

# XH-M240 18650 Lithium Battery Voltage and Capacity Tester Module

## User Manual

**Model:** XH-M240

## Introduction

This manual provides detailed instructions for the setup, operation, and maintenance of the XH-M240 18650 Li-ion battery capacity and voltage tester module. The module is designed to measure the voltage and discharge capacity of 18650 lithium-ion batteries through a controlled discharge process.



## 18650 Lithium Battery Capacity Tester Module



The XH-M240 is used to test battery voltage, discharged capacity, and discharged energy during operation.

## Specifications

The main specifications of the XH-M240 are listed below.

| Parameter              | Value                                 |
|------------------------|---------------------------------------|
| Product name           | 18650 lithium battery capacity tester |
| Product model          | XH-M240                               |
| Display accuracy       | 0.1 V                                 |
| Measurement accuracy   | 1 mAh                                 |
| Power supply           | DC 5–12 V / 18650 battery             |
| Standby current        | 5–7 mA                                |
| Load power             | 10 W, 8 $\Omega$                      |
| Discharge current      | About 500 mA                          |
| Dimensions             | 110 × 80 × 25 mm                      |
| Mounting size          | 72 × 53 mm                            |
| Mounting hole diameter | 3 mm                                  |



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Weight : 63.40g



## Package Contents

The package includes:

- 1 × XH-M240 18650 Lithium Battery Capacity Tester Module.
- 18650 battery is not included.

## Wiring

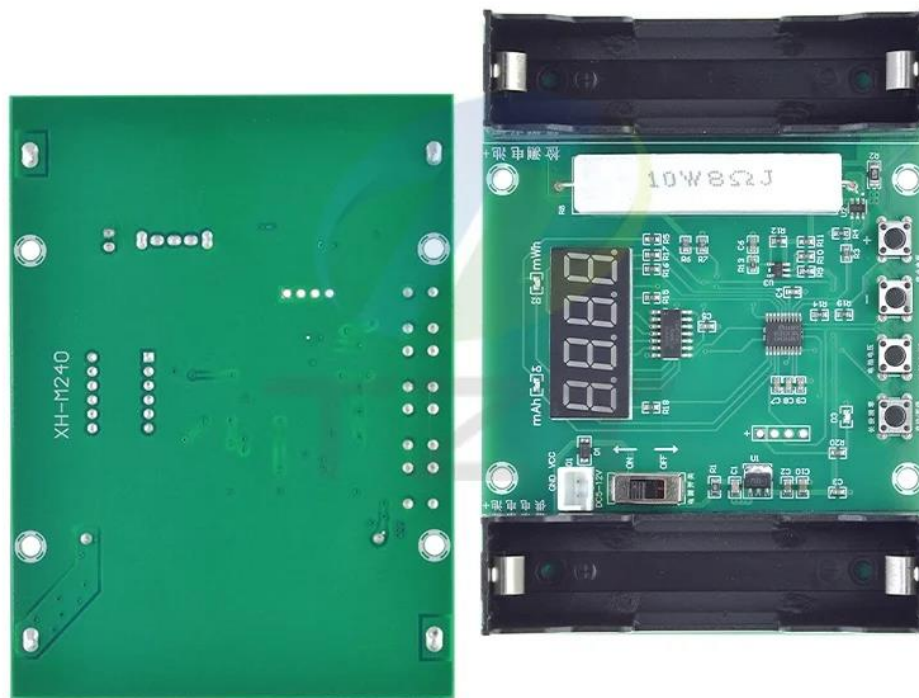
Before operating the XH-M240, make sure the connections are correct.

- Power connection: Connect a DC 5–12 V power supply to the module's power input, or use an 18650 battery to power the module.
- Test battery installation: Insert the 18650 lithium battery you want to test into the battery holder on the module.

- Load connection: The module has a built-in 10 W, 8  $\Omega$  discharge load, so an external load is usually not required for standard capacity testing.
- The external power supply and the test battery can be connected at the same time without affecting operation, but the module does not support charging.



## 18650 Lithium Battery Capacity Tester Module

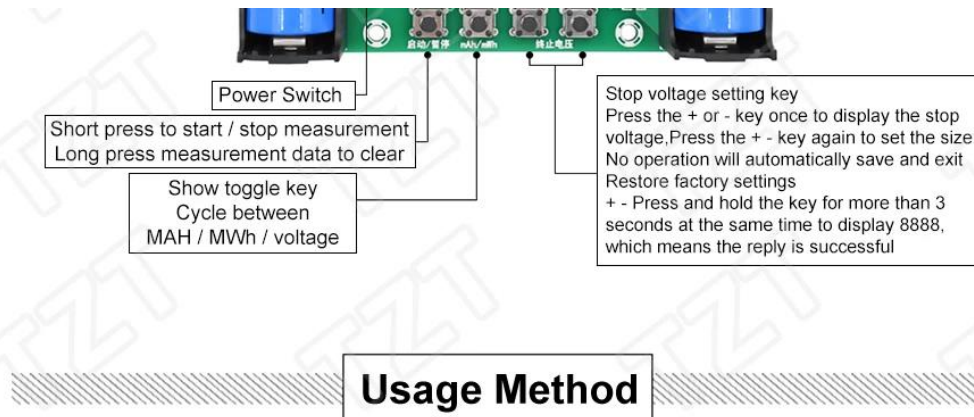


### Operation

To test the capacity of an 18650 lithium battery, follow these steps.

1. Power on the tester using either a 18650 battery or an external DC supply of 5–12 V. After power-up, the screen shows the battery voltage, such as 4.1 V.
2. Press the + or - button once to display the cutoff voltage. Press + or - again to adjust the end voltage. The default cutoff voltage is 3.0 V, and 3.5 V is recommended to avoid over-discharge.

3. Press the Start button briefly to begin discharging. The module discharges the battery at about 500 mA, and the residual battery voltage appears on the display.
4. Press the display switch button to view discharged capacity in mAh.
5. Press the second switch key to view discharged energy in mWh.
6. When the red indicator above the clear button flashes, the test is complete. The display shows the total discharged capacity, for example 1900 mAh.



### A kind of About 18650 batteries

The minimum discharge stop voltage of 18650 battery is generally 2.75V. In half cases, when the voltage drops to 0.875 times of the rated voltage (3.24v), it should be charged. If it is used again, the voltage will drop rapidly, which may cause over discharge damage and affect the service life. (recommended discharge termination voltage set to 3.5V) Charging voltage is generally 4.20v-4.3v/4.35v

### A kind of Measurement time calculation

Assuming that the battery capacity is 2000 MAH, the discharge current of this detector is about 500 MAH,  $(2000 \div 500 = 4)$ , and the measurement time is about 4 hours.

### For Example

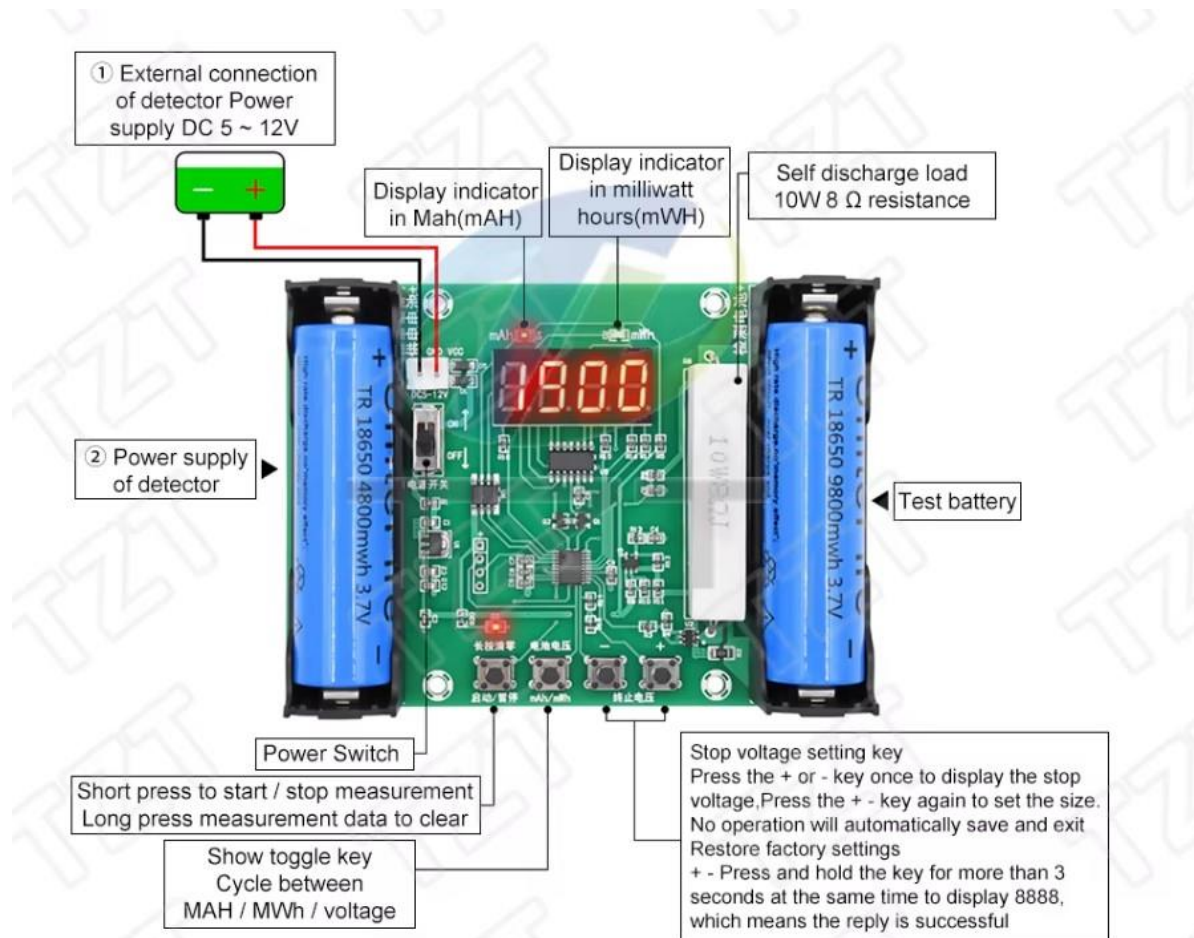
Test the true capacity of a 18650 lithium battery as follows:



## Button Functions

The main button functions are as follows.

- Power switch: Turns the module on or off.
- End-voltage setting key (+ / -): Short press to display the cutoff voltage; long press to adjust the end voltage; press and hold for more than 3 seconds to restore factory settings, which shows 8888.
- Measurement start/stop key: Short press to start or stop measurement; long press to clear measurement data.
- Display switch key: Switches the display between mAh, mWh, and current voltage.



## **Maintenance**

To ensure long service life and stable operation of the XH-M240, follow these recommendations.

- Keep the module clean and dry.
- Avoid moisture, dust, and corrosive substances.
- Store the module in a cool, dry place when not in use.
- Handle the module carefully to avoid damage to the PCB or components.
- Do not modify the module, as this may cause malfunction or damage.

## **Troubleshooting**

A few battery-testing basics can help ensure accurate and safe operation.

- The minimum end-of-discharge voltage for an 18650 battery is typically around 2.75 V.
- To avoid over-discharge, do not use the battery below about 0.875 times its rated voltage.
- For better battery health, set the tester's cutoff voltage to 3.5 V.
- Typical charging voltage for 18650 lithium batteries is 4.20 V to 4.35 V.
- Test time depends on battery capacity and discharge current. For example, a 2000 mAh battery at 500 mA takes about 4 hours to discharge.

## **User Notes**

- Always ensure good ventilation during battery discharge, since batteries may heat up.
- Use a stable and reliable power source for proper tester operation.
- For consistent results, test batteries at a stable room temperature.
- This product information does not include user reviews or Q&A data.

## **Warranty and Support**

Detailed warranty and support information is not available in the product data provided. For warranty, support, or return-policy details, contact the seller or manufacturer.