

DEWIN IRDCYRCIC-GS109706

DEWIN 24V Solar Battery Equalizer User Manual

Model: IRDCYRCIC-GS109706

1. INTRODUCTION

Thank you for choosing the DEWIN 24V Solar Battery Equalizer. This device is designed to maintain the charge and discharge balance between series-connected batteries, significantly extending their lifespan and improving system efficiency. It features an intelligent voltage compensation system, real-time voltage display, and broad compatibility with various battery types.

This manual provides essential information for the safe and effective installation, operation, and maintenance of your battery equalizer. Please read it thoroughly before use.

Battery Equalizer

The battery equalizer is used to maintain the charge and discharge balance between the cells in the battery pack.



Figure 1: DEWIN 24V Solar Battery Equalizer (Barcode: 23072811089)

2. SAFETY INSTRUCTIONS

- Always disconnect power before installation or maintenance.
- Ensure correct polarity when connecting the equalizer to batteries. Incorrect connections can damage the device and batteries.
- Do not expose the device to extreme temperatures or direct sunlight for prolonged periods.
- Keep the device away from flammable materials and liquids.
- Do not attempt to open or repair the device yourself. Contact qualified personnel for service.
- Ensure adequate ventilation around the device during operation.
- This device is designed for 24V battery systems. Do not use it with other voltage systems.

3. PRODUCT OVERVIEW

The DEWIN 24V Solar Battery Equalizer is a compact and robust device designed for efficient battery management.

3.1 Key Features

- **Intelligent Voltage Compensation:** Maintains charge and discharge balance between series-connected batteries.
- **Automatic Shutdown:** Automatically powers off when battery voltage is insufficient, protecting batteries.
- **Real-time LED Display:** Shows individual battery voltages for monitoring.
- **Wide Battery Compatibility:** Suitable for lead-acid, lithium, nickel-metal hydride, and lithium iron phosphate batteries.
- **Broad Application:** Ideal for solar power systems, automotive, marine, and other 24V battery configurations.
- **IP67 Protection Level:** Made of PCB plastic, highly flame retardant and impact resistant, offering excellent protection against dust and water.

24V Battery Equalizer



Extended service life



Reduce battery replacement



Maintain battery balance



Insulating device

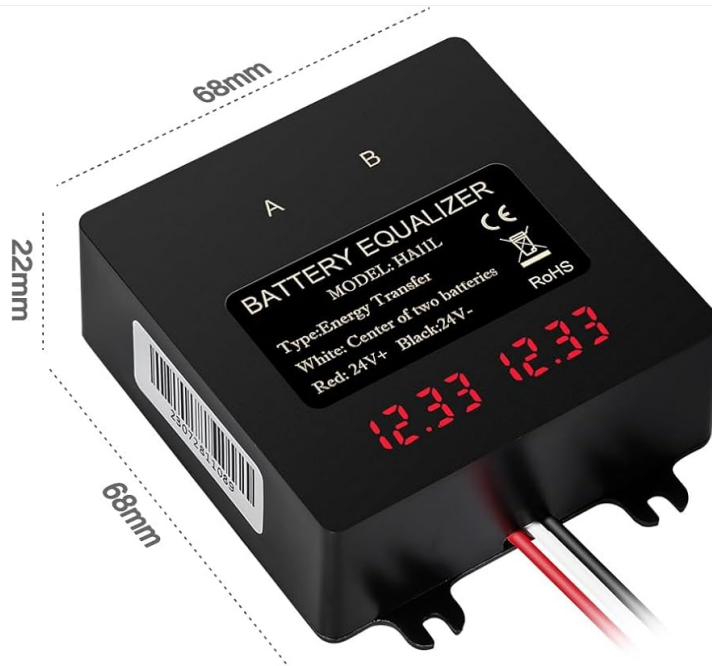


Seal design



Figure 2: Key features of the Battery Equalizer

3.2 Dimensions



Material: PCB

Protection: Reverse polarity protection

Battery standard voltage: 2 × 12V

Undervoltage standard value: 10V

Compensation current: 0–5A

Protection level: IP67

Standby current: <3mA

Connector: Terminal

Figure 3: Product Dimensions (Approx. 68mm x 68mm x 22mm)

3.3 IP67 Protection

The equalizer boasts an IP67 protection level, indicating it is dust-tight and protected against immersion in water up to 1 meter for 30 minutes. This makes it suitable for various environments.

IP67 Protection level

Made of PCB plastic, highly flame retardant and impact resistant
not easily broken or damaged



Figure 4: IP67 Protection Level

4. SETUP AND INSTALLATION

Follow these steps carefully to install the DEWIN 24V Solar Battery Equalizer.

4.1 Wiring Diagram

The equalizer is designed for 24V battery banks, typically consisting of two 12V batteries or four 6V batteries connected in series.

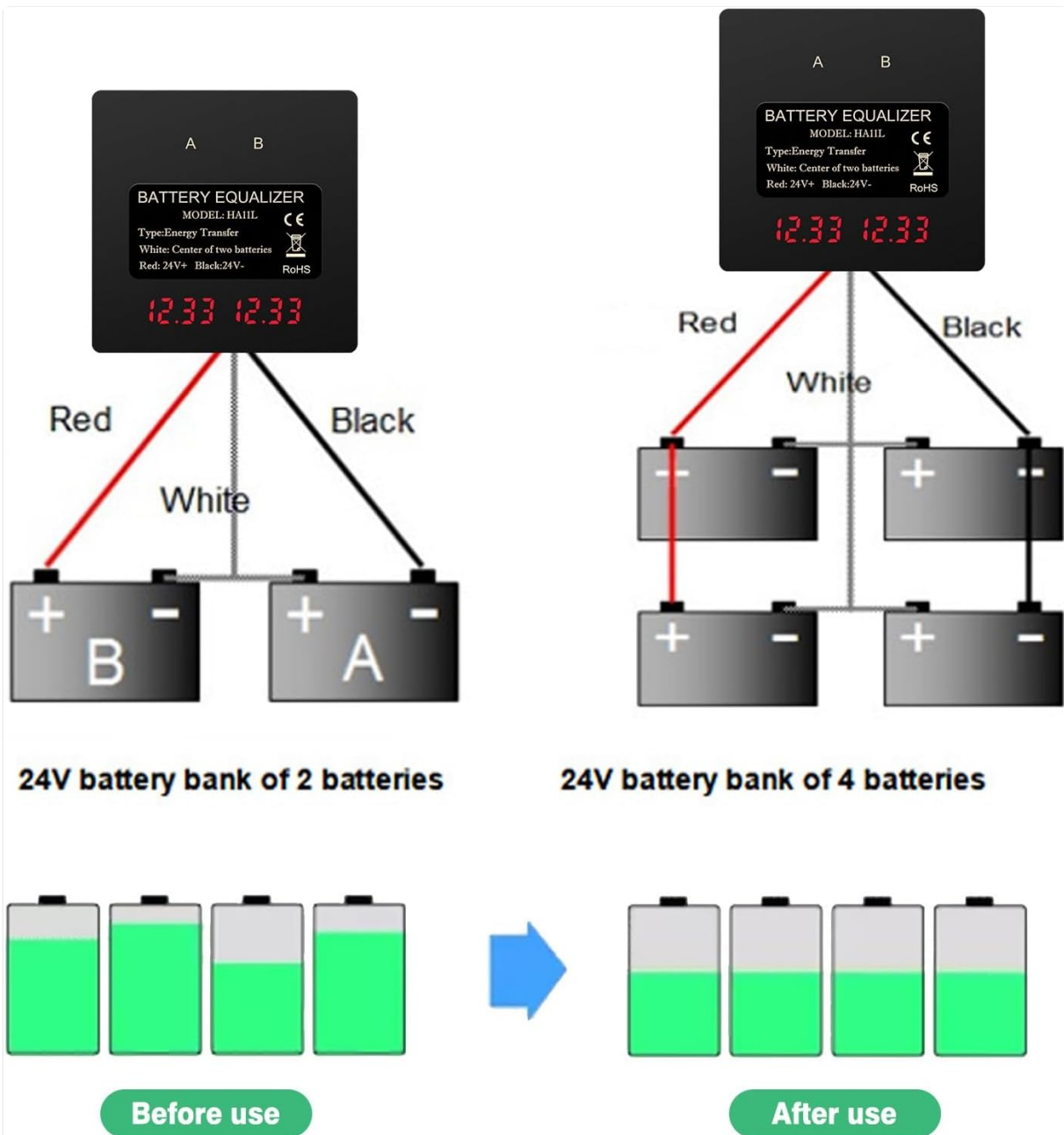


Figure 5: Wiring Diagrams for 24V Battery Banks

4.2 Connection Steps

1. **Identify Battery Terminals:** Locate the positive (+) and negative (-) terminals of your series-connected batteries.
2. **Connect Red Wire:** Connect the **Red** wire of the equalizer to the positive (+) terminal of the 24V battery bank (or the positive terminal of battery 'A' in a two-battery setup).
3. **Connect Black Wire:** Connect the **Black** wire of the equalizer to the negative (-) terminal of the 24V battery bank (or the negative terminal of battery 'B' in a two-battery setup).
4. **Connect White Wire (Center Tap):** Connect the **White** wire of the equalizer to the connection point between the two series-connected 12V batteries (the positive terminal of battery 'B' and the negative terminal of battery 'A'). For a four-battery setup, connect the white wire to the center point of the 24V series.
5. **Verify Connections:** Double-check all connections for correct polarity and secure fastening.
6. **Power On:** Once connected, the digital LED display will light up, showing the real-time voltage of each battery. The display will automatically turn off after approximately two minutes, accompanied by an audible sound, to conserve power.

Note: The digital screen has a hidden design and only lights up when the battery is connected. It will not display when the battery is not connected.

5. OPERATING INSTRUCTIONS

The DEWIN 24V Solar Battery Equalizer operates automatically once correctly installed.

- **Automatic Balancing:** The equalizer continuously monitors the voltage of individual batteries in the series. If a voltage difference is detected, it will automatically transfer current (up to 5A) between batteries to balance their charge levels.
- **Real-time Monitoring:** The LED display provides real-time voltage readings. This allows you to quickly assess the state of charge for each battery. The display will activate upon connection and then turn off to save power.
- **Low Voltage Protection:** The intelligent system will automatically shut down if the overall battery voltage drops below the standard undervoltage value (10V per 12V battery), preventing over-discharge and extending battery life.



Figure 6: Real-time Voltage Display

6. MAINTENANCE

The DEWIN 24V Solar Battery Equalizer requires minimal maintenance.

- **Regular Inspection:** Periodically check all wiring connections to ensure they are secure and free from corrosion.
- **Cleaning:** Keep the device clean and free from dust and debris. Use a soft, dry cloth for cleaning. Do not use harsh chemicals or abrasive cleaners.
- **Environmental Conditions:** Ensure the operating environment remains within the recommended temperature and humidity ranges.
- **Battery Health:** Regularly monitor the overall health of your battery bank. While the equalizer helps maintain balance, it cannot fix severely damaged or aged batteries.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
LED display does not light up.	<ul style="list-style-type: none">◦ Incorrect wiring.◦ Battery voltage too low.◦ Loose connections.	<ul style="list-style-type: none">◦ Check all wiring for correct polarity and secure connections. Refer to Section 4.2.◦ Ensure battery voltage is above the undervoltage threshold (10V per 12V battery).◦ Tighten all terminal connections.

Problem	Possible Cause	Solution
Batteries remain unbalanced.	<ul style="list-style-type: none"> Significant initial voltage difference. One or more batteries are faulty. Equalizer current capacity exceeded. 	<ul style="list-style-type: none"> Allow more time for the equalizer to work, especially if the initial difference is large. Test individual batteries for health and replace faulty ones. Ensure the equalizer is suitable for your battery bank size and current requirements.
Device feels warm during operation.	<ul style="list-style-type: none"> Normal operation during balancing. Insufficient ventilation. 	<ul style="list-style-type: none"> A slight warmth is normal. Ensure the device is not covered and has adequate airflow.

8. SPECIFICATIONS

Feature	Value
Brand	DEWIN
Model Number	IRDCYRCIC-GS109706
Material	Printed Circuit Board (PCB)
Standard Battery Voltage	2 x 12V (for 24V systems)
Compensation Current	0-5A
Standby Current	<3mA
Protection	Reverse Polarity Protection
Standard Undervoltage Value	10V (per 12V battery)
Protection Level	IP67
Connector Type	Terminal
Dimensions	Approx. 7 x 7 x 2.7 cm
Weight	Approx. 180g

24V

Battery Equalizer



Extended service life



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Maintain battery balance



Insulating device



Seal design



Figure 7: Product Features and Specifications Summary

9. WARRANTY AND SUPPORT

For warranty information or technical support, please refer to the purchase platform or contact DEWIN customer service directly. Keep your purchase receipt as proof of purchase.

