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DWEII 18650 Lithium Battery Capacity Tester Module

DWEII 18650 Lithium Battery Capacity Tester Module (4 Channel) User Manual

Model: 18650 Lithium Battery Capacity Tester Module

Introduction

This manual provides comprehensive instructions for the DWEII 18650 Lithium Battery Capacity Tester Module. This device is designed to accurately measure the capacity, internal resistance, voltage, and current of 18650 lithium-ion batteries. It features four independent channels, allowing for simultaneous testing of multiple batteries. Please read this manual thoroughly before operating the device to ensure proper usage and to maximize its lifespan.

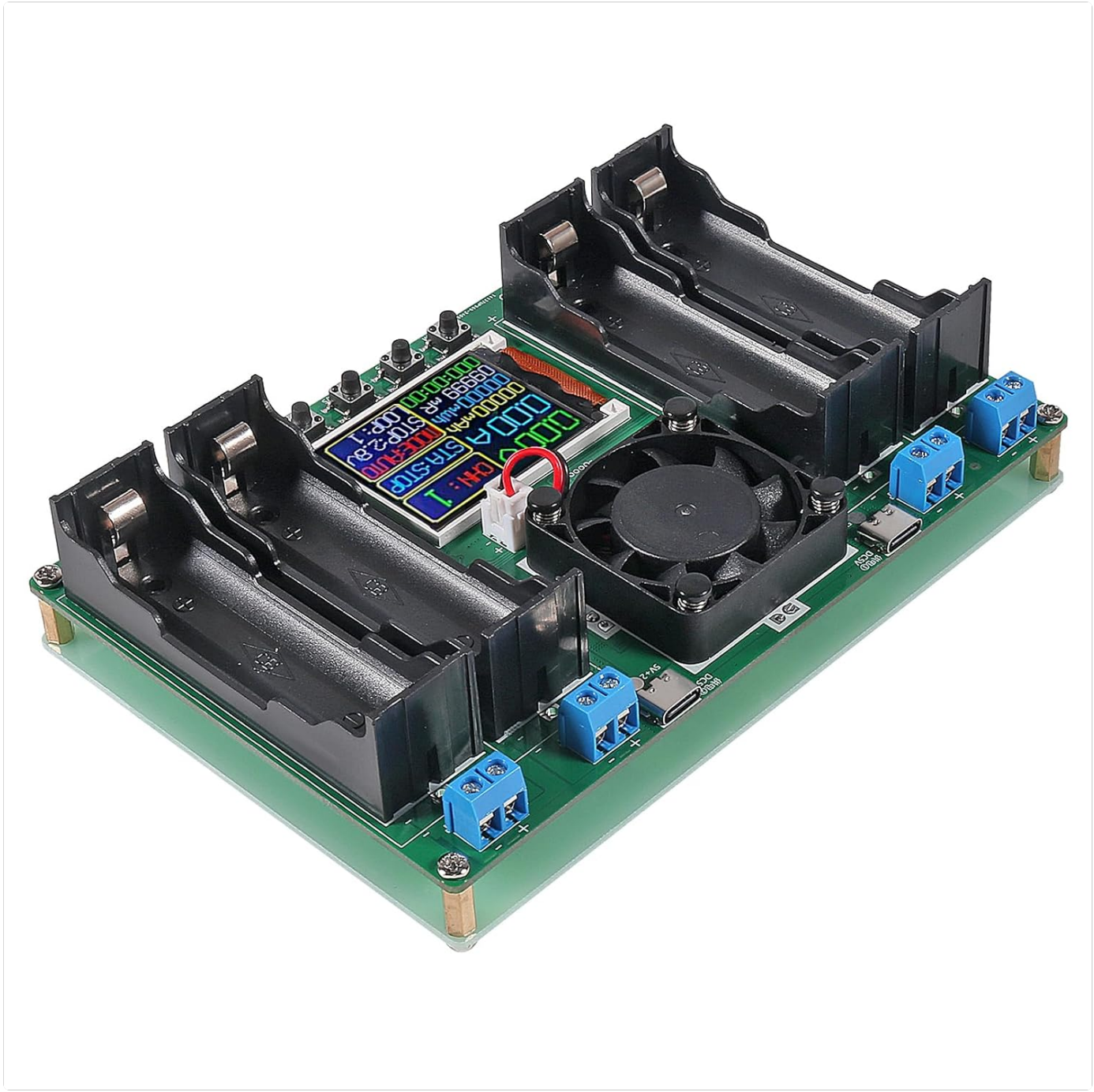


Figure 1: DWEII 18650 Lithium Battery Capacity Tester Module (Overall View)

This image displays the DWEII 18650 Lithium Battery Capacity Tester Module from an angled perspective, showcasing its four battery slots, central cooling fan, LCD display, and control buttons. The green circuit board is visible, along with Type-C power ports and screw terminals.

Safety Information

- Ensure the working voltage is DC5V. Using incorrect voltage may damage the device.
- Only use with applicable 18650 lithium-ion batteries that meet the specified voltage range (2.5-3.5V discharge stop, 2.8V start, 4.2V full charge).
- Do not use Power Delivery (PD) chargers, as they may be incompatible and cause malfunction. Use standard 5V phone chargers.
- Avoid short-circuiting battery terminals.
- Keep the device away from moisture and extreme temperatures.
- Do not attempt to disassemble or modify the device.

Product Components

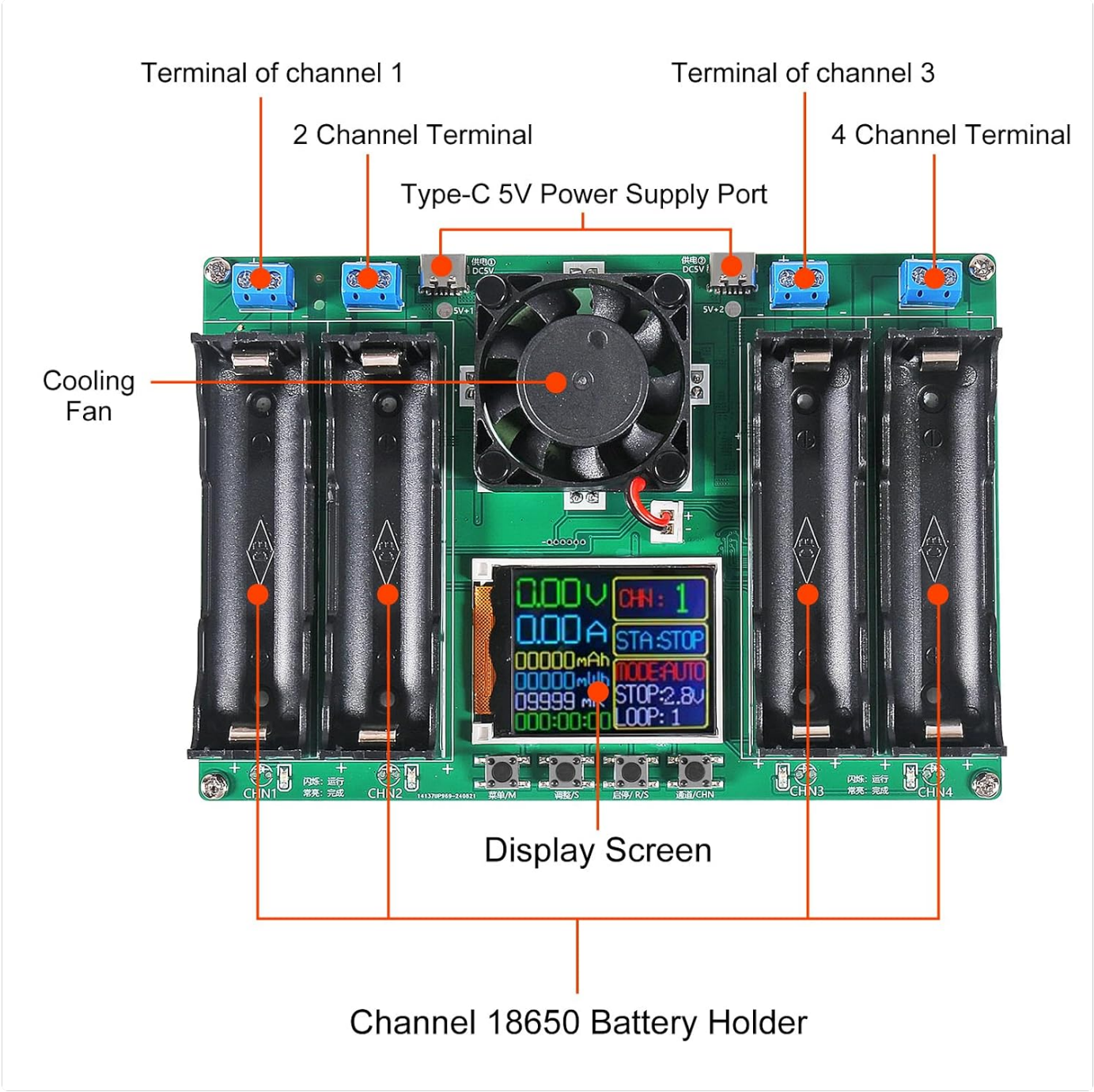


Figure 2: Key Components and Ports

This diagram highlights the main components of the battery tester. It shows the four 18650 battery holders, the central cooling fan, the LCD display, and the Type-C 5V power supply ports. Additionally, it points out the screw terminals for external connections for channels 1, 2, 3, and 4.

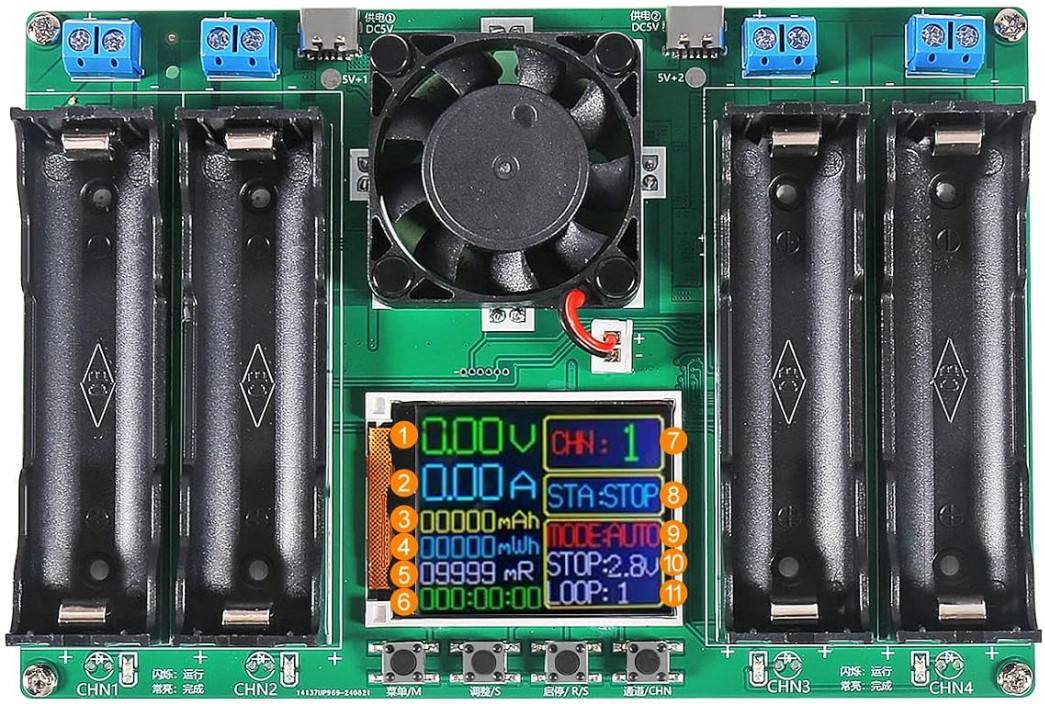
1. **Channel 18650 Battery Holders:** Slots for inserting 18650 batteries for testing.
2. **Type-C 5V Power Supply Ports:** Two ports for providing DC5V power to the device. Each port powers two channels (left port for channels 1 & 2, right port for channels 3 & 4).
3. **Cooling Fan:** Located centrally to dissipate heat during discharge operations.
4. **Display Screen:** LCD screen showing real-time test data and settings.
5. **Control Buttons:** Buttons for navigating menus and controlling test operations.
6. **Screw Terminals:** External connection points for each channel, allowing for more flexible battery connections if needed.

Setup Instructions

1. **Power Connection:** Connect one or two Type-C 5V power cables to the device.
    - The left Type-C port powers channels 1 and 2.
    - The right Type-C port powers channels 3 and 4.
    - For full functionality across all four channels, both Type-C ports should be powered.
    - Use standard 5V USB chargers (e.g., phone chargers). Avoid high-wattage Power Delivery (PD) chargers as they may not be compatible.
2. **Language Setting (Chinese/English):** If the device boots up in Chinese, you can switch the language.
    - Unplug the Type-C power cable(s).
    - Press and hold the **"M"** button (Menu button).
    - While holding the **"M"** button, plug in the Type-C power cable.
    - The language on the display will switch. Repeat this process if necessary until the desired language (English) is displayed.
3. **Battery Insertion:** Insert 18650 lithium-ion batteries into the designated battery holders. Ensure correct polarity (+ and -). The device supports both button-top and flat-top 18650 cells.

Operating Instructions

Control Buttons



1. Real-time voltage
2. Real-time current
3. Cumulative capacity
4. Accumulated energy
5. battery internal resistance
6. Cumulative running time -hhh:mm:ss (hour: minute: second)
7. Channel indication
8. Status indication
9. Working mode menu
10. Stop discharging low voltage
11. Number of cycles

Figure 3: Control Buttons and Indicators

This image provides a detailed view of the control buttons and status indicators on the DWEII 18650 Battery Capacity Tester. It labels the Menu/M button, Adjust/S button, Start/R/S button, and Channel/CHN button, along with the status indicators for each of the four channels.

- **CHN (Channel) Button:** Cycles through the four test channels (CHN1, CHN2, CHN3, CHN4) on the display.
- **M (Menu) Button:** Cycles between adjustable settings: Mode (CHG/DSG/AUTO), Stop Voltage, and Loop Count.
- **S (Adjust) Button:** Changes the value of the currently selected setting (e.g., switches between CHG, DSG, AUTO modes; adjusts stop voltage; sets loop count).
- **R/S (Run/Stop) Button:** Starts or stops the current test operation for the selected channel.

Display Screen Information

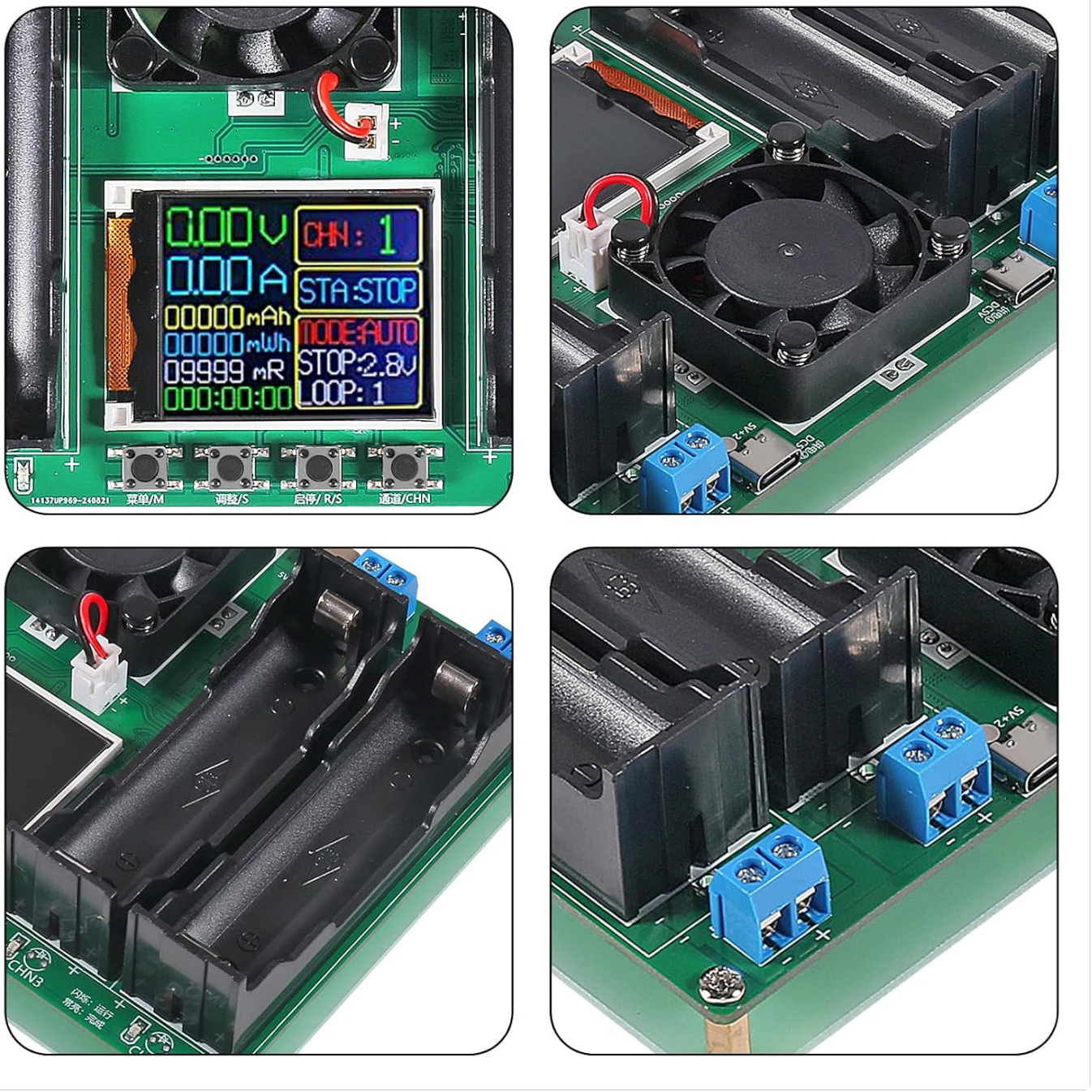


Figure 4: Display Screen Details

This image provides a close-up view of the LCD display, with numbered labels indicating the various data points shown. These include real-time voltage, current, cumulative capacity (mAh), accumulated energy (mWh), battery internal resistance, cumulative running time, channel indication, status indication, working mode menu, stop discharging low voltage, and number of cycles.

1. Real-time voltage
2. Real-time current
3. Cumulative capacity (mAh)
4. Accumulated energy (mWh)
5. Battery internal resistance (for reference only)
6. Cumulative running time (hhh:mm:ss)
7. Channel indication (e.g., CHN 1)
8. Status indication (e.g., STOP)
9. Working mode menu (CHG, DSG, AUTO)
10. Stop discharging low voltage setting
11. Number of cycles (for AUTO mode)

Test Modes

The device offers three main operating modes: Charge (CHG), Discharge (DSG), and Automatic (AUTO).

- **Charge (CHG) Mode:**
  - Charges the inserted battery to its full voltage (typically 4.2V for 18650 lithium-ion).
  - Automatically stops charging when the battery is full.
  - *Note: Does not support charging of Lithium Iron Phosphate (LiFePO4) batteries.*
- **Discharge (DSG) Mode:**
  - Discharges the battery to the set stop voltage (default is 2.8V, adjustable).
  - Measures the capacity (mAh) and energy (mWh) discharged.
  - The discharge current is not adjustable and typically starts at 1 Amp, tapering down as voltage drops.
  - Automatically stops when the set stop voltage is reached.
- **Automatic (AUTO) Mode:**
  - Performs a full charge-discharge-charge cycle (or discharge-charge-discharge depending on initial battery state).
  - Ideal for determining the true capacity of a battery.
  - Supports adjustable cycle counts from 1 to 9.
  - The device will charge the battery to full, then discharge it to the set stop voltage, recording the discharged capacity, and finally charge it back to full.

Performing a Test

1. **Select Channel:** Press the **CHN** button to select the desired channel (1-4) for operation. The display will show the selected channel.
2. **Set Mode:** Press the **M** button to cycle to the "MODE" setting. Use the **S** button to select your desired mode (CHG, DSG, or AUTO).
3. **Adjust Settings (if applicable):**
   - If in DSG or AUTO mode, press **M** again to cycle to "STOP" voltage setting. Use **S** to adjust the discharge stop voltage (e.g., 2.8V, 3.0V).
   - If in AUTO mode, press **M** again to cycle to "LOOP" setting. Use **S** to set the number of cycles (1-9).
4. **Start Test:** Once settings are configured, press the **R/S** button to start the test. The display will show real-time data.
5. **Monitor Progress:** Observe the display for real-time voltage, current, capacity, energy, and time. The status indicator will show "RUN" during operation and "STOP" when complete.
6. **Stop Test:** To manually stop a test at any time, press the **R/S** button again.
7. **View Results:** After a discharge or auto cycle, the cumulative capacity (mAh) and energy (mWh) will remain displayed until a new cycle is started or the device is reset.

Maintenance

- **Cleaning:** Use a dry, soft cloth to clean the device. Do not use liquids or abrasive cleaners.
- **Storage:** Store the device in a cool, dry place away from direct sunlight and extreme temperatures.
- **Cooling Fan:** Ensure the cooling fan is free from obstructions to maintain proper airflow during operation.
- **Battery Holders:** Periodically check battery holders for any debris or corrosion that might affect contact.

Troubleshooting

Problem	Possible Cause	Solution
Device does not power on.	No power connected or faulty Type-C cable/charger.	Ensure Type-C power cables are securely connected. Try a different Type-C cable and a standard 5V USB charger. Avoid Power Delivery (PD) chargers.
Display shows Chinese characters.	Default language setting.	Unplug power, hold the **"M"** button, then plug in power. Repeat until English is displayed.
Only two channels are working.	Only one Type-C power port is connected.	Connect both Type-C power cables for full 4-channel operation. The left port powers channels 1 & 2, the right port powers channels 3 & 4.
Test results seem inaccurate.	Measurement error, incorrect battery type, or poor contact.	Note that internal resistance measurement is for reference only (approx. 10% error). Ensure batteries are 18650 lithium-ion. Check for clean contacts in battery holders.
Battery not charging in CHG mode.	Battery type not supported (e.g., LiFePO4) or battery already full.	This device does not support LiFePO4 batteries. Verify the battery is not already at full charge.

Specifications

Working Voltage	DC5V
Detection Voltage	≤ DC5V
Applicable Batteries	18650 Lithium-ion (2.5-3.5V discharge stop, 2.8V start, 4.2V full charge)
Power Supply Interface	Two Type-C ports
Test Channels	4 independent channels
Capacity Measurement Range	0 - 99999 mAh
Internal Resistance Measurement	Supported (DC two-wire method, reference only)
Charging Function	Supported (auto cut-off, no LiFePO4 support)
Discharge Function	Supported (auto stop, current not adjustable)
Automatic Charge/Discharge	Supported
Cycle Charge/Discharge	Supported (1-9 cycles in AUTO mode)
Measurement Error	Approximately 10%
Display	1.77 inch LCD (Voltage, Current, Capacity, Energy, Internal Resistance, Time)
Discharge Load	10W
Dimensions	7.17 x 4.33 x 2.05 inches

Weight	6.38 ounces
Manufacturer	DWEII

Warranty and Support

For product support or inquiries, please contact the seller directly. While specific warranty details are not provided in this manual, you can typically find support by navigating to the product page on the retailer's website and looking for the "Sold by [Seller Name]" link. Clicking on the seller's name usually leads to a page where you can initiate contact or "Ask a question."
For this product, you can find support by:

1. Locating the "Sold by DWEII" link on the product's purchase page.
2. Clicking this link to navigate to the DWEII seller page.
3. On the seller page, look for an option such as "Ask a question" to send your inquiry.

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

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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