LiPo Battery Balance Charger Board User Manual

AB15

Product Overview

This product is a multi-functional lithium battery balanced charging and discharging management board, supporting 2S to 8S Lithium Polymer (LiPo) and Lithium-ion (Li-ion) batteries. It features automatic cell count recognition, real-time voltage display, charge/discharge protection, and alarm prompts. It is suitable for the safe parallel charging and discharging management of multi-cell lithium batteries.

Technical Specifications

Charging Board Parameters

- Maximum Total Charging Current for Four Channels: 40A
- Maximum Charging Current per Channel: 15A
- Maximum Balancing Current: 2A
- Supported Battery Types: 2S~8S LiPo/Li-ion
- Maximum Number of Batteries Charged Simultaneously: 4
- Independent Fuse per Channel: 15A
- Balance Protection: 2A Self-Recovery Fuse
- Battery Interfaces: T-Plug, XT60
- Balance Short-Circuit Indication: Balance Abnormal LED Indicator
- Automatic Cell Count Recognition: Supported
- Charge Completion Alarm: Supported
- Real-Time Voltage Display: Supported

Discharging Board Parameters

- Discharge Cut-off Voltage: 3.8V per cell
- Supported Battery Types: 2S~8S LiPo/Li-ion
- Battery Interfaces: T-Plug, XT60
- Automatic Cell Count Recognition: Supported
- Discharge Completion Alarm: Supported
- Real-Time Voltage Display: Supported

Main Functions

1.Charging Function

- **Automatic Cell Count Recognition (2S~8S)**

  After power-on, automatically detects the battery cell count. The corresponding S-number indicator flashes, then stays on steadily after 10 seconds. If recognition is incorrect, briefly press the Set button to manually cycle through options (2~8).

- **Real-Time Voltage Display**

  Displays the battery voltage of the charging area in real-time via the digital tube.

- **Single Cell Voltage Setting**

  The charging cut-off voltage can be selected via the DIP switch: 4.2V or 4.35V.

- **Charge Completion Prompt**

When fully charged (reaches the set voltage) or when above 95% of the set voltage with no significant increase for 30 minutes, the LED flashes and the buzzer alarms (can be turned off).

2.Discharging Function

• **Automatic Cell Count Recognition (2S~8S)**

After power-on, automatically detects the battery cell count. The corresponding S-number indicator flashes, then stays on steadily after 10 seconds. If recognition is incorrect, briefly press the Set button to manually cycle through options (2~8).

• **Real-Time Voltage Display**

The digital tube displays the voltage of the discharging area.

• **Discharge Cut-off Voltage**

Automatically stops discharging when the single-cell voltage drops below 3.8V. The LED flashes and the buzzer alarms (can be turned off).

3.Charge/Discharge Mutual Exclusion Protection

Charging and discharging functions cannot be used simultaneously. If both are connected, the system will stop discharging, continue charging, activate a flowing LED light pattern and buzzer alarm (can be turned off). It will automatically resume after one side is removed.

4.Buzzer Prompts

The buzzer function can be enabled or disabled via the DIP switch: ON - Enabled, OFF - Disabled. When the buzzer is enabled, it will sound under the following conditions:

Simultaneous Charge/Discharge Use: Beeps every 0.5 seconds.

Charge Completion: Beeps every 1 second.

Discharge Completion: Beeps every 1 second.

The alarm continues until the battery is removed or the condition is resolved.

Usage Precautions

1.Connection Sequence

Connect the main output wires (T-connector/XT60) first, then connect the balance lead. The initial voltage difference between each cell of the battery should be less than 0.1V to avoid fuse damage.

2.Battery Matching Requirements

Only batteries with the same number of cells and the same capacity should be charged on the parallel charging board.

3.Input Power Check

Before use, confirm that the input voltage range and polarity are correct. Damage caused by incorrect operation is not covered under warranty.

4.Electrostatic Discharge (ESD) Protection

Take appropriate anti-static measures during operation.

5.Function Conflict Handling

If charging and discharging functions are activated simultaneously, the system will prioritize charging, pause the discharging function, and sound an alarm.

Troubleshooting

Symptom: Buzzer sounds continuously.
Possible Cause: Charging and discharging are occurring simultaneously, or charging/discharging is in a completed state.
Handling Method: Remove the conflicting module or battery.

Symptom: Fuse blown.
Possible Cause: Excessive voltage difference or short circuit.
Handling Method: Replace the fuse and check the battery voltage.

Contact and Support

For technical support, contact: Autoro.service@hotmail.com
Website: https://www.autorotech.com