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› JK BMS 19S 72V Smart Support BMS User Manual

Aoleaby 19S 150A balance 1A Bt App Bms

JK BMS 19S 72V Smart Support BMS User Manual

Model: 19S 150A balance 1A Bt App Bms

Brand: Aoleaby

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1. PRODUCT OVERVIEW

The JK BMS (Battery Management System) is an active balance system designed for Li-ion (7S-24S) and LiFePo4 (8S-24S) battery packs. This model features a 150A continuous discharge current and offers 1A or 2A active equalization current. It allows for comprehensive control and monitoring via a dedicated mobile application, including setting equalization voltage and charge/discharge protection parameters. The system can display individual cell voltages and includes a coulomb meter for accurate remaining power indication.

150A Battery Smart BMS

Supports 8S-24S LPF4

Supports 7S-24S Li-ion

1A/2A Active equalization

built-in BT module for connecting to APP



Figure 1: Overview of the JK BMS, highlighting its 150A capacity, support for 8S-24S LiFePo4 and 7S-24S Li-ion batteries, and 1A/2A active equalization with built-in Bluetooth for app connectivity.

Key Features:

- **Active Balance Functionality:** Balances voltage differences between cells without discharging the battery capacity, enhancing battery usage efficiency up to 99%.
- **Comprehensive Protections:** Includes safeguards against over-charge, over-discharge, over-current, short circuit, and low-temperature charging cutoff.
- **Precise Voltage Monitoring:** Monitors single battery series voltage within a 1V-5V range with a precision of $\pm 5\text{mV}$.
- **Coulomb Meter:** Provides clear indication of remaining battery power.
- **Bluetooth Communication:** Allows real-time battery status display and parameter adjustment via a mobile application.
- **Customizable CANBUS:** Available for specific system integrations.

2. SETUP AND INSTALLATION

2.1. Wiring Method

The JK BMS utilizes a common port wiring method for both charging and discharging. Ensure all connections are secure

and correctly aligned according to the provided wiring diagram.

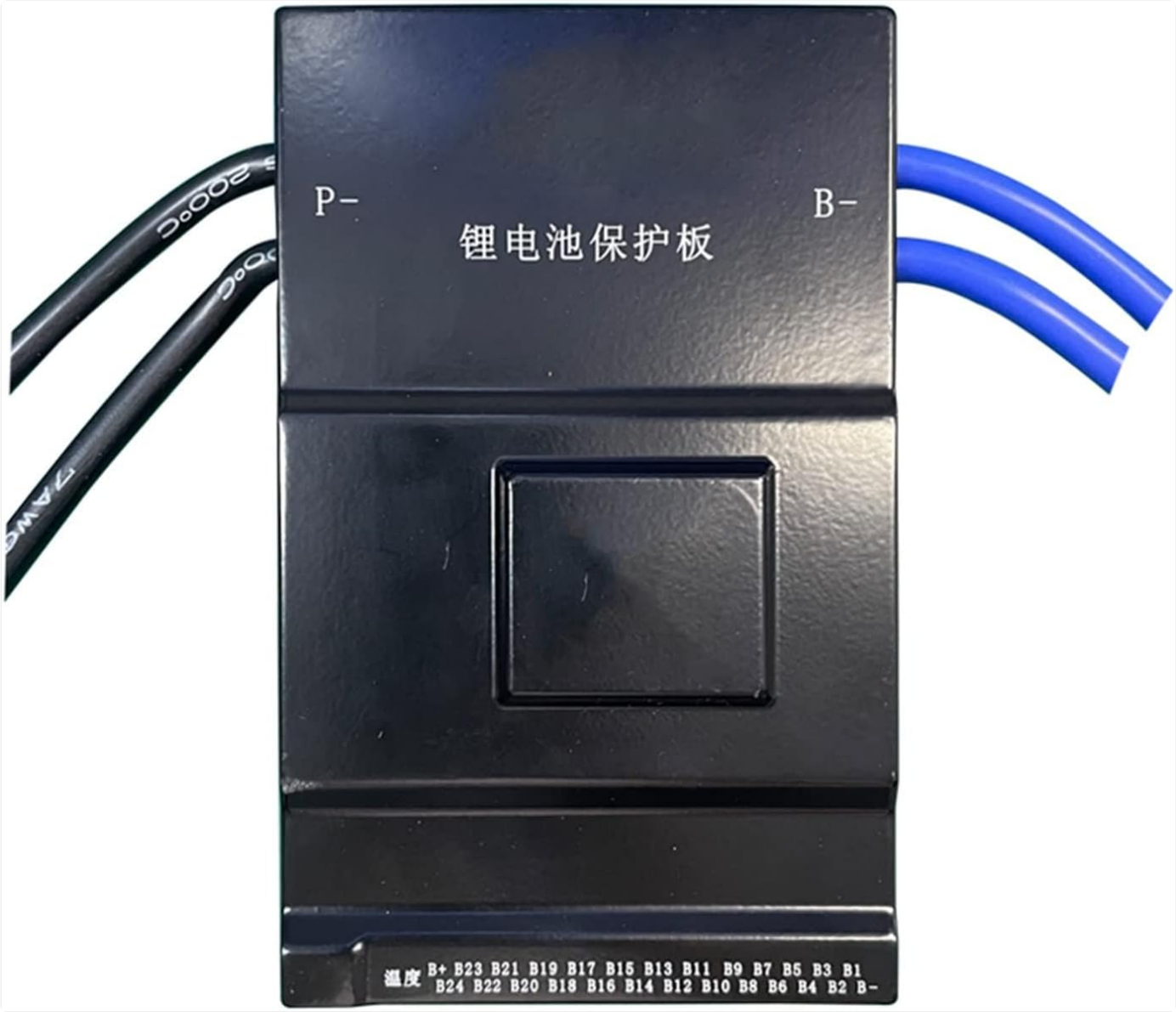


Figure 2: Front view of the JK BMS, showing the P- (discharge/charge negative) and B- (battery negative) terminals. Ensure correct polarity during connection.

2.2. Initial Activation

After connecting the BMS to your battery pack, it must be activated. To activate the BMS, apply a power supply that is at least 5V greater than the total battery voltage to the BMS's charging input. This initial activation is crucial for the BMS to begin monitoring and managing the battery pack.

2.3. App Connection

The JK BMS features a built-in Bluetooth module for connecting to its dedicated mobile application. Download the official JK BMS app from your device's app store. Once installed, open the app and follow the on-screen instructions to pair with your BMS. This connection enables real-time monitoring and configuration.

Supports 7S-24S Li-ion

Supporte BT APP /LCD display

Gift



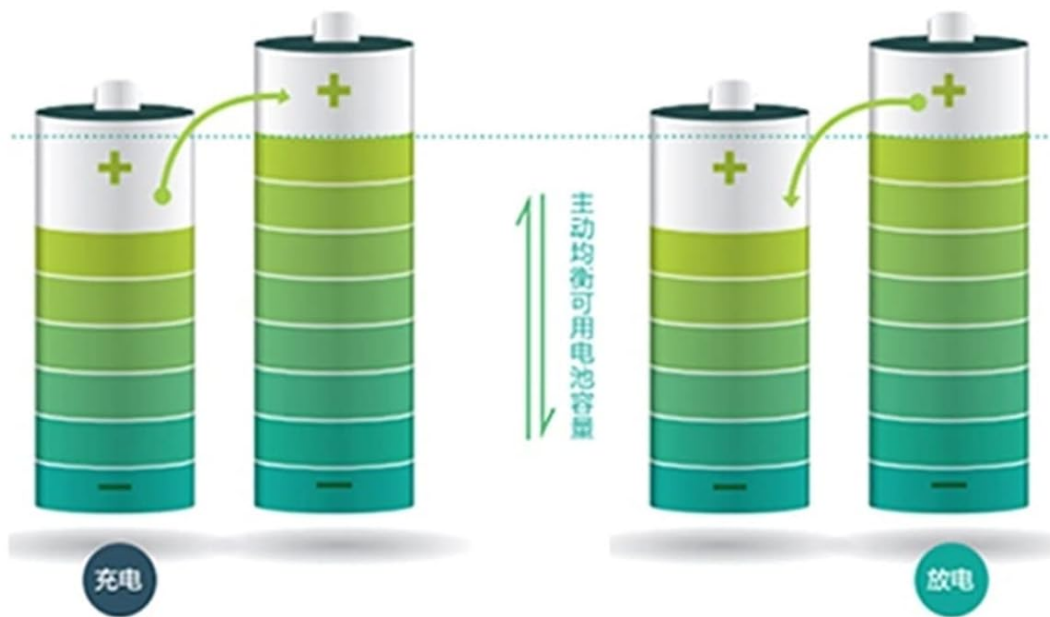
Figure 3: The JK BMS supports Bluetooth connectivity for app control and LCD display options, allowing users to monitor battery status conveniently.

3. OPERATION

3.1. Active Equalization

The active equalization feature continuously balances the voltage of individual battery cells. This process ensures that all cells maintain similar voltage levels, preventing overcharging or over-discharging of specific cells and thereby extending the overall lifespan and efficiency of the battery pack. The equalization current can be set to 1A or 2A.

Active equalization



BMS Size:160*102*20MM

Figure 4: Diagram illustrating the active equalization process, where energy is transferred between cells to maintain voltage balance during charge and discharge cycles.

3.2. App Control and Monitoring

The mobile application provides a comprehensive interface for monitoring and controlling the BMS. Through the app, users can:

- View real-time single series battery voltage.
- Monitor the remaining power via the coulomb meter.
- Set and adjust charge and discharge protection parameters.
- Configure equalization voltage settings.
- Access historical data and alerts.

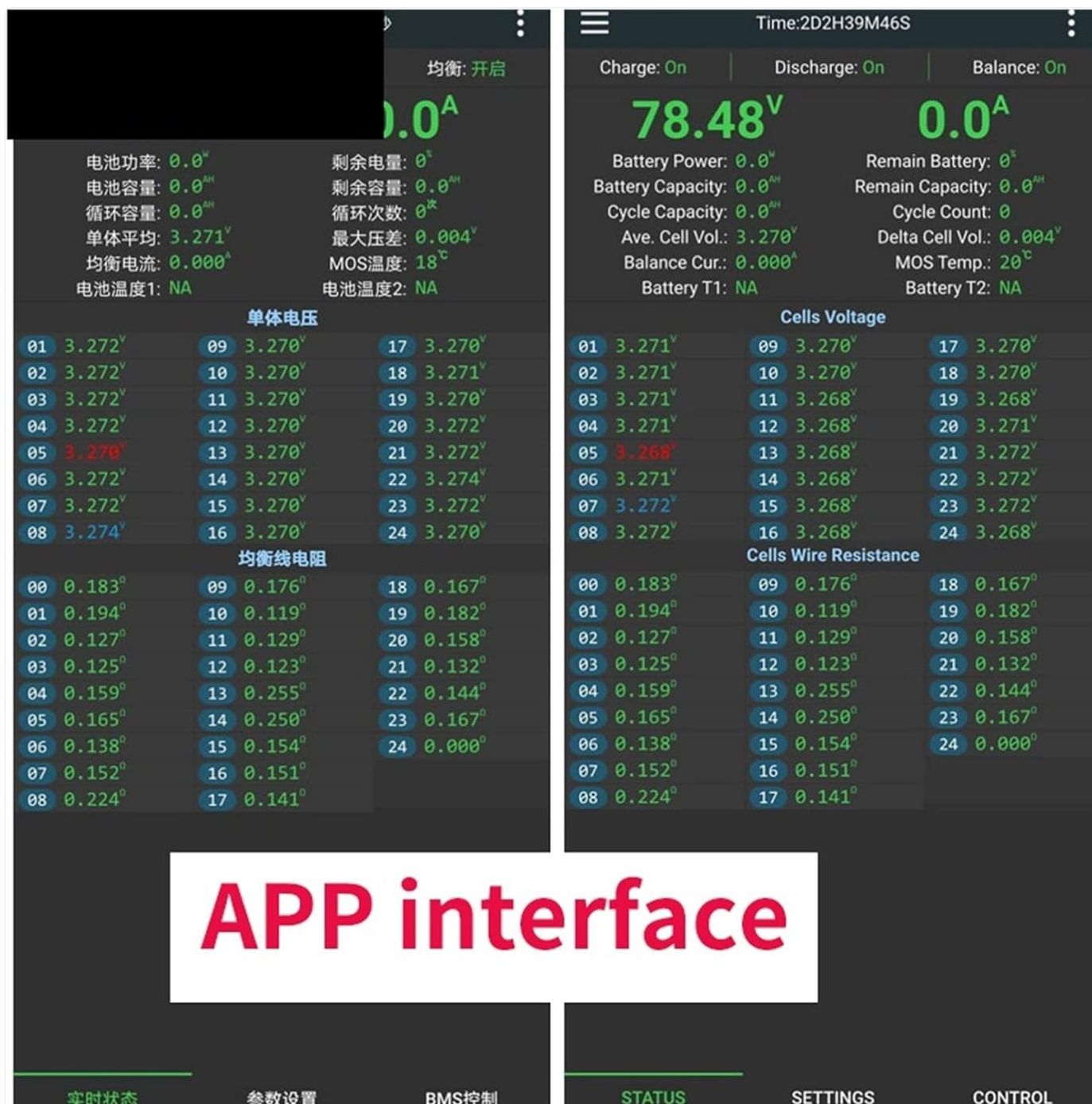


Figure 5: Screenshot of the JK BMS mobile application interface, displaying cell voltages, resistance, and overall battery status.

3.3. Protection Functions

The BMS is equipped with multiple protection mechanisms to ensure the safety and longevity of your battery pack:

- **Over-charge Protection:** Prevents cells from being charged beyond their safe voltage limit.
- **Over-discharge Protection:** Stops discharge when cells reach their minimum safe voltage, preventing damage.
- **Over-current Protection:** Disconnects the load if the discharge current exceeds a safe threshold.
- **Short Circuit Protection:** Immediately cuts off power in case of a short circuit.
- **Low Temperature Charging Cutoff:** Prevents charging at temperatures below safe limits for the battery chemistry.

4. MAINTENANCE

The JK BMS is designed for minimal maintenance. However, adhering to the following guidelines can help ensure its optimal performance and longevity:

- **Environmental Conditions:** Operate the BMS within the specified workable temperature range of -20°C to 70°C. Avoid exposure to extreme temperatures, high humidity, or corrosive environments.
- **Cleanliness:** Keep the BMS unit clean and free from dust and debris. Use a soft, dry cloth for cleaning. Do not use liquid cleaners.
- **Connection Integrity:** Periodically inspect all wiring connections to ensure they are secure and free from corrosion. Loose connections can lead to performance issues or safety hazards.
- **Software Updates:** Regularly check for and install any available firmware or application updates for the JK BMS app to ensure you have the latest features and bug fixes.

5. TROUBLESHOOTING

This section provides solutions to common issues you might encounter with your JK BMS.

Problem	Possible Cause	Solution
BMS not activating after connection.	Insufficient activation voltage; incorrect wiring.	Ensure the activation power supply is at least 5V greater than the battery voltage. Verify all wiring connections are correct.
Battery pack not charging/discharging.	Protection triggered (over-charge, over-discharge, over-current, short circuit); loose connections.	Check the BMS app for active protection alerts. Address the cause (e.g., reduce load, allow battery to recover). Inspect all power connections.
Cell voltages are unbalanced.	Active equalization not functioning or insufficient time for balancing.	Ensure active equalization is enabled in the app. Allow sufficient time for the BMS to balance cells, especially after significant charge/discharge cycles. Verify balance wire connections.
Cannot connect to BMS via Bluetooth app.	Bluetooth on device is off; app issues; BMS not powered.	Ensure Bluetooth is enabled on your smartphone. Restart the app and your phone. Confirm the BMS is powered on and activated. Try re-pairing the device.

6. TECHNICAL SPECIFICATIONS

Feature	Specification
Supported Battery Types	7S-24S Li-ion, 8S-24S LiFePo4
Continuous Discharge Current	150A
Maximum Discharge Current	300A
Active Equalization Current	1A / 2A (selectable)
Internal Resistance	0.8mΩ
Single Cell Voltage Range	1V - 5V
Voltage Acquisition Accuracy	±5mV

Feature	Specification
Overcurrent Protection (Adjustable)	10A - 150A
Wiring Method	Common Port
Operating Temperature	-20°C to 70°C
Power Requirement	24V - 100V (battery power or external supply)
Power Dissipation (In balance)	10mA @ 100V
Power Dissipation (No balance)	6mA @ 100V
Temperature Detection Points	3 PCS
Dimensions (Approximate)	160mm * 102mm * 20mm (from image)
Item Weight	2.2 pounds (approx. 1000 grams)

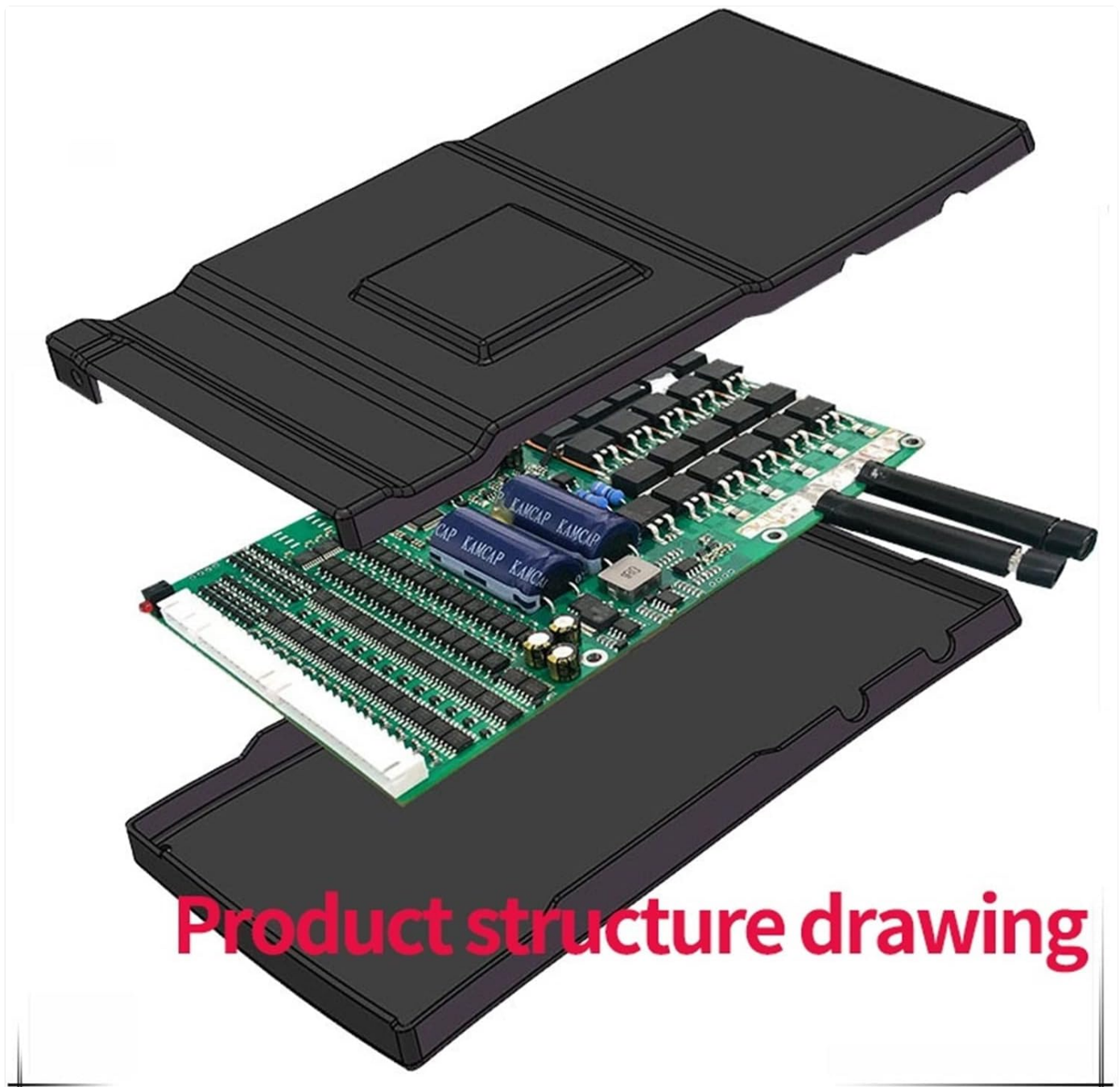


Figure 6: Exploded view illustrating the internal structure of the JK BMS, including the circuit board and casing.

7. WARRANTY AND SUPPORT

7.1. Return Policy

This product is subject to a 30-day return policy for refund or replacement, as per standard retail terms. Please refer to your purchase documentation for specific details regarding returns and exchanges.

7.2. Customer Support

For technical assistance, troubleshooting, or inquiries regarding your JK BMS, please contact the seller, HANLing Technology Company, through the platform where the purchase was made. Provide your order details and a clear description of the issue to facilitate prompt 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