

# BW150 User Manual

2.4-inch HD color screen Bluetooth/WiFi digital transmission curve version

battery capacity / DC power multi-function tester



(This product will be updated at any time, please pay attention to the web page description for detailed update details)

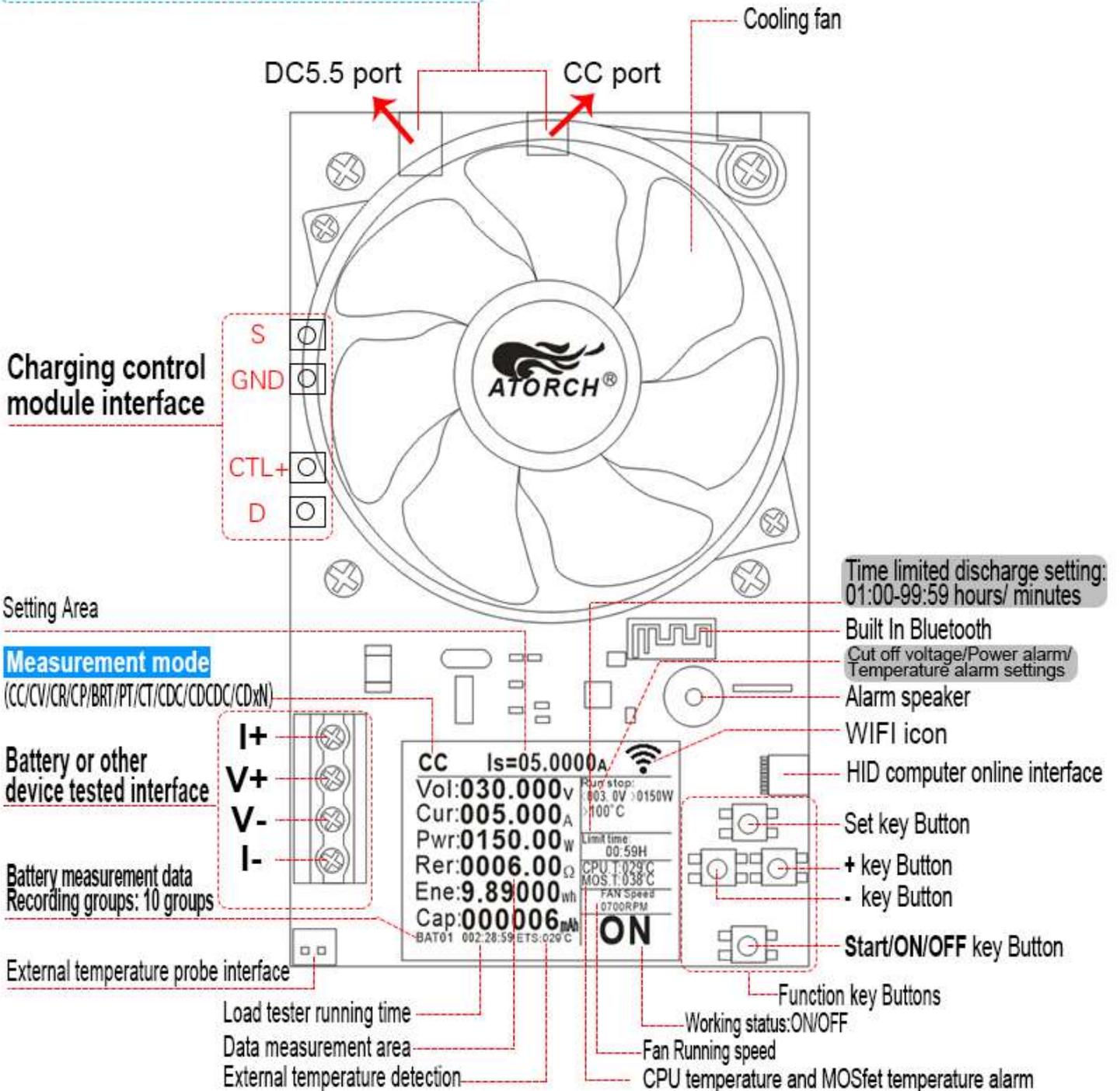
# 1.B150 Electronic Load Structure Description

## Power supply interface

### Three power supply modes

1. DC5.5-12V power supply (insert DC5.5 port)
2. USB-5V/2A charger power supply (insert CC port)
3. QC/PD protocol 12V charger power supply (insert CC port)

**Important Notice**



## Attention:

**1.CC/CV/CP/CR/BRT/PT/CT** Default mode, Not need **charging control module**

**2.CDC/DCDC/CDxN** three charging modes need **charging control module**

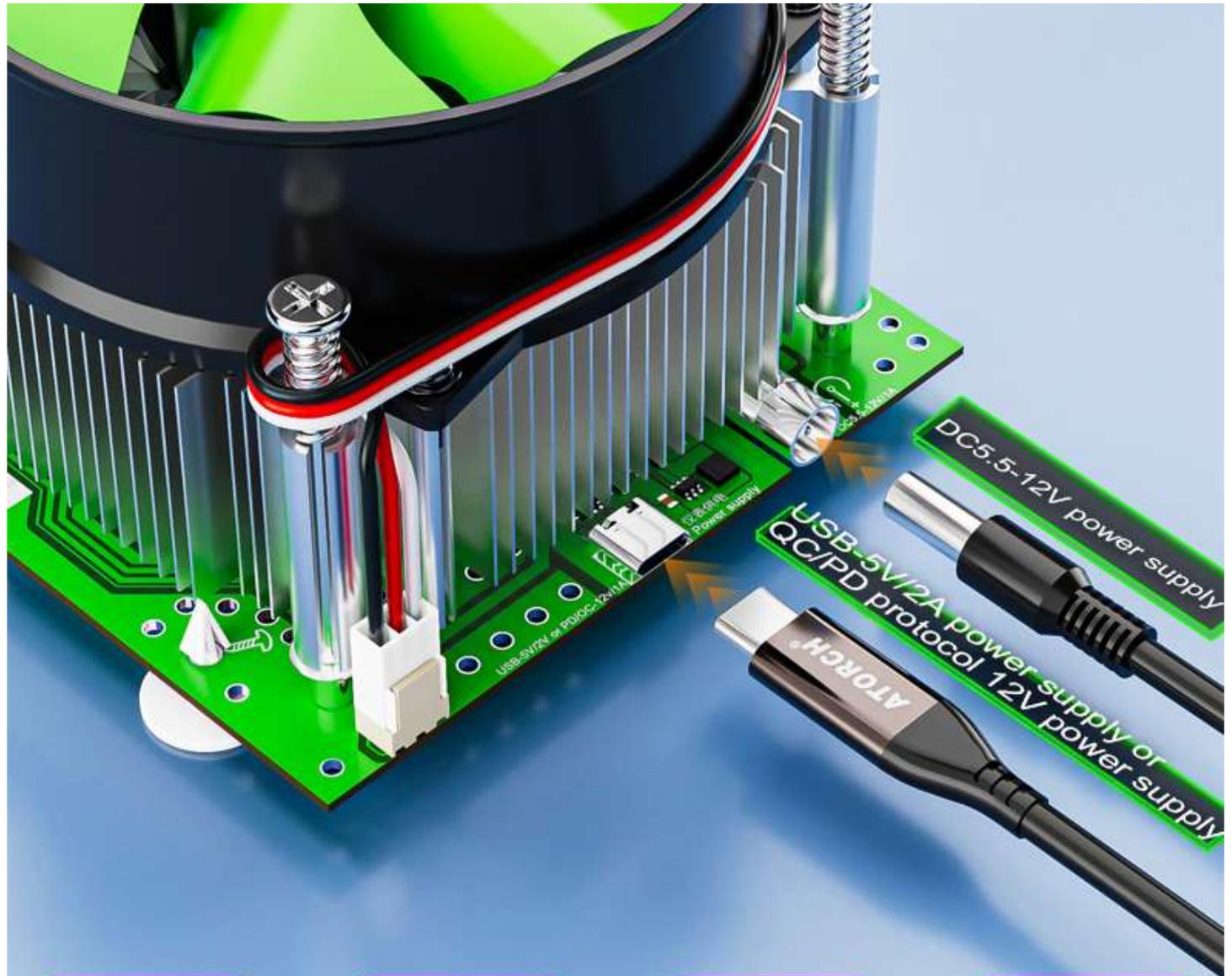
can be tested!!!

## 2. B150 Electronic Load Power Supply Instructions

This product does not provide a power adapter, but can be powered by three self provided methods

1. DC5.5-12V power supply (insert device DC5.5 interface)
2. USB-5V/2A charger power supply (insert into device CC port)
3. QC/PD protocol 12V charger power supply (insert into device CC port)

**Attention: DC12V power adapter is not provided, Need DC12V power supply to Working.**



Prepare DC5.5 DC12V power supply by yourself



Prepare USB-5V/2A Charger by yourself

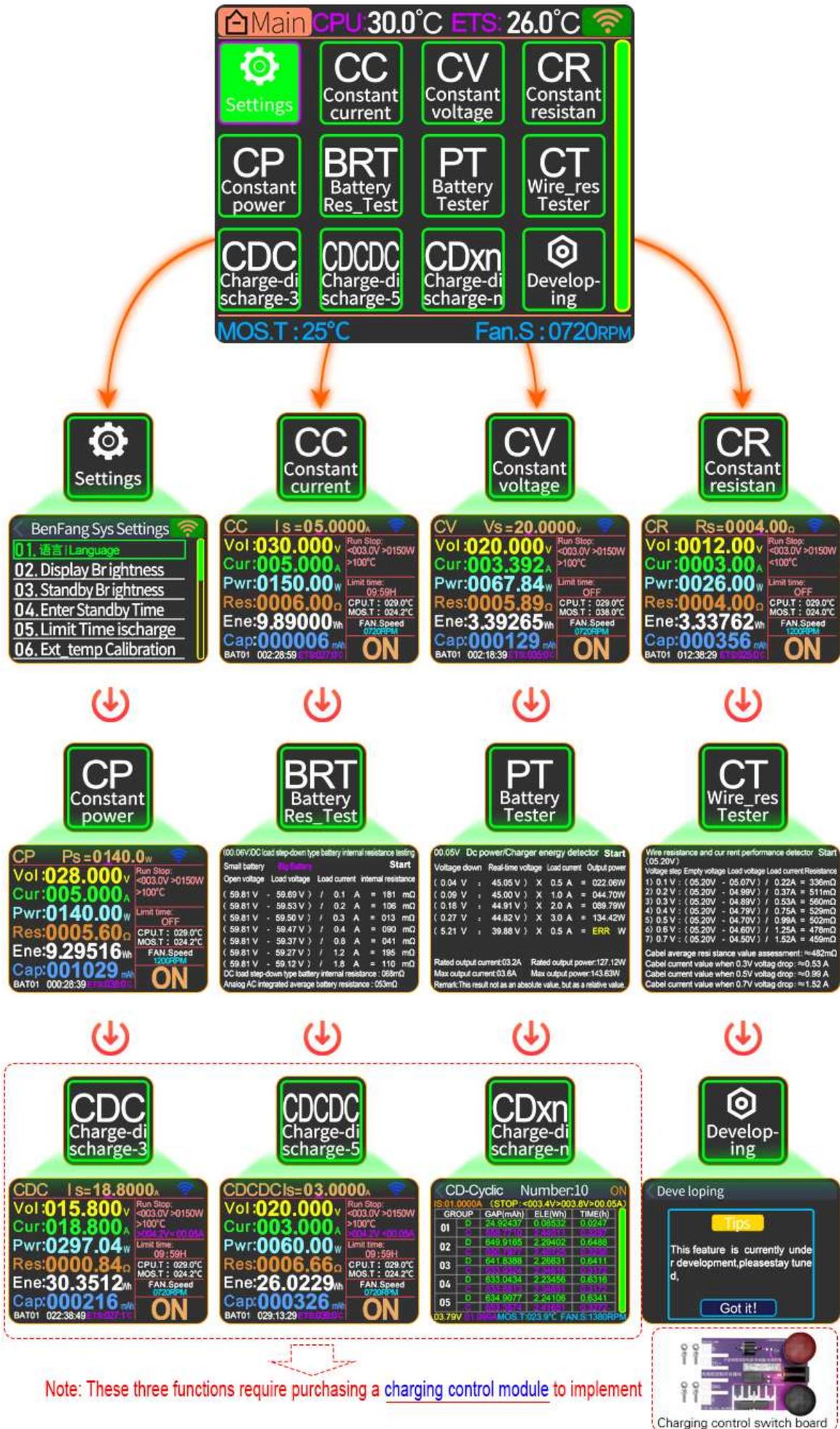


Prepare QC protocol USB charger by yourself



Prepare PD protocol USB charger by yourself

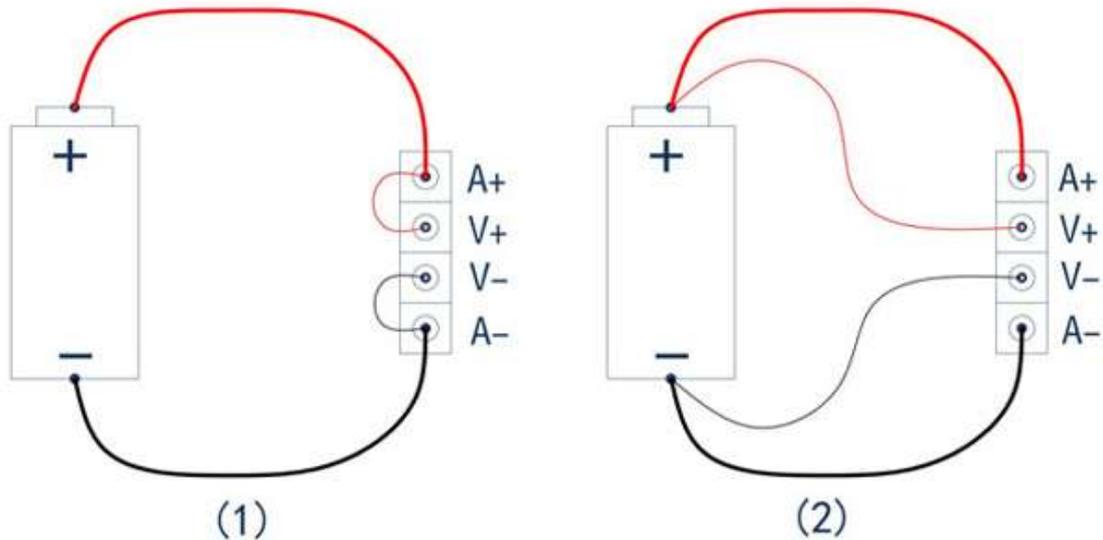
# 3. Main functional testing interface



## 4. Product wiring method

This electronic load supports 2-wire and 4-wire wiring methods testing

### Electronic load wiring diagram



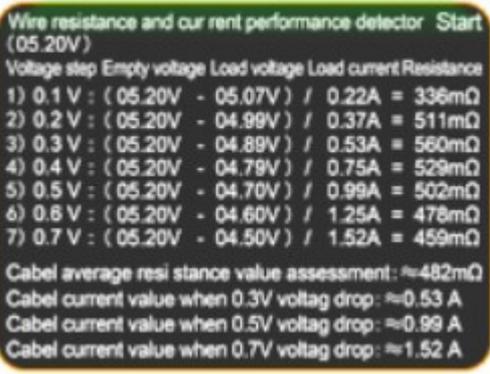
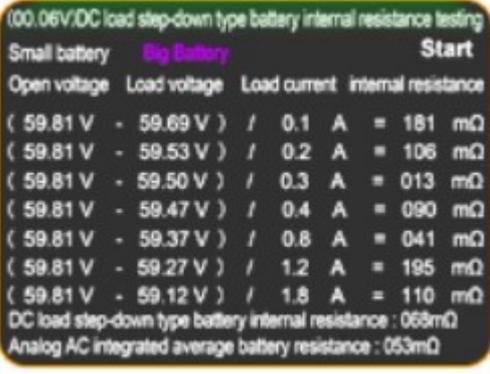
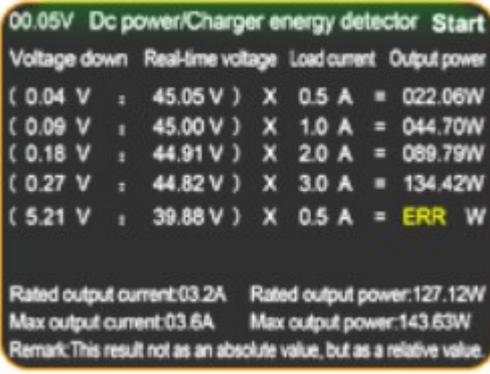
- (1) **Two-wire wiring method:** this method is relatively simple and convenient. Note: It must be connected to the 2 terminals [A+] and [A-].
- (2) **The four-wire wiring method:** the voltage measurement is not affected by the voltage drop of the wire, so that the voltage measurement. The quantity is more accurate, and it is recommended that buyers with a certain circuit basis use this method!



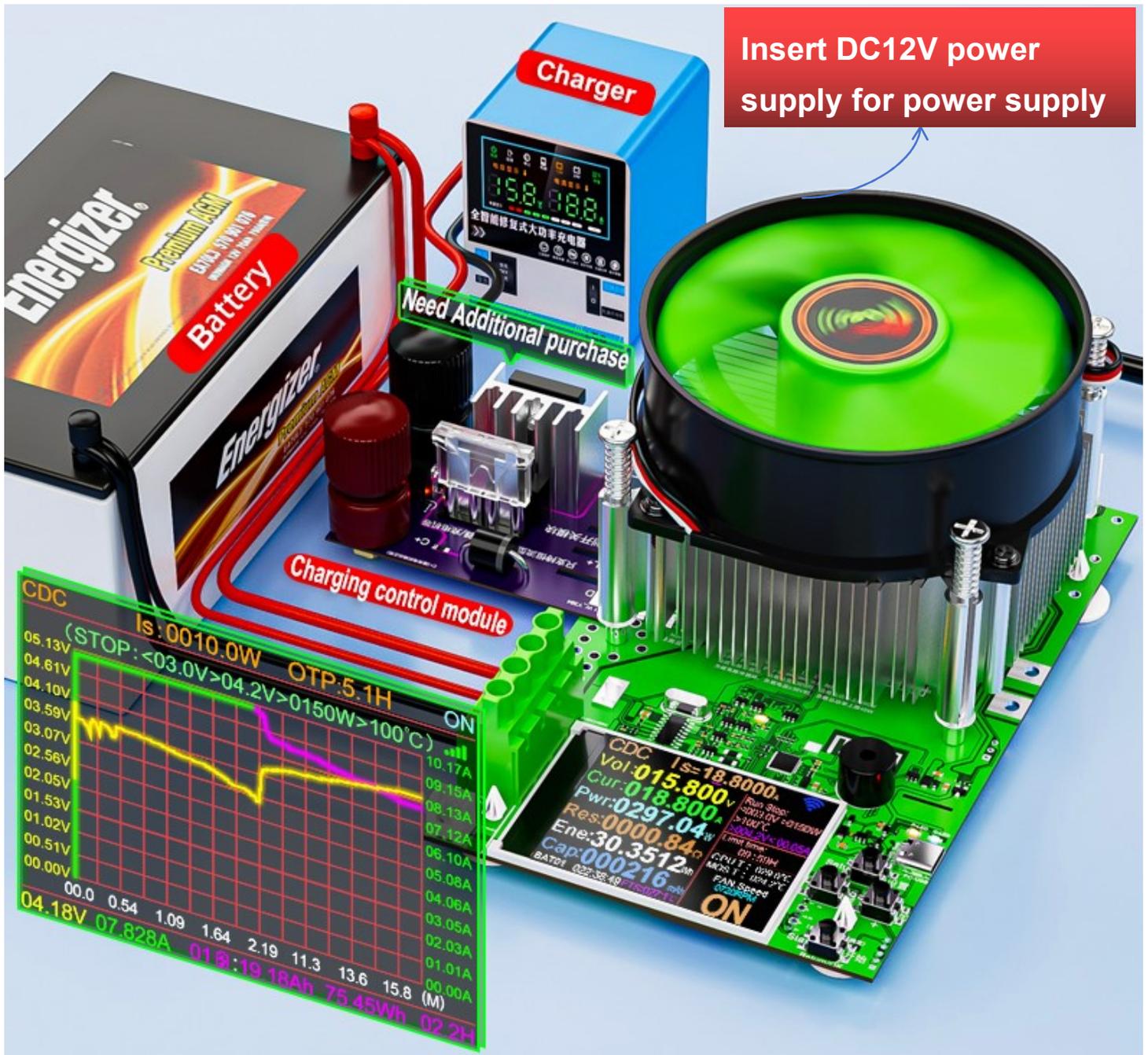
# 5. Test Instructions

- (1) .This electronic load can be tested in 10 kind of type testing modes:  
**CC/CV/CR/CP/BRT/PT/CT/CDC/CDCDN/CDxN**,
- (2) Including 6 kind of type curve modes: **CC/CV/CR/CP/CDC/CDVDC**.
- (3) .The CDC/CDVDC/CDxN modes Need a **charge control module** for testing.

Test mode	Operation instructions
<p style="text-align: center;"><b>CC Mode</b></p> 	<p style="text-align: center;"><b>Constant current test mode</b></p> <p><b>Operation method:</b> When selecting the "CC" constant current discharge mode in the menu, regardless of the input voltage No change, set the cut-off voltage and discharge parameters of the battery, press the "OK/Start" button, and BW150 will work at the set current value for constant discharge!</p>
<p style="text-align: center;"><b>CV Mode</b></p> 	<p style="text-align: center;"><b>Constant Voltage test mode</b></p> <p><b>Operation method:</b> When the menu is set to work in the constant voltage discharge mode of "CV", the tested power supply needs to be Constant current power supply, at which point BW150 will operate at the set voltage value Constant voltage discharge! <b>(Constant Voltage mode cannot test the battery)</b></p>
<p style="text-align: center;"><b>CP Mode</b></p> 	<p style="text-align: center;"><b>Constant Power test mode</b></p> <p>When menu is set to work in "CP" constant power discharge mode, regardless of whether the input voltage changes, BW150 automatically calculates the current to voltage ratio and works at set power value for constant power discharge! Combined with a high-voltage trigger, the maximum power of the charger can be tested. <b>(Constant power mode cannot test the battery)</b></p>

CR Mode	Constant resistance test mode
	<p>When the menu is set to work in "CR" constant resistance discharge mode, regardless of the input voltage Whether the current has changed or not, BW150 will automatically calculate according to the set resistance value The ratio of voltage to current equals a constant resistance value for discharging!</p>
CT Mode	Wire internal resistance and maximum current testing
	<p>Select the CT line resistance measurement function on the menu interface, short press to enter the automatic detection mode of line resistance and current value performance.</p> <p>Connect the wires as shown in the figure below, and then press "OK/start" button to automatically detect 7 important numerical results throughout the process.</p>
BRT Mode	Battery internal resistance test mode
	<p>Select the "BRT" internal resistance measurement function on the menu interface, and short press to directly enter the internal resistance measurement Automatic detector mode, simply follow the wiring method shown in the diagram, then press the start button to complete the entire process</p> <p>Automatic detection of battery internal resistance, simple and professional.</p> <p>(Mainly tests battery internal resistance, <b>small battery</b> tests low current internal resistance, <b>big battery</b> tests high current internal resistance)</p>
PT Mode	
	<p>Select the PT power measurement function on the menu interface, short press to enter the automatic detection mode of the power measurement and charger, follow the wiring reference in the following figure, and then press "Ok/start" button to automatically detect 4 important numerical results throughout the process, which is simple convenient and fast.</p> <p>(Mainly testing DC power supply)</p>

The following three testing (**CDC/CDCDC/DCxN**) modes require configuration (**charging control module**) and need to be purchased separately for testing!



## CDC Mode



When selecting the CDC function on the menu interface , simply follow the wiring instructions in the following diagram, Press the“OK/Start”button again to perform a fully automatic charge and discharge . (CDC) cycle test.

## CDCDC Mode



When selecting the CDCDC function on the menu interface simply follow the wiring instructions in the following diagram, Press the “OK/Start” button again to perform a fully automatic charge and discharge . (CDCDC) cycle test.

## CDxN Mode



Select the CDxN charge and discharge cycle test function on the menu interface, press briefly to enter this function follow the wiring diagram as shown in the figure, and then press the start button. The entire process will automatically cycle and detect 1-99 group sets of values The discharge aging detection performance is simple and convenient.

## 6. Online Instructions

### 1. PC computer upper online functions (Connect through HID data cable)

The PC computers can read device current, voltage, power, capacity and other data, and export XLS table data.

**Download link:** <http://en.atorch.cn/upload/file/20241217/6387004514765584411262215.zip>

### 2. Bluetooth APP functions (**Support Android 5.0 and above versions**)

The Bluetooth app can read device current, voltage, power, capacity and other data, and export XLS table data.

**Note:** This version of the APP is only used to control switches and may have compatibility issues. It is not intended for primary testing. Please use PC software for testing!

**Important note:** When online, be sure to turn on GPS positioning permission

**Note:** Some phones have incompatible apps (Samsung), please switch to another phone for pairing and online connection!

**Download link:** <http://en.atorch.cn/upload/20220611142210.apk>

Android APP: search E-test at Google play to download

IOS APP: search E\_test on iphone APP store to download

### 3. WiFi Smart life APP functions

The WiFi app can only view data, curve data, and cannot export data!

**WiFi version app:** Please download the [tuya app](#) or [Smart Life app](#) from the Google Play Store or Apple App Store



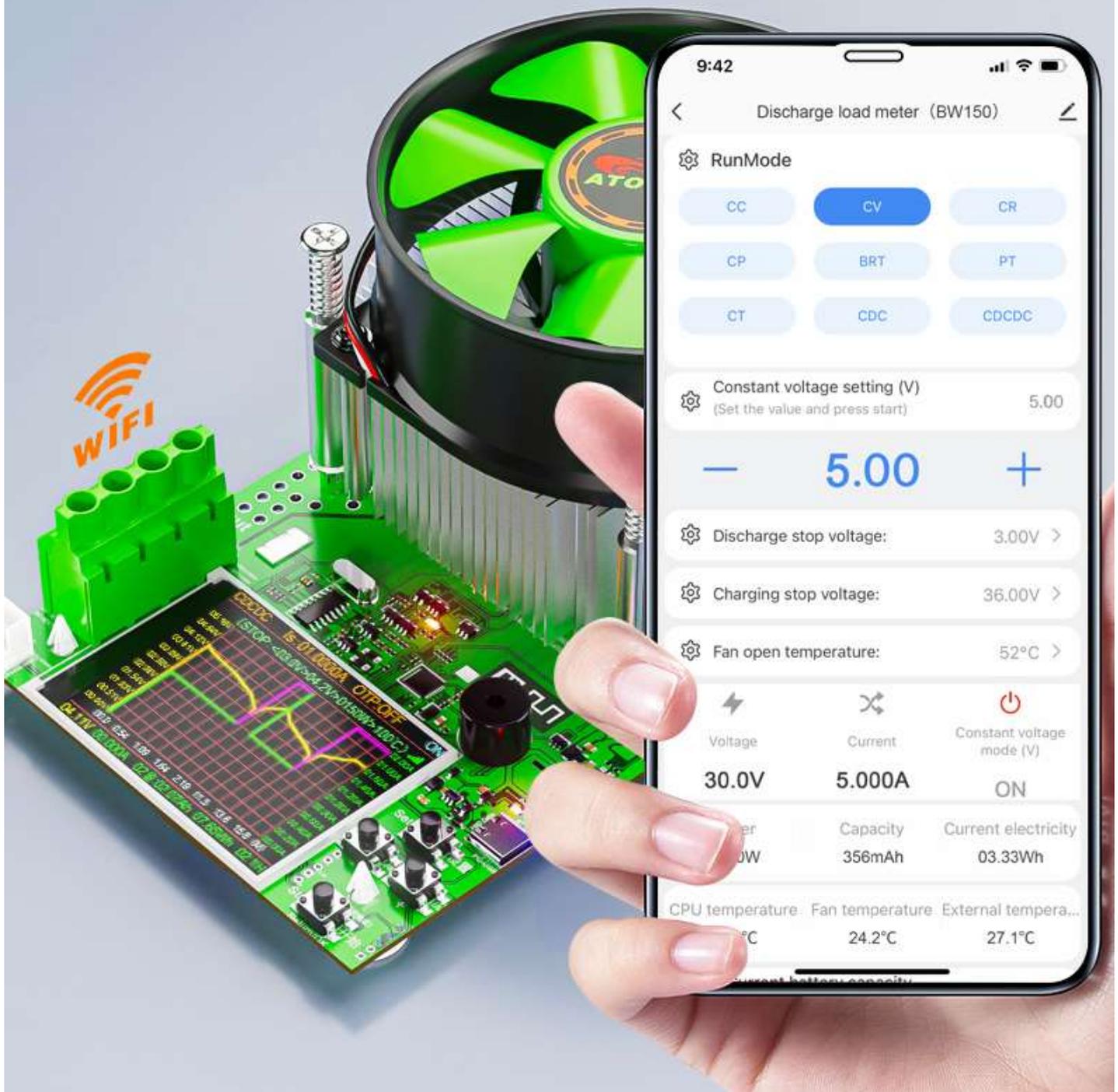
### About SOFTWARE QUESTIONS:

1. **The APP crashes on my PC, what is the problem ?**
2. A: For PC software, because there may be incompatibilities problems, please download first before buying , if you can download and install, you can place order, or else do not buying. If you don't test the PC software and APP function before buying and find that the products works fine except the PC software, we refuse to refund.For PC software, it only support win 7 and Win 10 above for now.
3. **2. Why are there \_BLE and \_SPP modes and which one to choose?**
4. A: Our APP adopts the latest connection technology, please do not pair in Bluetooth mode, directly click on the E-test (Android APP name) APP provided by us, click the Bluetooth symbol, E\_test (Apple APP) select the \_BLE Bluetooth name to proceed connect, that's it ok!
5. \_BLE:is connected in mobile mode \_SPP:is connected in PC computer mode
6. **3.What is the computer pairing password?**
7. A: Password is "0000" or "1234"
8. **4.Does it support WIFI mode?**
9. A.Support, Need to purchase WiFi module, connected via wireless mode !
10. **5.Why only supports 2.4G networks and not 5G?**
11. A: Yes, only supports 2.4G networks

\*WiFi APP interface display

# Built in WiFi Module For Remote Control And Test of Mobile Phones

Download and install the **smart life / tuya** app on your mobile phone, remotely control devices through the internet, with no restrictions Distance, using discharge aging measurement data is clear at a glance.



## 7. Firmware Upgrade

This device supports two firmware upgrade methods, which can be done through a computer USB connection or remotely via WiFi!

**Operation method:** Please insert the HID (Type-C port) into the computer online cable, which will automatically recognize and connect. Then, you can open the software and find the firmware upgrade window to upgrade. We will publish the bin file on the official website for the upgrade!



## 8. Curve function display

# Drawing the Curve of Battery Capacity Division Discharging and Charging

### Note:

1. Default for drawing CC/CP/CV/CR curves includes
2. CDC, CDCDC curve drawing requires purchasing a separate charging control module and switching to CDC for CDCDC mode to take effect. (CC/CP/CV/CR/CDC/CDCDC)

Explain 6 testing modes:

**CC:** Constant current mode

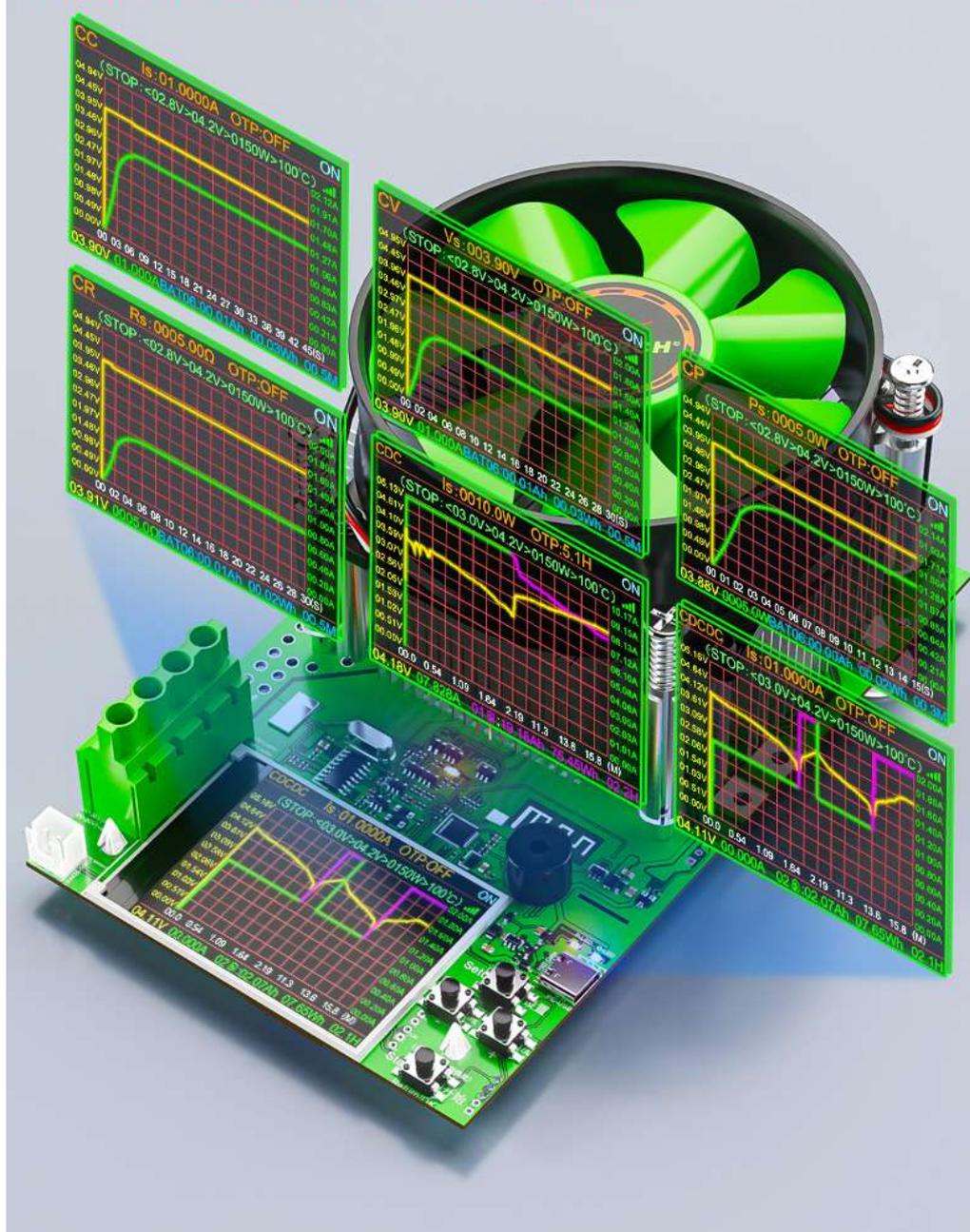
**CV:** Constant voltage mode

**CP:** Constant power mode

**CR:** Constant resistance mode

**CDC:** Charge-discharge-charge mode (Needs charging control module)

**CDCDC:** Charge-discharge-charge-discharge-charge mode (Needs charging control module)



# 9. Product background introduction

## Operation method:

Press and hold the "OK/Start" button on the measurement interface to return to menu options interface,

Short press the "+" / "-" button to jump to the "System Settings" icon when it turns green

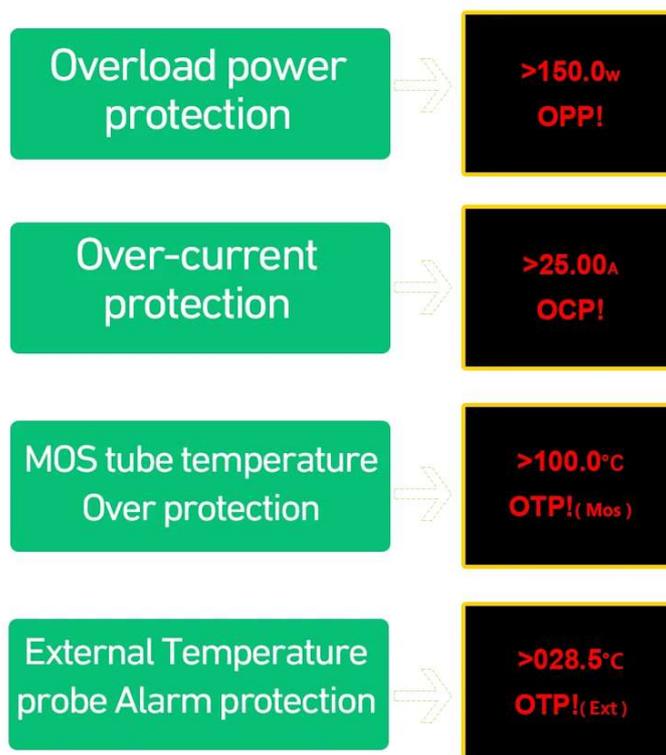
Short press again to enter the following system settings interface,

Short press the "+" / "-" buttons again to select the column and enter the parameters under the corresponding function settings.

**(The background interface may change, please receive the physical item as the main item)**

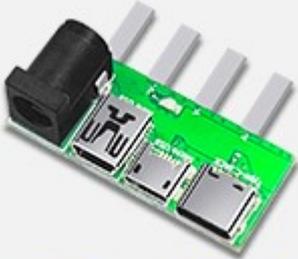
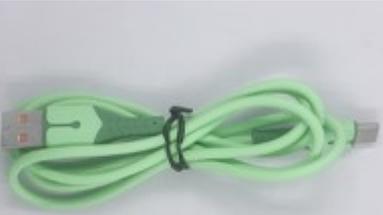


# 10. Four major alarm functions



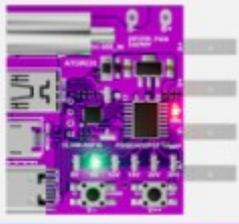
# 11. Accessory usage instructions diagram

The following accessories are default package accessories and can be used directly according to the instructions

Accessory Name	Application Description
 <p data-bbox="100 689 496 730">Measuring line adapter board</p>	<p data-bbox="539 510 1394 640">Can test DC power supply, MINI USB, Type-C, Android USB all kinds of data cables</p>
 <p data-bbox="156 1016 416 1057">Temperature probe</p>	<p data-bbox="539 801 1362 1016">Measure battery temperature, and can also detect the temperature of various devices and temperature etc...</p>
 <p data-bbox="145 1357 416 1397">10A 2-wire test Cable</p>	<p data-bbox="539 1178 1315 1308">Detect battery or other 10A with two-wire wiring equipment in range</p>
 <p data-bbox="156 1704 424 1744">Computer Online cable</p>	<p data-bbox="539 1491 1430 1706">Connect the computer to a USB serial port and use the computer software online, which can upgrade firmware and read data</p>

## The following accessories need to be ordered separately!

 <p data-bbox="124 2107 464 2148">Charging control switch board</p>	<p data-bbox="628 1921 1171 1966">Cycle charge and discharge use</p> <p data-bbox="555 2033 1171 2107"><b>Warning</b> Must be connect Battery Dedicated charger!!!</p>  <p data-bbox="1294 2123 1481 2152">Battery Charger</p>
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 <p>Fast Charging Protocol High Voltage Trigger Test Board</p>	<p><b>Load Fast Charging Protocol High Voltage Trigger Test Board</b></p> <p>This load test board can support PD3.1 compatible with PD3.0 protocol, QC, AFC, FCP and other protocols. By sending fast charging protocol chargers or power banks, it can triggered 5V/9V/12V/15V/20V/28V fast charging voltage for various aging and testing, as well as quality identification, voltage, current and power identification.</p>
 <p>20A battery test Box</p>	<p><b>20A large battery four wire battery activity testing fixture</b></p> <p>Using a 4-wire wiring system for more accurate testing! Adapt to battery model testing: [1].18650,26650,14500,16340,26850,18350,32650,46950 and all other lithium batteries; [2 ].All dry batteries, including A, AA, AAA, etc [3].All button batteries such as 2032, GPA76,LR44, etc.</p>
 <p>Battery test Box</p>	<p>Using 4-wire wiring system for more accurate testing</p> <p>Adapt to battery model testing: 18650、26650、14505、14340、14250 Battery Test</p>

## 12. Product Application Description

**5-in-1 battery testing fixture application reference display**

Using a 4-wire wiring system for more accurate testing!  
Adapt to battery model testing:  
18650、26650、14505、14340、14250 Battery Test

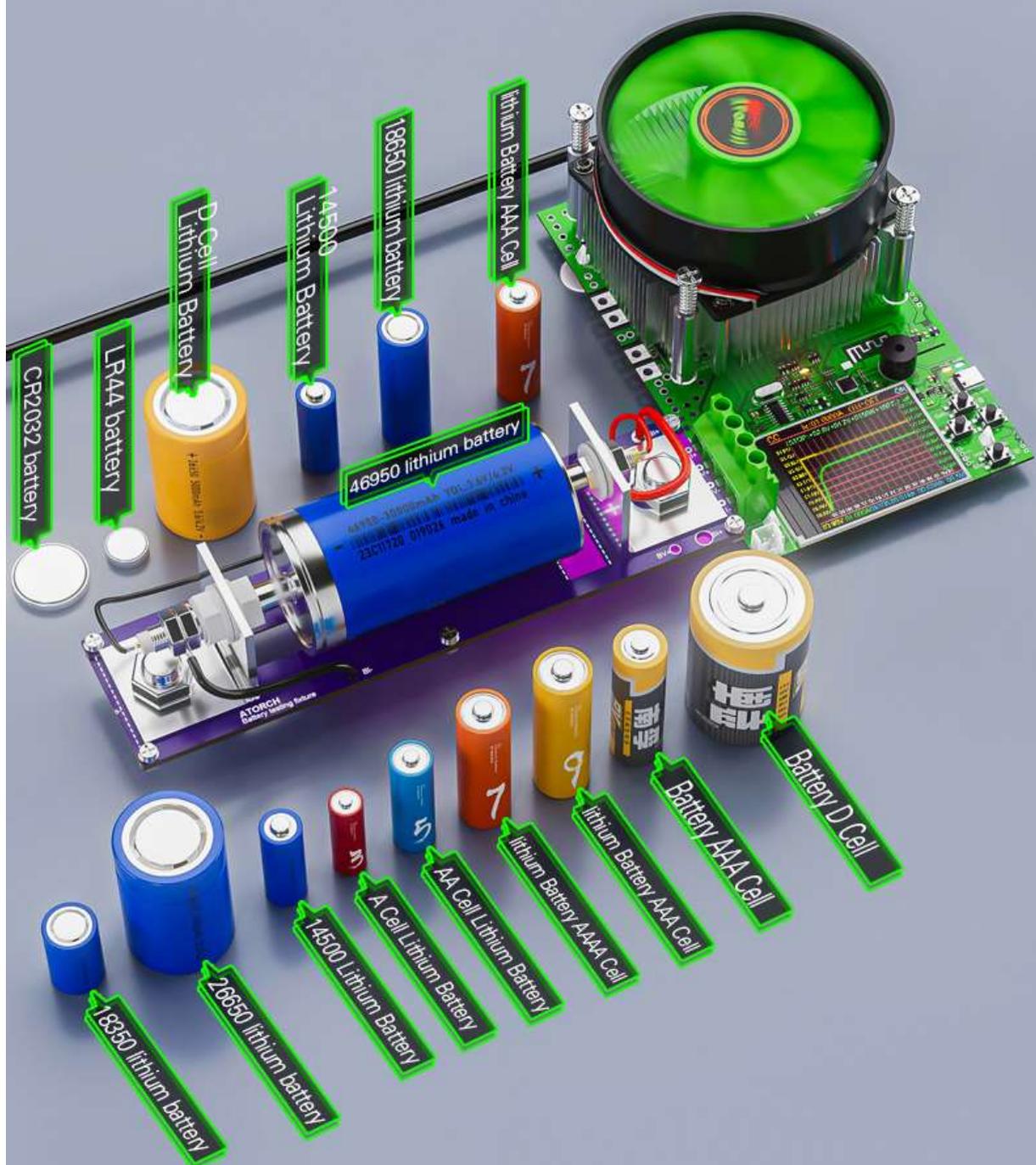


# Test various types of batteries

## Adapt to battery model testing:

- 【 1 】 .18650, 26650, 14500, 16340, 26850, 18350, 32650, 46950  
and all other lithium batteries;
- 【 2 】 .All dry batteries, including A, AA, AAA, etc
- 【 3 】 .All button batteries such as 2032, GPA76, LR44, etc.

## This section combines the testing function of the 20A testing fixture to demonstrate its functionality ##



# DL24B-XSP16 Operation Method

**P31 supported Protocol fast charging voltage :**

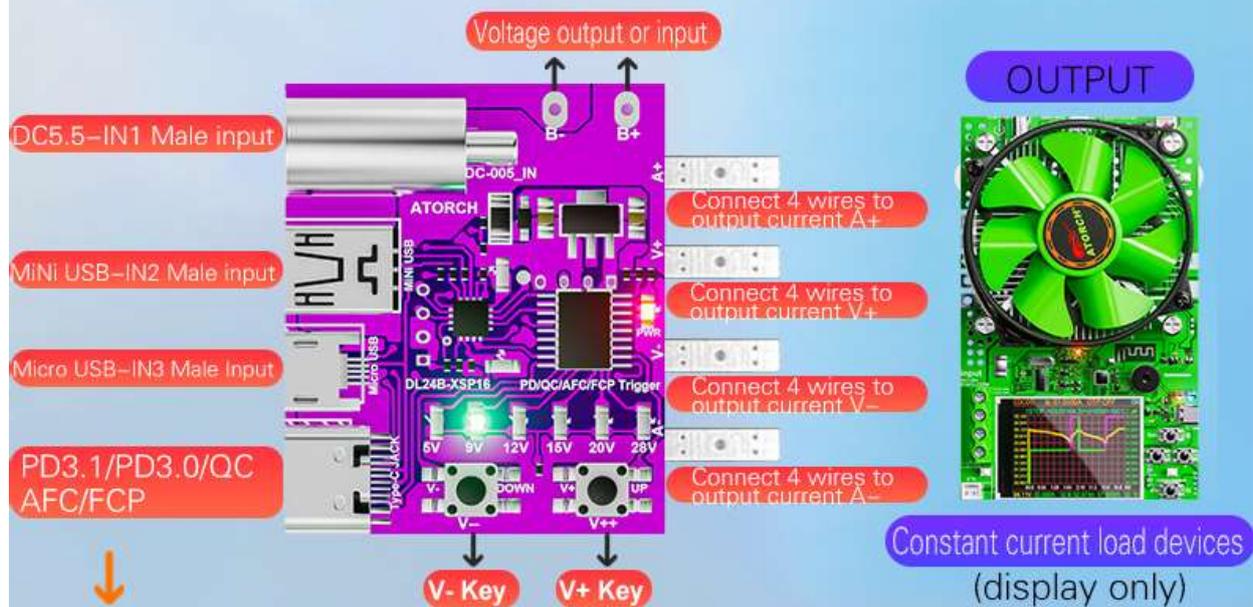
**Support PD3.1:** 5V, 9V, 12V, 15V, 20V, 28V

**Supporting PD protocols:** 5V, 9V, 12V, 15V, 20V

**Supporting QC protocols:** 5V, 9V, 12V, 20V

**Support Samsung AFC protocol:** 5V, 9V

**Support FCP protocol:** 5V, 9V, 12V



Connect PD3.1/3.0 charger, power bank and other fast charging devices through a dedicated fast charging cable with E-mark chip, The device only supports PD3.1 28V voltage output through this interface

All indicator lights in the diagram are for display only, please refer to the actual situation

