Rakstore XH-M239

Rakstore XH-M239 Lithium Battery 18650 True Capacity Tester Module User Manual

Introduction

This manual provides detailed instructions for the proper setup, operation, and maintenance of the Rakstore XH-M239 Lithium Battery 18650 True Capacity Tester Module. Please read this manual thoroughly before using the device to ensure safe and efficient operation.

Product Overview

The XH-M239 is a digital module designed for accurately measuring the true capacity of 18650 lithium batteries. It features high precision measurement and a clear display for monitoring the testing process.

Key Features:

- Display Accuracy: 0.1
- Measurement Accuracy: 1mAH
- Power Supply: DC 5-12V or 18650 battery
- Standby Current: 5mA
- Discharge Current: Approximately 500mA
- Load Power: 10W 8Ω
- Compact Size: 111 x 97 x 25mm

Component Identification:

Refer to the image below for a visual guide to the components of the XH-M239 module.

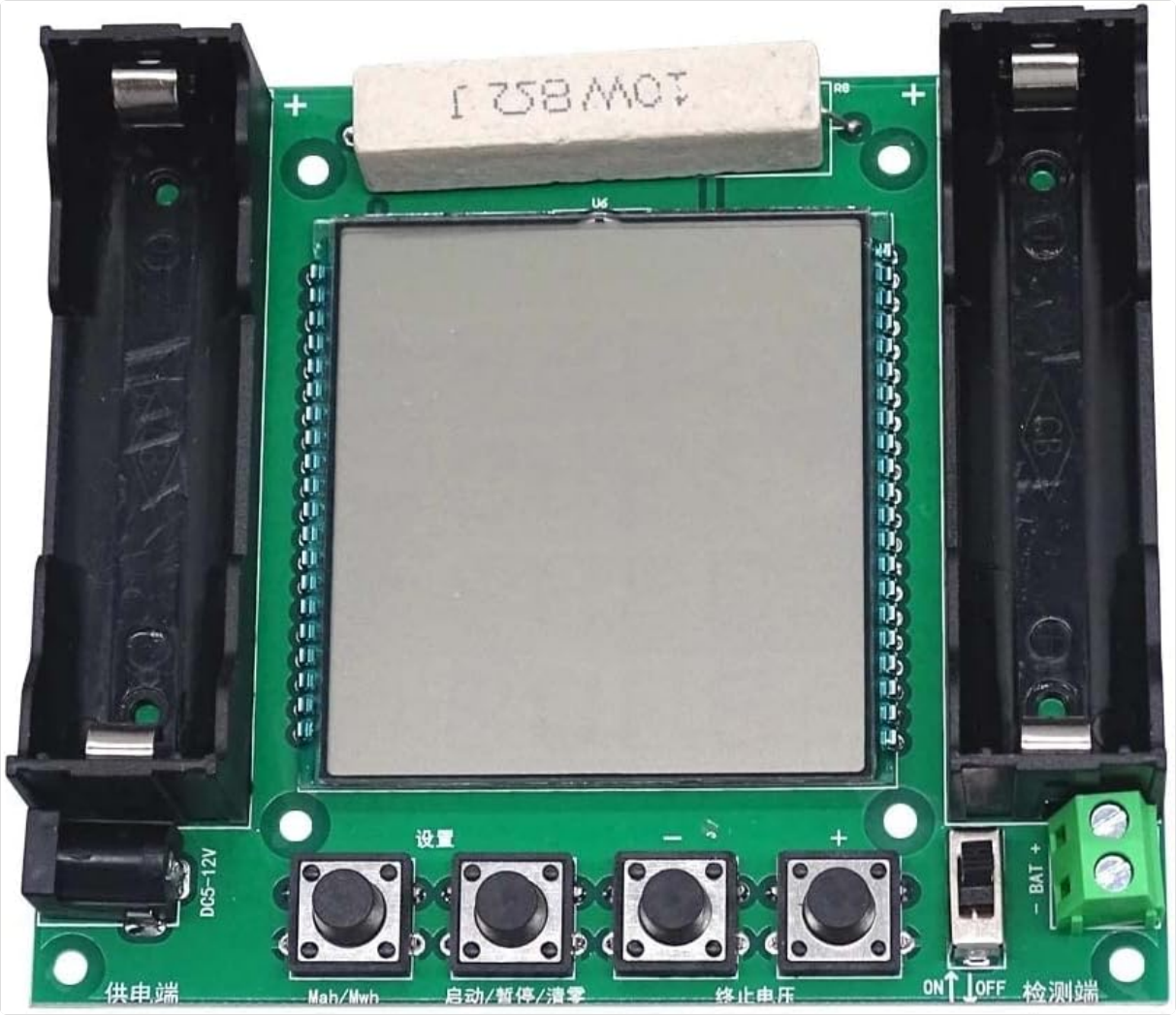

Figure 1: Top view of the XH-M239 module. This image displays the main components including the central LCD screen, two 18650 battery holders on either side, four control buttons below the screen, a power input jack (DC 5-12V) on the bottom left, a discharge resistor (10W 8Ω) at the top, and a battery test switch with screw terminals on the bottom right.

Setup Instructions

1. **Power Supply Connection:** Connect a DC 5-12V power supply to the DC input jack on the module. Alternatively, an 18650 battery can be inserted into one of the battery holders to power the module itself. Ensure correct polarity.
2. **Battery for Testing:** Insert the 18650 lithium battery to be tested into the designated battery holder. Ensure the battery is fully charged before starting a capacity test for accurate results.
3. **Load Connection:** The module includes an integrated 10W 8Ω discharge resistor. No external load connection is typically required for standard operation.
4. **Initial Power On:** Flip the ON/OFF switch to the 'ON' position. The LCD screen should illuminate, indicating the module is ready.

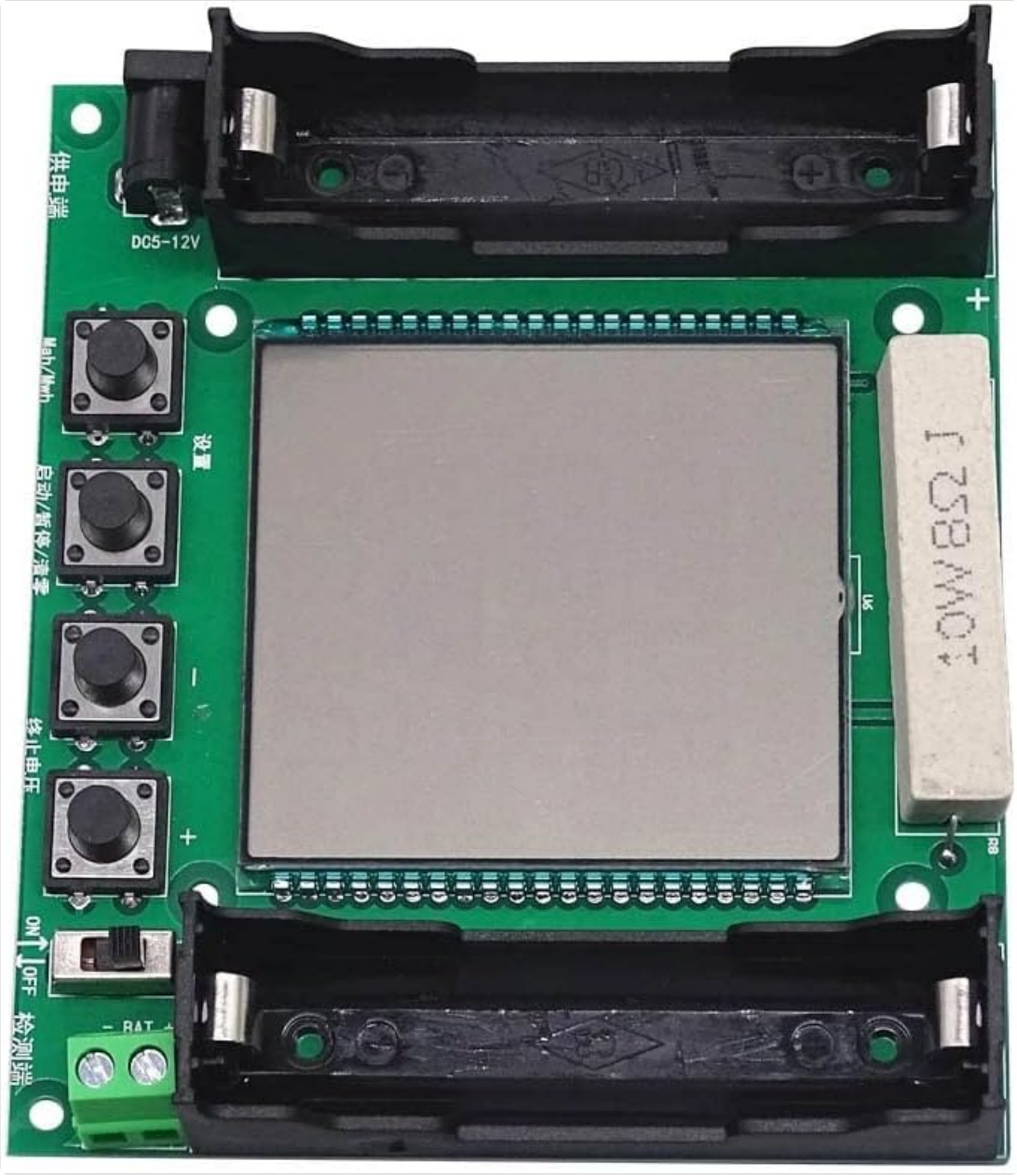

Figure 2: Angled view showing the power input jack (DC 5-12V) on the left side and the screw terminals for external battery connection (BAT+) on the right side, adjacent to the ON/OFF switch. This view also clearly shows the four control buttons and the 18650 battery holders.

Operating Instructions

Follow these steps to perform a capacity test on an 18650 lithium battery:

1. **Prepare Battery:** Ensure the 18650 battery to be tested is fully charged.
2. **Insert Battery:** Carefully insert the charged 18650 battery into the designated battery holder on the module.
3. **Set Discharge Cut-off Voltage:** Use the control buttons to set the desired discharge cut-off voltage. This is the voltage at which the test will stop. Refer to the battery manufacturer's specifications for the recommended minimum discharge voltage (typically around 2.8V to 3.0V for Li-ion).
4. **Start Test:** Press the "Start/Stop/Clear" button to initiate the discharge test. The module will begin discharging the battery through the 10W 8Ω resistor and display the current capacity discharged.
5. **Monitor Progress:** The LCD screen will continuously update with the discharged capacity (mAh or Wh).

6. **Test Completion:** The test will automatically stop when the battery voltage reaches the pre-set cut-off voltage. The final discharged capacity will be displayed on the screen.
7. **Clear Data:** To clear the displayed data and prepare for a new test, press and hold the "Start/Stop/Clear" button.

Note: The discharge process generates heat from the resistor. Ensure adequate ventilation during operation.

Maintenance

- **Cleaning:** Keep the module clean and free from dust. Use a soft, dry cloth to wipe the surface. Do not use liquid cleaners.
- **Storage:** Store the module in a cool, dry place away from direct sunlight and extreme temperatures.
- **Battery Holders:** Periodically check the battery holders for any signs of corrosion or damage.
- **Avoid Impact:** Protect the module from physical shocks or drops.

Troubleshooting

Problem	Possible Cause	Solution
Module does not power on.	Incorrect power supply voltage or polarity. Switch is OFF. Faulty power supply.	Ensure DC 5-12V power supply is connected correctly. Check ON/OFF switch position. Test power supply.
Test does not start.	Battery not inserted correctly. Cut-off voltage not set. "Start" button not pressed.	Verify battery insertion and polarity. Set a valid cut-off voltage. Press the "Start/Stop/Clear" button.
Inaccurate capacity reading.	Battery not fully charged before test. Incorrect cut-off voltage.	Ensure battery is fully charged before testing. Verify the cut-off voltage setting.
Module gets hot during test.	Normal operation due to discharge resistor.	Ensure adequate ventilation. This is expected behavior as the resistor dissipates energy as heat.

Specifications

Parameter	Value
Model	XH-M239
Brand	Rakstore
Display Accuracy	0.1
Measurement Accuracy	1mAH
Power Supply Voltage	DC 5-12V / 18650 Battery
Standby Current	5mA

Parameter	Value
Discharge Current	~500mA
Load Power	10W 8Ω
Dimensions	111 x 97 x 25mm
UPC	768788750820

Safety Information

- Always ensure correct polarity when connecting batteries and power supplies.
- Do not short-circuit the battery terminals.
- Operate the module in a well-ventilated area, as the discharge resistor generates heat.
- Keep the device away from moisture and flammable materials.
- This device is intended for testing 18650 lithium batteries. Do not use with other battery types unless explicitly stated.
- Keep out of reach of children.

Warranty and Support

For warranty information or technical support regarding your Rakstore XH-M239 module, please refer to the retailer where the product was purchased or contact Rakstore customer service directly. Please have your product model number (XH-M239) and UPC (768788750820) available when seeking support.