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DALY 16S Active Balancer 5A

DALY 16S 5A Active Balancer User Manual

Model: 16S 5A Active Balancer

1. Introduction

1.1 Product Overview

The DALY 16S 5A Active Balancer is designed to equalize the voltage of individual cells within a battery pack, ensuring optimal performance and extending battery life. This device is compatible with LiFePO4 and Li-ion battery types, supporting configurations from 3S to 16S. It features a high equalization current of up to 5A, utilizing energy transfer technology for efficient and safe balancing. The robust design includes waterproof, dustproof, and impact-resistant housing, making it suitable for various applications.



Figure 1: DALY 16S 5A Active Balancer with a battery pack, illustrating the balancing process.

1.2 Safety Instructions

- Always disconnect the battery pack from any power source before installation or maintenance.
- Ensure correct polarity when connecting the balancer to the battery cells. Incorrect wiring can cause damage to the balancer and the battery.
- Do not short-circuit the balancer terminals.
- Handle battery packs with care. Lithium batteries can be dangerous if mishandled.
- Install the balancer in a well-ventilated area, away from flammable materials.
- If any damage is observed on the balancer or its cables, do not use the product.
- Keep out of reach of children.

2. Product Features

- **Battery Compatibility:** Suitable for LiFePO4 and Li-ion battery types.
- **Robust Design:** Dustproof, shockproof, and waterproof housing for durability in various environments.
- **Capacitive Equalization:** Utilizes high-quality capacitors for energy transfer equalization.
- **High Equalization Efficiency:** Up to 5A active balancing current (up to 6A under certain conditions) for rapid voltage difference correction.
- **Low Energy Consumption:** Energy transfer equalization results in less heat generation and high security.
- **24-Hour Equalization:** Automatic balancing during charging, discharging, or sleeping states to maintain cell voltage consistency.

- **Easy Installation:** Features screw holes for secure mounting and snap-type wiring with anti-misoperation design to prevent short circuits from incorrect connections.

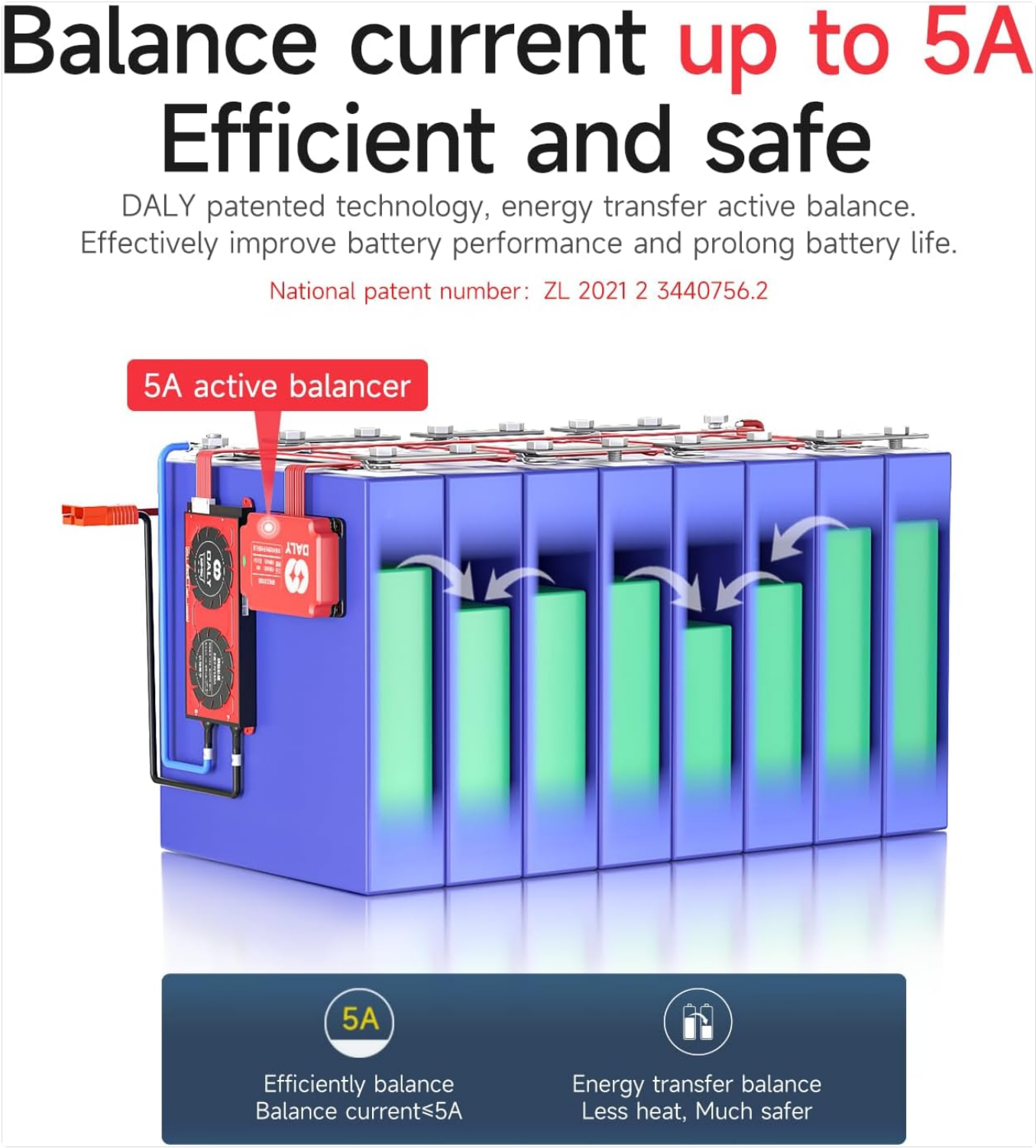

Figure 2: Illustration of the DALY active balancer's efficient energy transfer balancing at up to 5A.

3. Package Contents

Please check the package contents upon arrival. If any items are missing or damaged, contact customer support.

- 1 x DALY 5A Active Balancer
- 1 x Connection Cable
- 1 x User Manual



Figure 3: Contents included in the DALY 5A Active Balancer package.

4. Setup and Installation

1. **Prepare the Battery Pack:** Ensure your battery pack is disconnected from any charging or discharging loads. Verify that all individual cell voltages are within a safe operating range.
2. **Mount the Balancer:** Use the integrated screw holes on the balancer to securely mount it near your battery pack. Ensure it is in a location that allows for proper cable routing and ventilation.
3. **Connect the Wiring Harness:** The balancer comes with a snap-type wiring harness. Connect the harness to the corresponding port on the balancer. The anti-misoperation design helps prevent incorrect connections.

4. **Connect to Battery Cells:** Carefully connect each wire from the harness to its respective battery cell terminal. Ensure that the wires are connected in the correct sequence (B0, B1, B2... up to B16 for a 16S system), starting from the negative terminal of the first cell (B0) and progressing to the positive terminal of the last cell (B16). Refer to the wiring diagram provided in the manual or on the product for exact pin assignments.
5. **Verify Connections:** Double-check all connections to ensure they are secure and correctly wired. Incorrect wiring can lead to damage.
6. **Initial Operation:** Once all connections are verified, the balancer will begin its operation automatically. There is no external communication interface for this model.

Note: The balancer is designed for 3S-16S configurations. Ensure your battery pack matches the balancer's specifications.

5. Operating Instructions

The DALY Active Balancer operates automatically once correctly installed. It continuously monitors the voltage of each cell in the battery pack and initiates balancing when voltage differences are detected.

- **Automatic Equalization:** The balancer automatically equalizes cell voltages whether the battery is in a charging, discharging, or sleeping state. This ensures continuous cell health.
- **24-Hour Operation:** The device provides 24-hour monitoring and balancing, actively working to minimize voltage discrepancies across cells.
- **Balancing Start Condition:** Balancing begins when the 1st string single voltage is ≥ 3.1 ± 0.1V.
- **Balancing Stop Condition:** Balancing stops when the 1st string single voltage is ≤ 3.0 ± 0.1V.
- **No Communication:** This model operates independently and does not feature external communication capabilities (e.g., Bluetooth, RS485).

▶ **Watch video online**
5A Active Balancer

Video 1: An overview of the DALY 5A Active Balancer's features and operation, demonstrating its balancing capabilities.

6. Maintenance

- **Regular Inspection:** Periodically inspect the balancer and its connections for any signs of damage, corrosion, or loose wiring.
- **Cleaning:** Keep the balancer clean and free from dust and debris. Use a dry, soft cloth for cleaning. Do not use solvents or abrasive cleaners.
- **Environmental Conditions:** Ensure the balancer operates within its specified temperature and humidity ranges. Although it is waterproof and dustproof, avoid prolonged exposure to extreme conditions.

7. Troubleshooting

If you encounter issues with your DALY Active Balancer, consider the following:

- **Balancer Not Operating:**
  - Check all wiring connections to ensure they are secure and correctly installed.
  - Verify that the battery pack voltage is within the operating range for the balancer (e.g., individual cell voltages are above the balancing start condition).
  - Ensure the balancer is compatible with your battery cell count (e.g., 16S balancer for a 16-cell pack).

- **Uneven Cell Voltages Persist:**
    - Confirm that the battery cells themselves are healthy and not severely degraded. A balancer cannot fix fundamentally faulty cells.
    - Allow sufficient time for the balancer to work, especially if the initial voltage difference is significant.
    - Ensure the balancer is receiving power from the battery pack.
- **Physical Damage:** If the balancer shows any signs of physical damage, discontinue use and contact customer support.

For persistent issues, please refer to the support section.

8. Specifications

Product specification



	5A Hardware active balancer
Battery Type	Li-ion/LiFePO4
Battery Strings	3~16S
Balance Current	≤5A
Active balancing start condition	1st string single voltage ≥ 3.1±0.1V
Active balancing stop condition	1st string single voltage ≤ 3.0±0.1V
Dimensions (L*W*D)	97*65*21mm（3~8S） 163*65*21mm（9~16S）

Figure 4: Detailed product specifications for the DALY 5A Active Balancer.

Feature	Specification
Battery Type	Li-ion / LiFePO4
Battery Strings	3-16S
Balance Current	≤ 5A
Active Balancing Start Condition	1st string single voltage ≥ 3.1 ± 0.1V

Feature	Specification
Active Balancing Stop Condition	1st string single voltage ≤ 3.0 ± 0.1V
Product Dimensions (L*W*D)	97*65*21mm (3-8S) / 163*65*21mm (9-16S)
Item Weight	10.2 ounces (approx. 289g)
Product Dimensions	6.42 x 2.56 x 0.83 inches (163 x 65 x 21 mm)
Model Number	d3f791df-12c5-4ddb-9a30-dc746df347cb
Manufacturer	Dongguan Daly Electronics Co., Ltd



Figure 5: Common applications for the DALY Active Balancer, including RV energy storage, low-speed vehicles, and energy storage cabinets.

9. Warranty and Support

DALY products are manufactured to high-quality standards. If you have any questions or encounter issues with your DALY 16S 5A Active Balancer, please contact our customer support team. We are committed to providing a perfect solution.
For support, please refer to the contact information provided with your purchase or visit the official DALY website.

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