accurate percentage of remaining capacity.

- **Temperature:** Check the temperature readings from the NTC sensors.
- **Balance Status:** Observe the active balancing process and cell voltage differences.
- **Protection Status:** The app will indicate if any protection functions (e.g., over-voltage, under-voltage, overcurrent) are active.

5.2. Adjusting Parameters (Advanced Users)

The app may allow adjustment of certain BMS parameters, such as overcurrent protection limits, overcharge/discharge voltage thresholds, and delay times. *Only adjust these parameters if you fully understand their implications. Incorrect settings can lead to battery damage or safety hazards.* Consult the detailed app guide within the application or contact support for advanced configuration.

6. MAINTENANCE

To ensure the longevity and optimal performance of your JK Smart BMS and battery pack, follow these maintenance guidelines:

- **Regular Inspection:** Periodically inspect all wiring connections for tightness and signs of corrosion or damage.
- **Cleanliness:** Keep the BMS unit clean and free from dust, dirt, and moisture. Use a dry, soft cloth for cleaning.
- **Temperature Monitoring:** Regularly check battery temperatures via the app, especially during charging and discharging cycles, to ensure they remain within safe operating limits.
- **Firmware Updates:** Check the app or manufacturer's website for any available firmware updates for the BMS. Follow instructions carefully if updating.
- **Storage:** If storing the battery pack for an extended period, ensure it is charged to a recommended storage voltage (typically 50-70% SOC) and stored in a cool, dry place.

7. TROUBLESHOOTING

If you encounter issues with your JK Smart BMS, refer to the following common troubleshooting steps:

- **BMS Not Powering On:**
 - Check all main power connections (B- and P-) to ensure they are secure and correctly wired.
 - Verify the battery pack voltage is within the supported range for the BMS.
 - Ensure the switch is correctly connected and in the "on" position (if applicable).
- **Bluetooth Connection Issues:**
 - Ensure Bluetooth is enabled on your mobile device.
 - Restart the JK BMS app.
 - Move closer to the BMS unit to improve signal strength.
 - Check if the BMS is powered on.
- **Cells Not Balancing:**
 - Verify that all balance leads are correctly connected to the BMS and the battery cells.
 - Ensure the voltage difference between cells is significant enough to trigger active balancing (typically >20mV).
 - Allow sufficient time for the active balancing to work, especially with large capacity differences.
- **Overcurrent/Overvoltage Protection Triggered:**
 - Reduce the load or charging current to below the BMS's protection limits.
 - Check for short circuits in the load or wiring.
 - Verify that the battery cell voltages are within safe operating parameters.

- **Inaccurate Readings:**

- Ensure all connections, especially balance leads, are clean and secure.
- Calibrate the BMS via the app if a calibration option is available.

If the issue persists after attempting these steps, please contact customer support.

8. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please contact the seller or manufacturer directly. Keep your purchase receipt or order details handy as proof of purchase.

Manufacturer: Aoleaby

For additional resources and updates, refer to the official product page or the link provided for the mobile application:

<http://qr17.cn/BApbC0>

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

Open the live page

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