

# BT4-2CHN

18650三元里锂电池双通道测试仪

Charging of lithium iron phosphate batteries is not supported

06:16/07:19

## Tutorial Catalog

1. Technical parameters
2. Hardware Introduction
3. Interface Introduction

4. Charging electrical parameters (lithium iron phosphate battery charging not supported)
5. Physical display
6. Usage method

## 1. Technical parameters

Operating Voltage: DC 5V.

Compatible Batteries: Supports batteries with a discharge cutoff voltage between 2.5V~3.5V and a charging range of 2.8V~4.2V.

Power Supply Interface: Type-C interface (power adapter and cable not included).

System Language: Supports Chinese and English.

Channel Quantity: 2 charging and discharging measurement channels.

Internal Resistance Measurement: Supports DC two-wire method for testing battery internal resistance.

Charging Function: Supports automatic charging cutoff when fully charged (not suitable for lithium iron phosphate batteries).

Discharging Function: Supports automatic discharge cutoff; discharge current is non-adjustable.

Automatic Charge/Discharge: Supports automatic mode, with the battery fully charged at the end of the cycle.

Cycle Charge/Discharge: Supports 1~9 charge/discharge cycles (only available in automatic mode).

Status Indication: Supports status display.

Cooling Method: Active cooling with a fan.

Overheat Protection: Supports overheat protection.

Discharge Cutoff Voltage: 11 adjustable levels, ranging from 2.5V~3.5V.

Discharge Current: Maximum approximately 1A, non-constant current, non-adjustable.

Charging Voltage: 4.2V, controlled by a 4056 chip, with a maximum charging current of approximately 1A. Charging stops when the current drops below 0.1A.

Power-Off Data Retention: Only saves setting parameters; does not save measurement data.

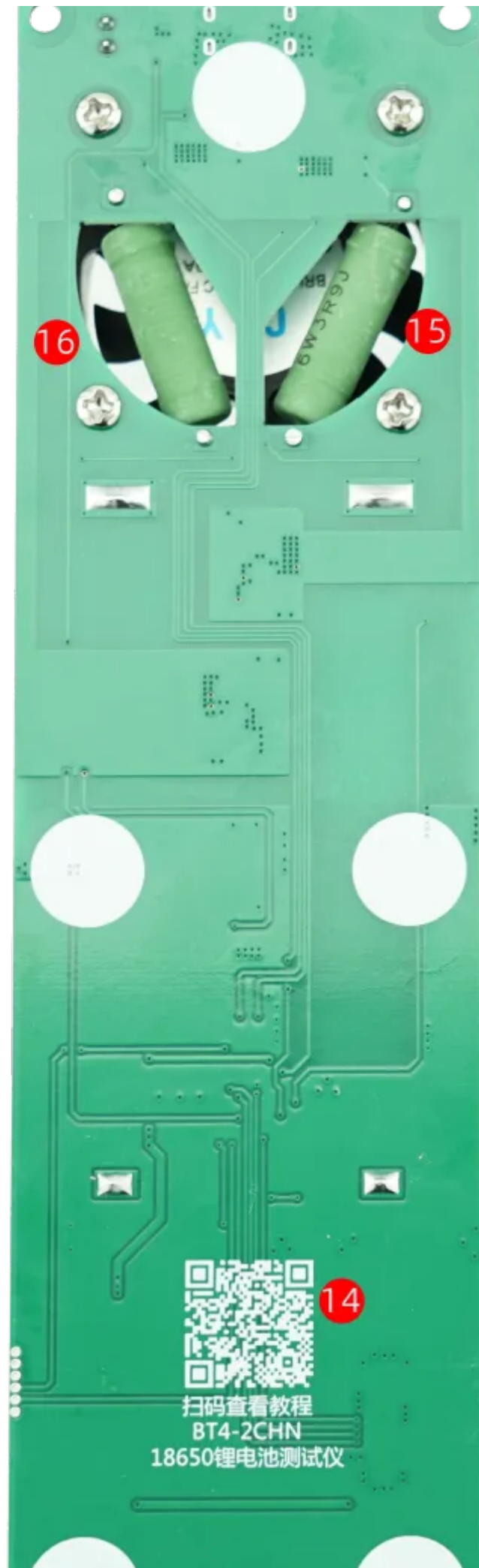
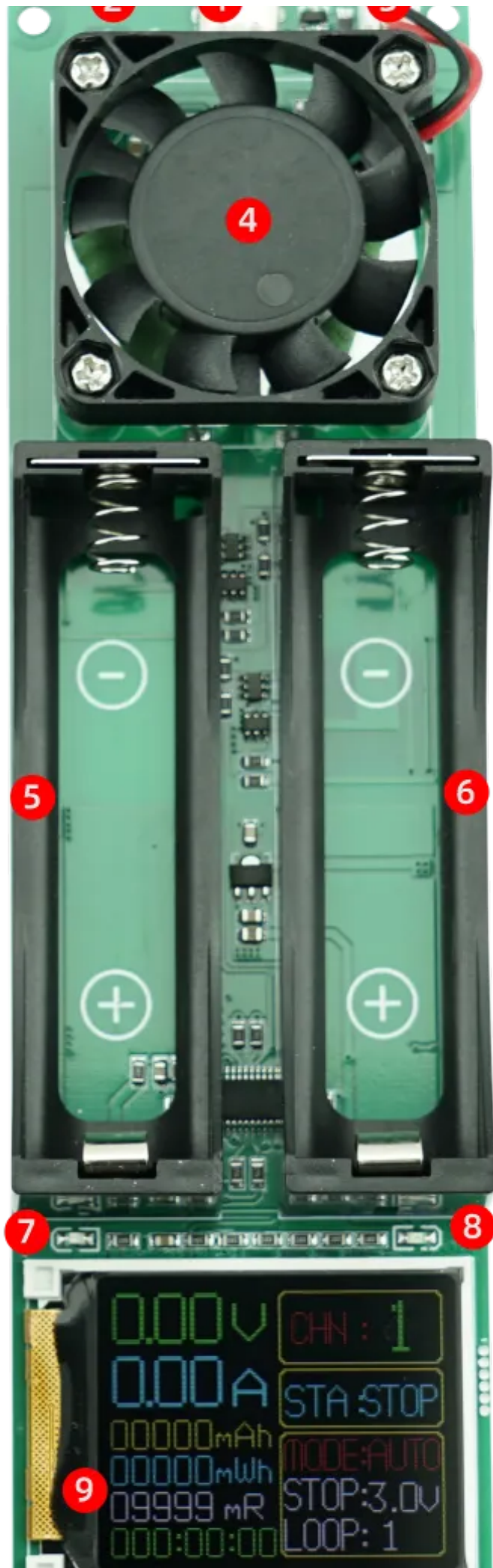
Product Weight: 120g (including packaging).

Product Dimensions: 185×50×36mm.

Packaging Dimensions: 210×60×30mm (corrugated box).

## 2. Hardware Introduction







1. Type-C5V power supply interface
2. 5V power supply solder joint
3. Fan's power
4. Cooling fan
5. CHN1 channel battery holder
6. CHN2 channel battery holder
7. CHN1 channel status indicator light
8. CHN2 channel status indicator light
9. Display
10. “菜单/M” button
11. “调整/S” button
12. “启停/R/S” button
13. “通道/CHN ”button
14. Using the tutorial QR code
15. 1-channel discharge resistor
16. 2-channel discharge resistor

### 3. Interface Introduction





1. Real-time voltage

2, Real-time current

3, Cumulative capacity

4, Cumulative energy

5. Battery internal resistance

6, cumulative running time-hhh:mm:ss (hours:minutes:seconds)

7. Number of cycles

8, low voltage stop discharge

9, working mode menu

10. Status Indication

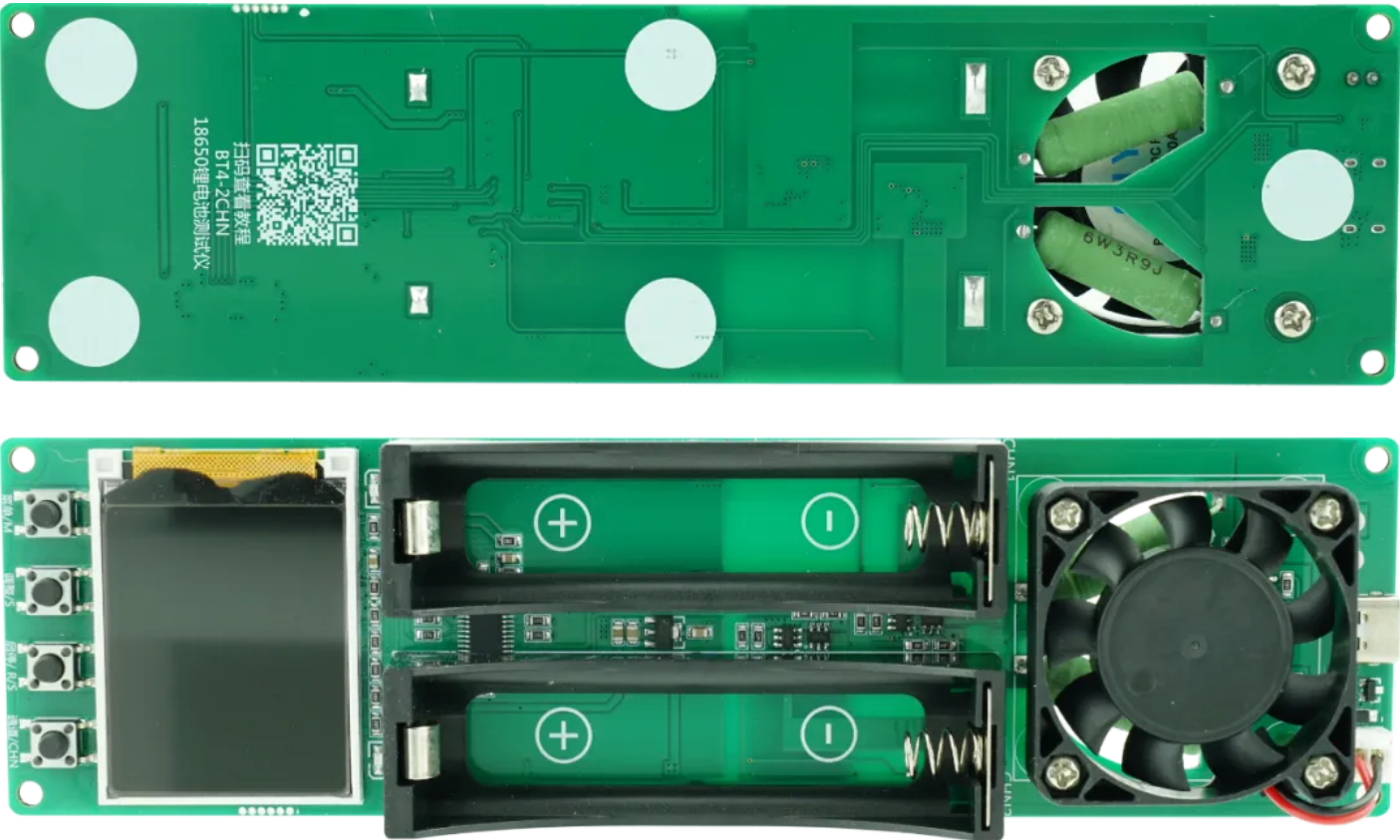
11, Channel Indication

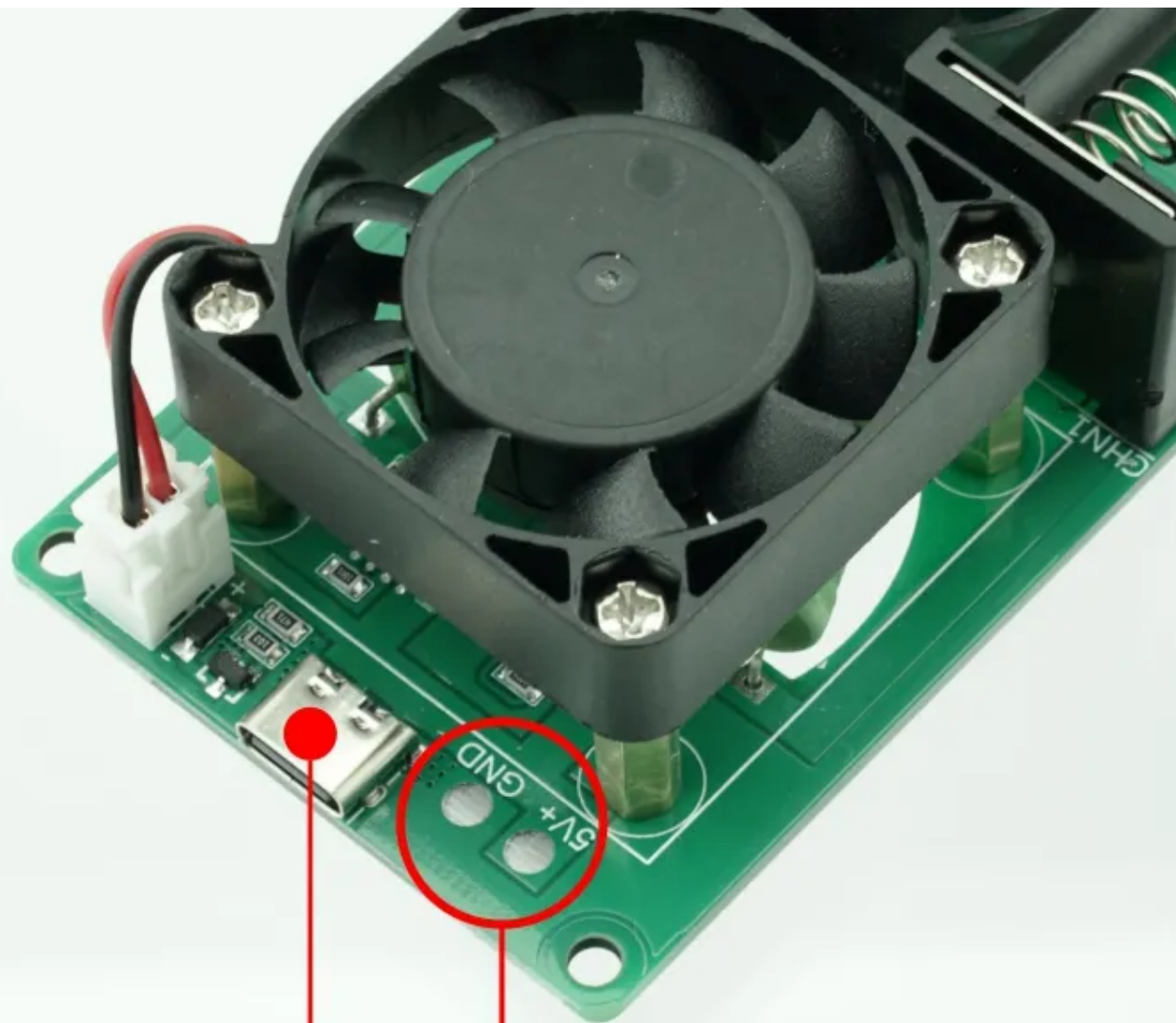
#### 4.Charging electrical parameters (lithium iron phosphate battery charging not supported)

符号	参数	测试条件	最小值	典型值	最大值	单位
V <sub>CC</sub>	输入电源电压		4	5	6	V
VFLOAT	输出浮充电压	0°C≤TA≤85°C	4.158	4.2	4.242	V
ITRIKL	涓流充电电流	VBAT < VTRIKL, R <sub>PROG</sub> = 1.2K	100	120	150	mA
VTRIKL	涓流充电阈值电压	R <sub>PROG</sub> = 1K, VBAT 上升	2.8	2.9	3	V

VTRHYS	涓流充电迟滞电压	$R_{\text{PROG}}=1\text{K}$	60	80	100	mV
--------	----------	-----------------------------	----	----	-----	----

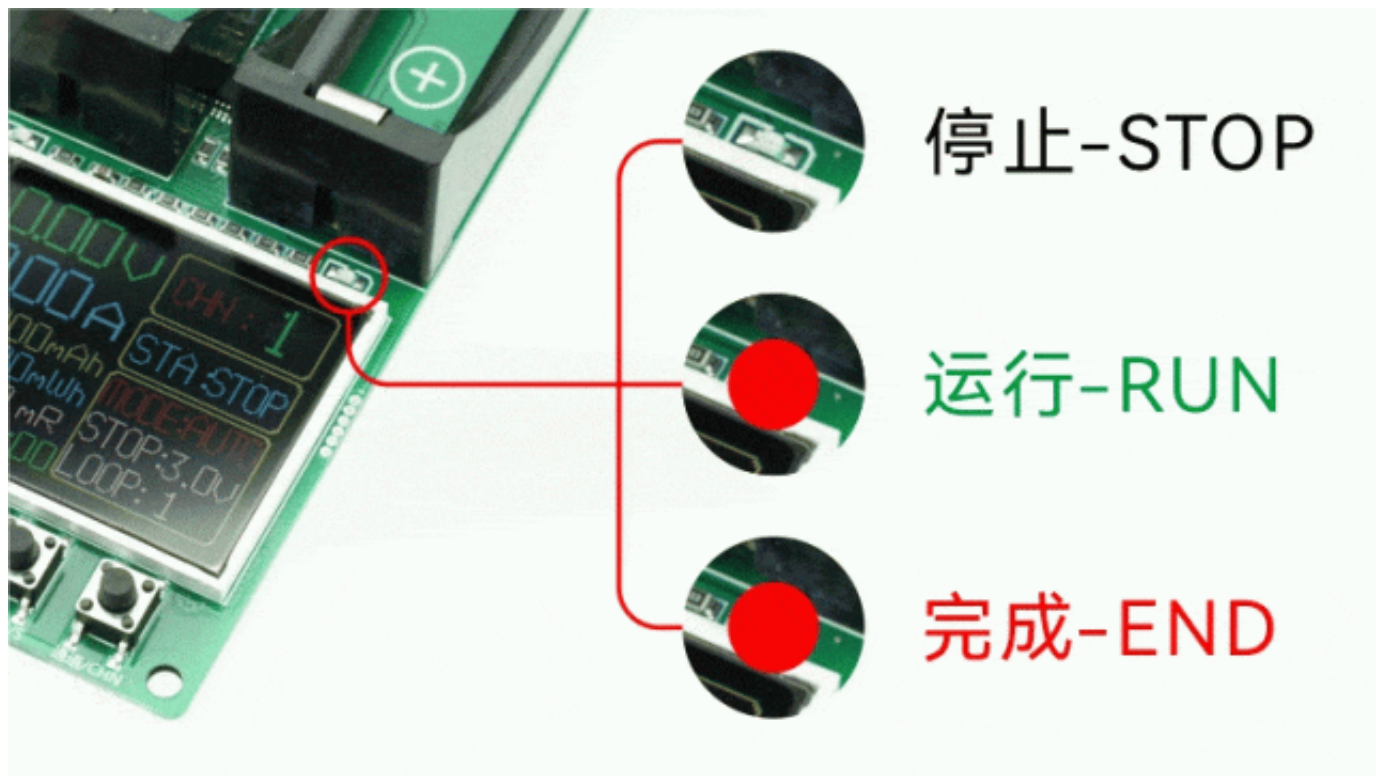
5、hysical display





→DC5V供电焊点

→Type-C供电接口



## 6.Usage method

### 6.1、 ON/Off

The product has no on/off key, automatically starts when powered on, and shuts down when powered off.

### 6.2、 Language

Press and hold the "菜单/M" button before powering on. After the main interface is displayed on the screen, release the "Menu/M" button and wait for 10 seconds before shutting down and restarting!

### 6.3、 Switching Display Channels

Each channel is independent of each other and does not interfere with each other. Click the "通道/CHN" button to switch the display channels and view the parameters of each channel, and set the parameters of each channel.

After filling the empty channel with the battery, the display interface will automatically switch to the new channel. The initial battery installation requires waiting for 3 seconds for the loading signal.



CHN:

1

CHN:

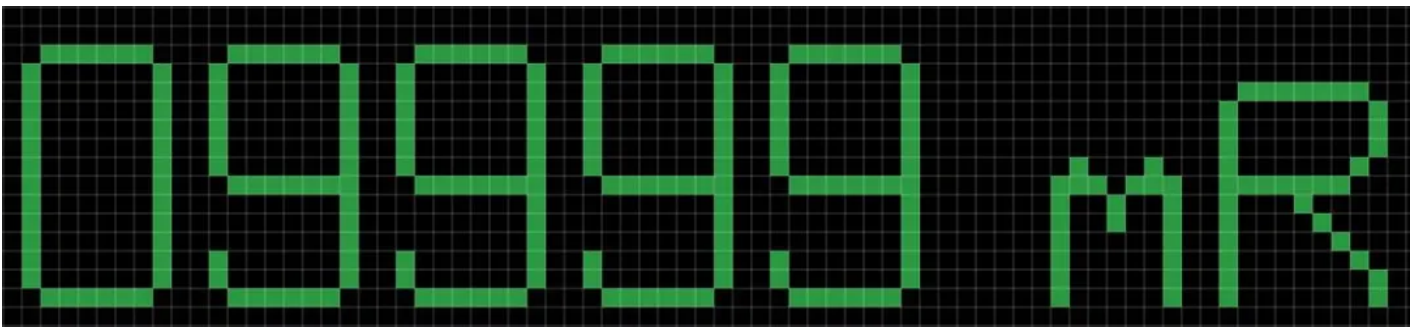
2

#### 6.4、Testing Internal Resistance

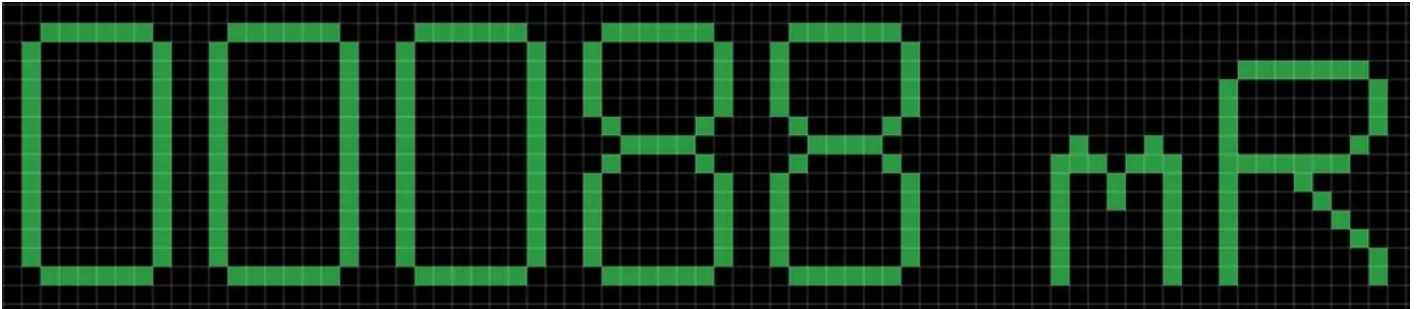
Install the battery, turn it on, wait for 10 seconds, and display the battery voltage and internal resistance test results. This product uses the DC two wire method to test the internal resistance. Due to the limitations of the testing principle, there may be situations where the battery cannot be recognized and the internal resistance always displays 9999.

When the battery is not installed, the test circuit is open circuit, and the internal resistance shows 9999 milliohms due to the infinite resistance value.



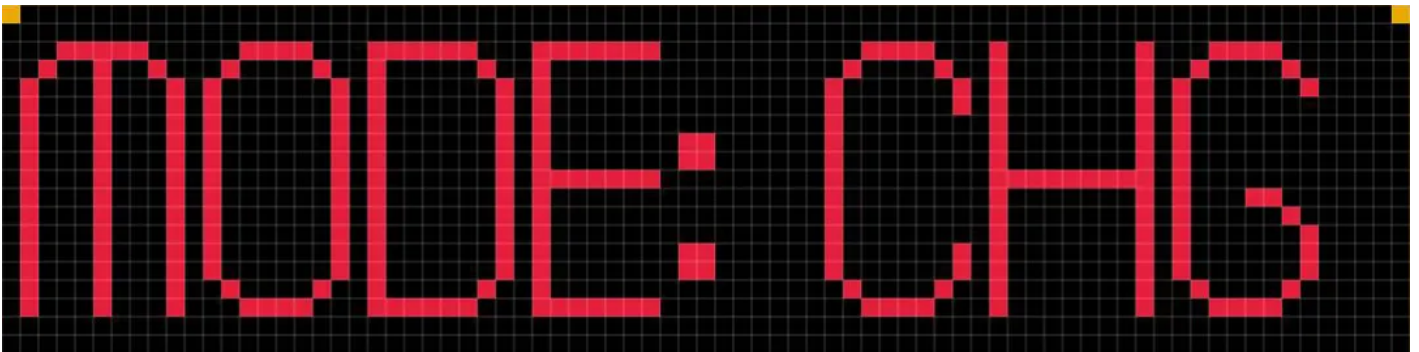


After installing the battery, the circuit is complete and shows the internal resistance of the tested battery.

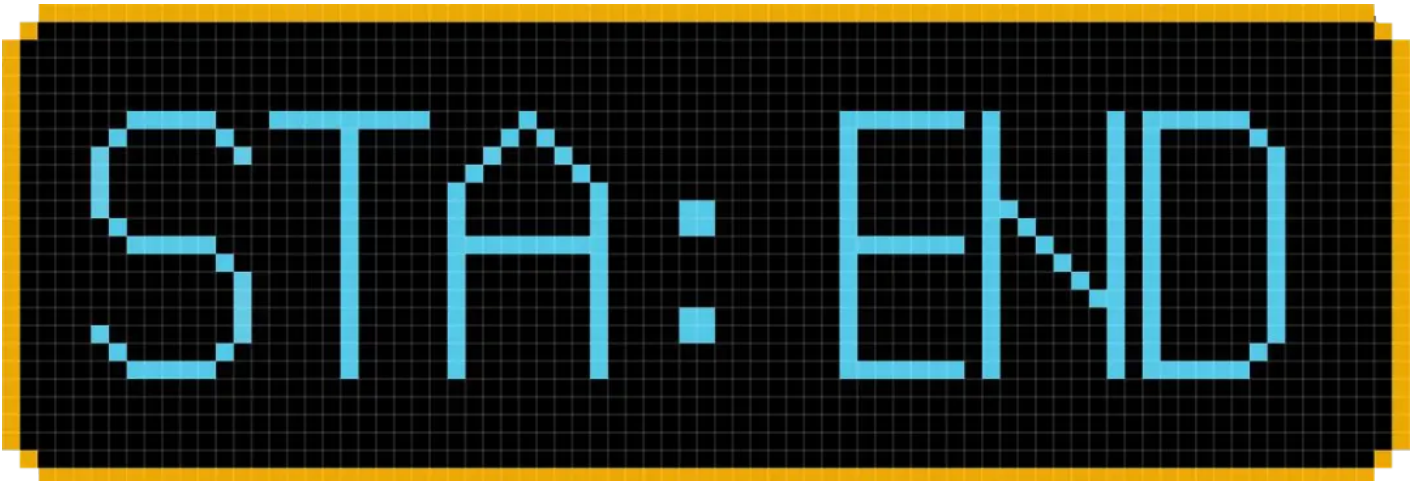


### 6.5、Charging

Install the battery in the battery holder, adjust the mode to "CHG" mode, and click "启停/R/S" to run the program



After charging, the status indicator END indicates completion



The charging process records the capacity, energy, and charging time. The charging metering capacity is for reference only, please refer to the discharge capacity.



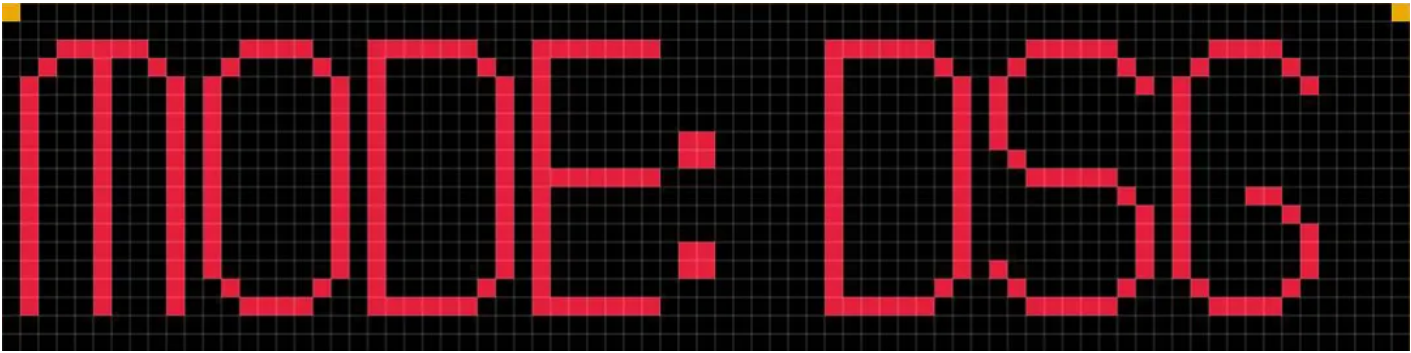
One click all channel charging: Press and hold the "启停/R/S" button for 3 seconds to run the "charging" mode for the all channel.

## 6.6、Capacity measurement

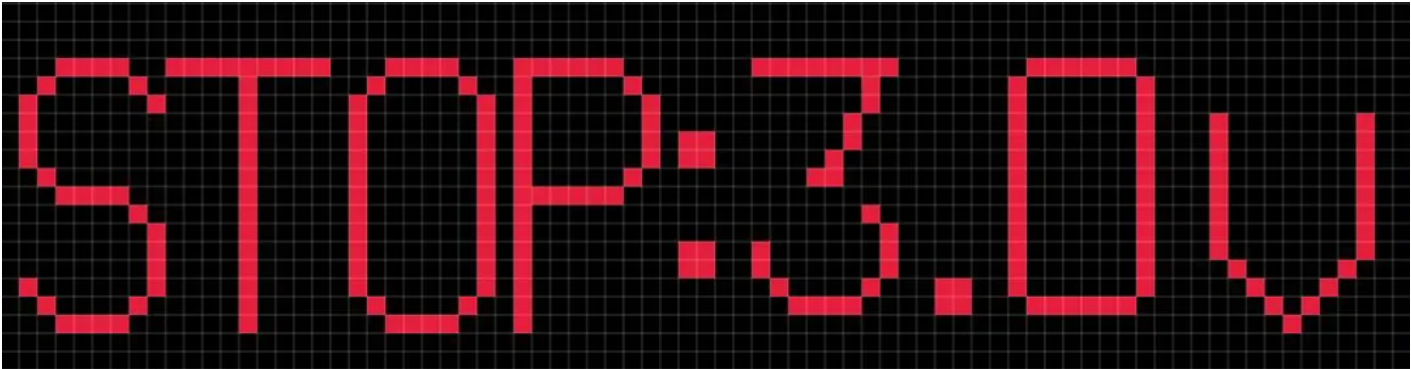
The capacity test is conducted through resistance discharge, which generates high temperature due to the heating of the resistor during discharge. Do not touch it directly with your hands to avoid external burns.

The capacity test result is only the capacity measured during the testing phase from the start of battery discharge to the triggering stop.

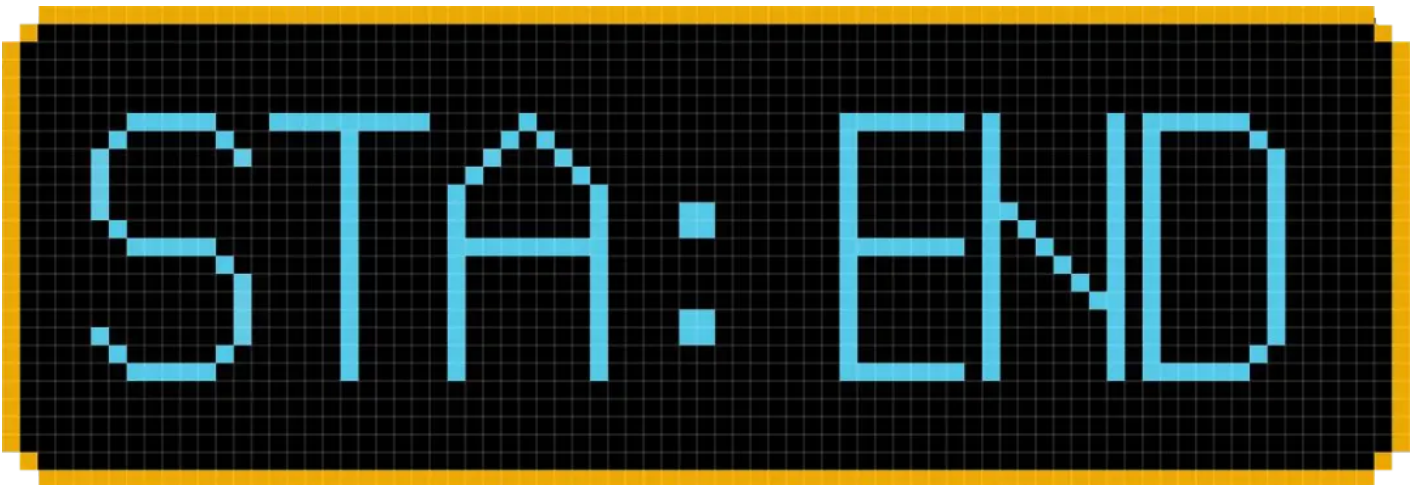
Install the battery and adjust the mode to "DSG" mode

A red pixelated font on a black background displaying the text "MODE: DSG". The characters are composed of small squares, giving it a digital or retro aesthetic.

Adjust the stop discharge voltage according to the battery demand, and click "启停/R/S" to run the program after completion

A red pixelated font on a black background displaying the text "STOP: 3.0V". The text is centered and uses the same digital style as the previous image.

After the discharge is completed, the status indicator END indicates completion

A cyan pixelated font on a black background displaying the text "STA: END". The text is framed by a thick yellow border, which is also pixelated. The font style is consistent with the previous images.

Record the cumulative capacity, energy, and time during the discharge process

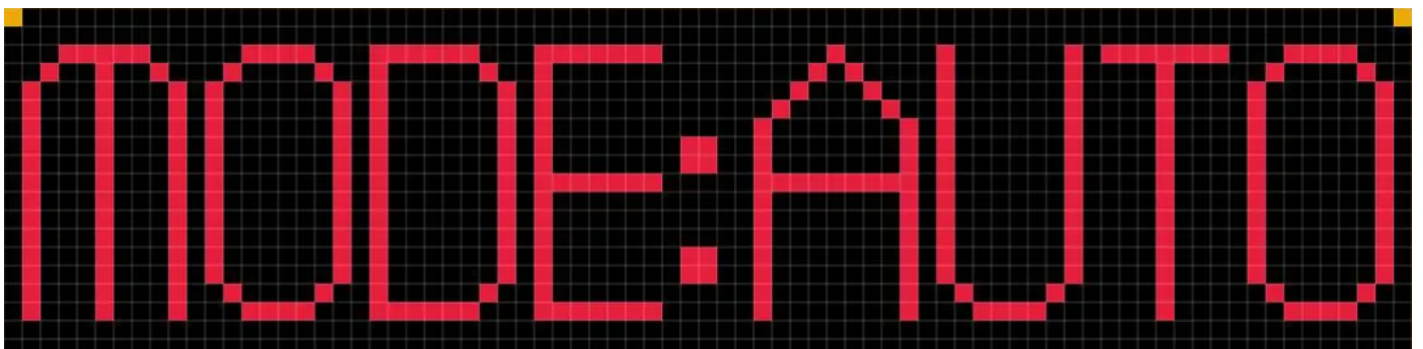


One click all channel discharge capacity measurement: Press and hold the "通道/CHN" button for 3 seconds, and the full channel will run in the "discharge" mode according to the preset stop voltage of 3.0V.。

### 6.7、Split capacity and running cycle

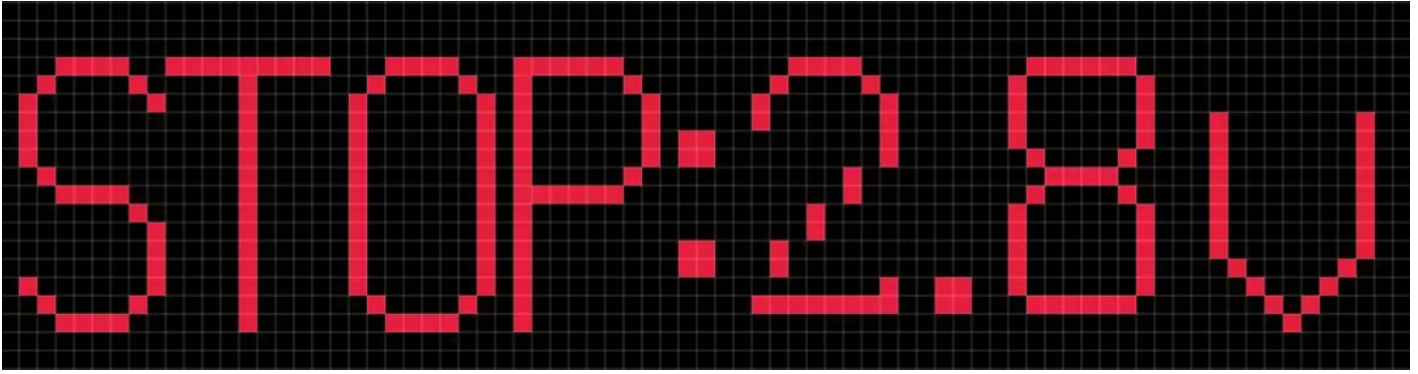
The split capacity running cycle is a process of charging, discharging, and recharging. When using it, the stop voltage should not be lower than 2.8V, otherwise it cannot be charged and the program cannot run normally.

Install the battery and adjust the mode to "AUTO" mode



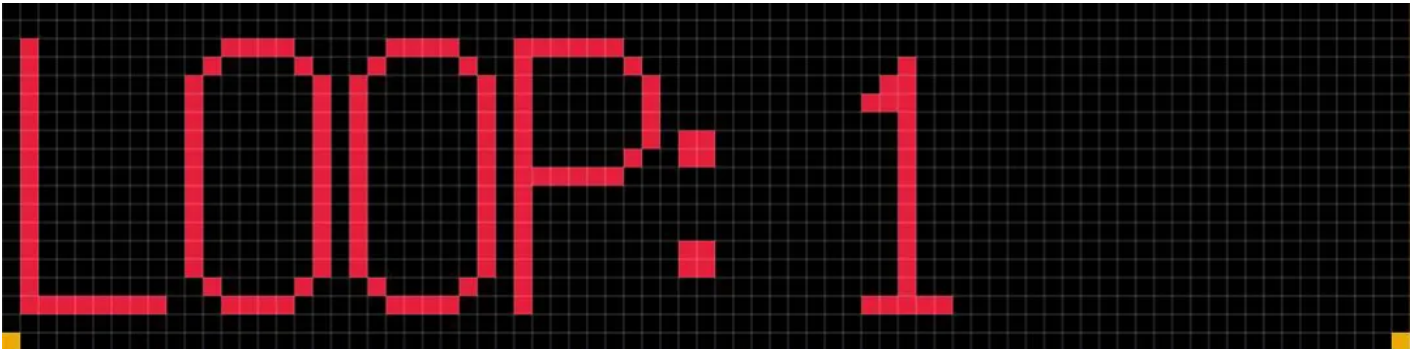


Set the stop discharge voltage according to the demand, but it cannot be less than 2.8V



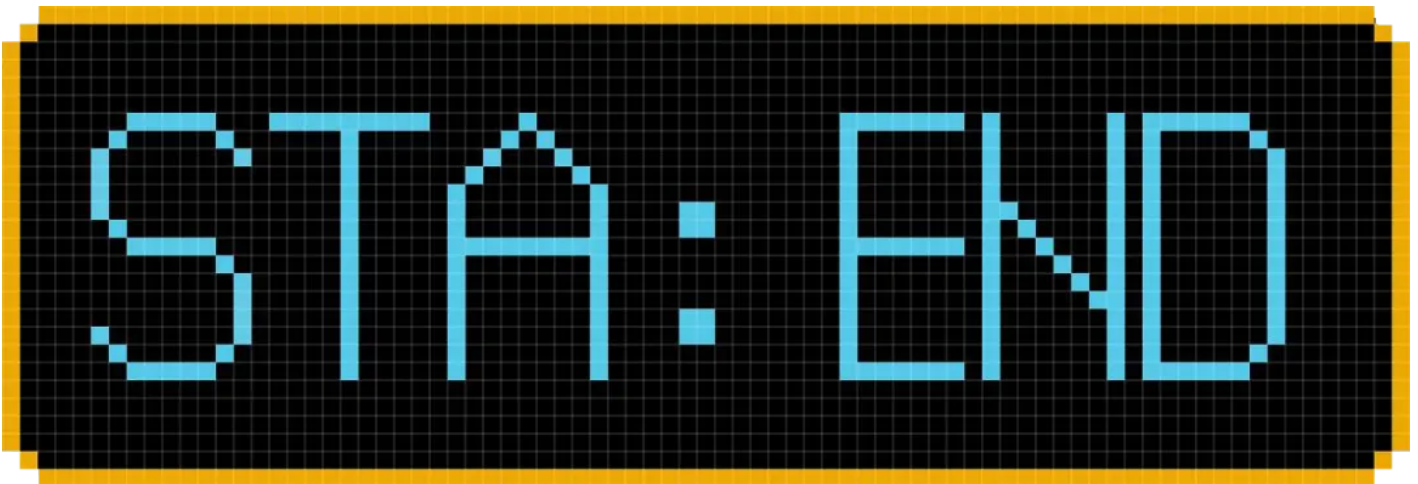
STOP:2.8V

Set the number of cycles according to the requirements, and click "启停/R/S" to run the program after completion



LOOP:1

After the program ends, the status indicator END indicates completion



STA:END

Process record single discharge capacity, discharge energy, and cumulative time





## 6.8、Data Clear

Shut down, switch modes, and the capacity, energy, and time data will automatically reset to zero.

02231mAh

08010mWh

00031mR

002:24:25



—END—