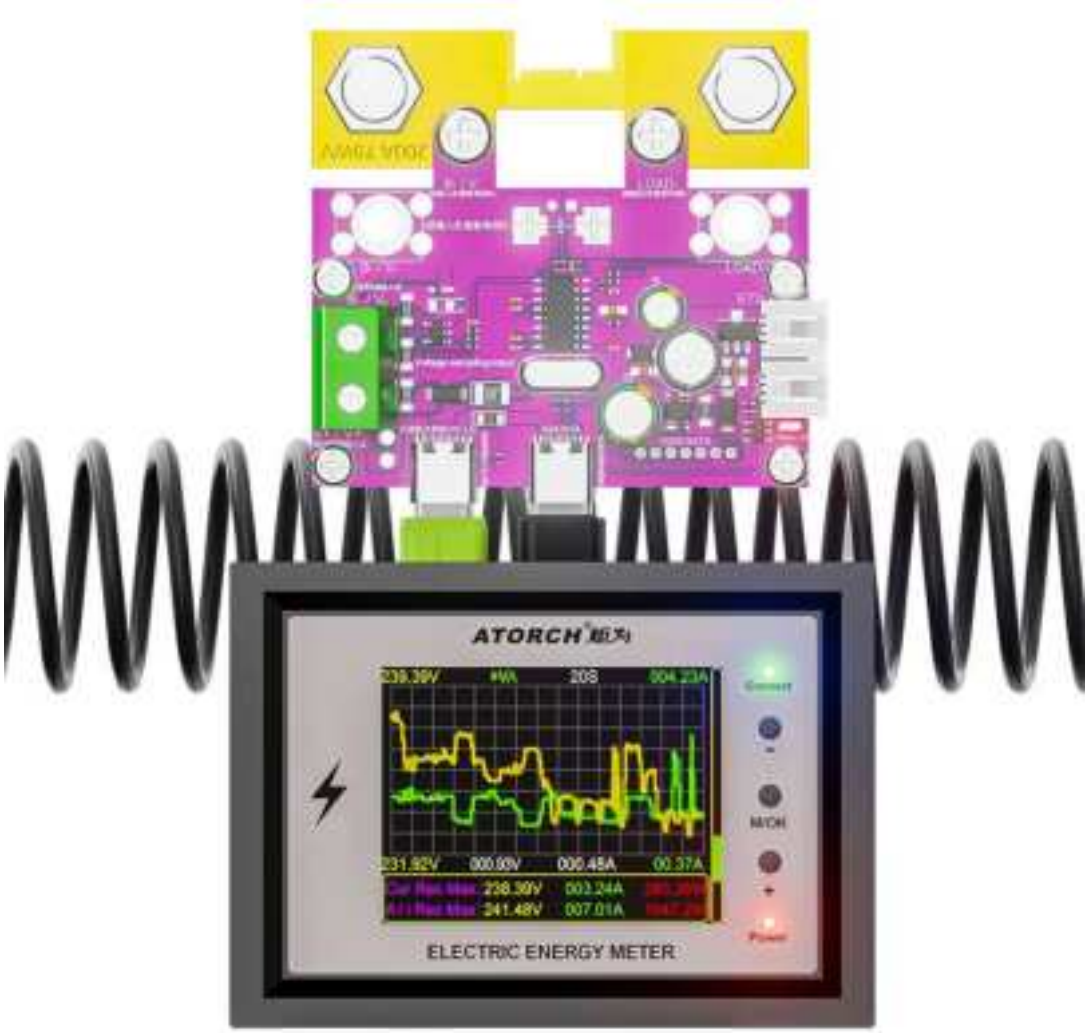
CW24 WIFI Networked Intelligent Battery Coulomb Meter
--User Manual--

Voltage measurement range:DC0~420V

Current measurement range:☐30A ☐100A ☐200A ☐500A ☐1000A



This device is used to measure and display parameters such as voltage, current, power, true capacity, battery temperature, low capacity alarm, low voltage alarm, Current voltage curve, Electricity statistics,as well as remaining discharge time and remaining charging time of the battery pack. It accurately displays various working states of the battery pack at any time.

1. Scope of application and electrical measurement specifications

*This instrument is suitable for electric vehicles, RVs, cars, emergency power supplies, energy storage power supplies, measuring equipment, medical equipment, various instruments and other products that use battery equipment.

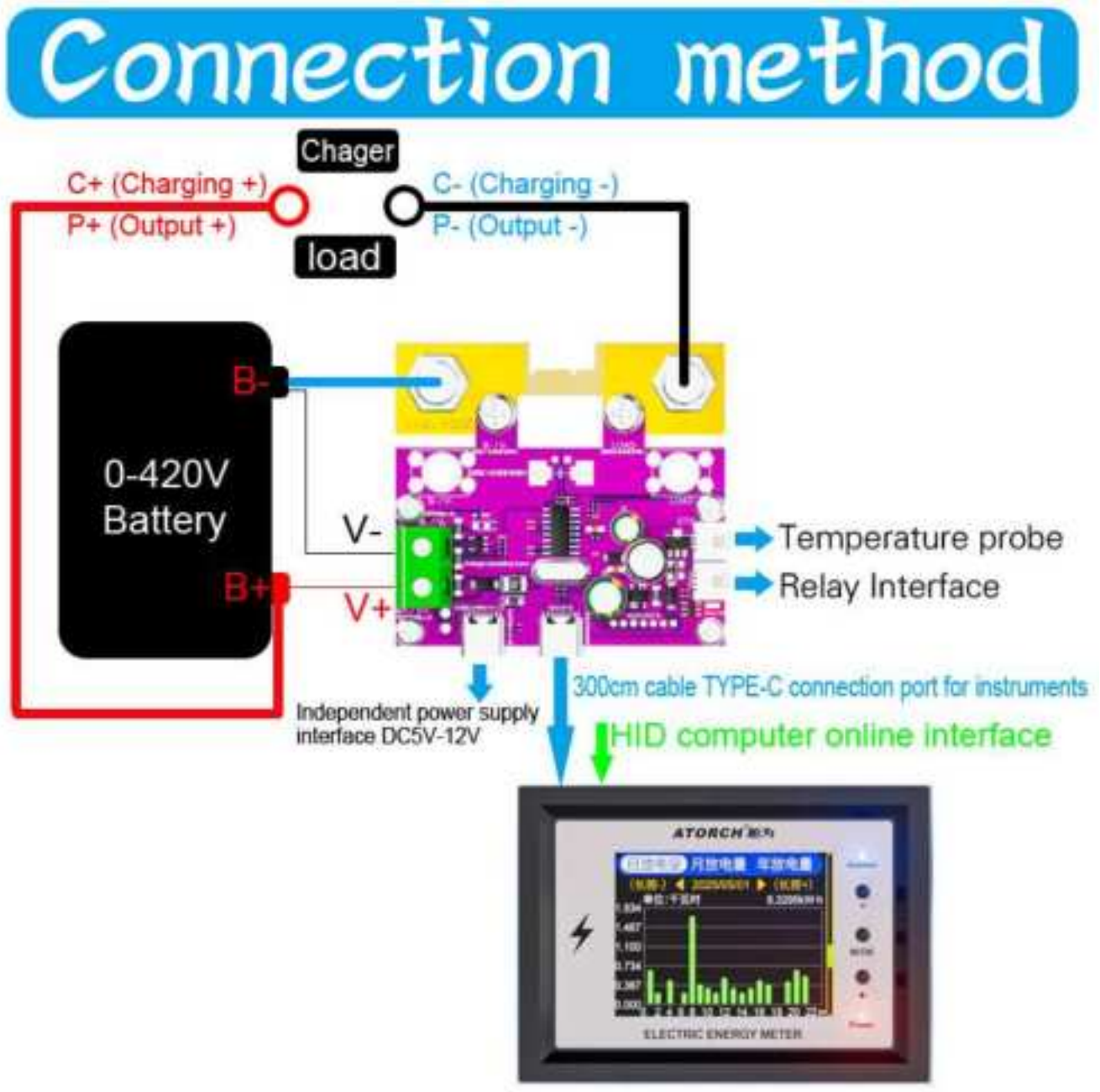
*Suitable for all types of battery packs, including lithium batteries, lithium iron phosphate, lead-acid batteries, nickel hydrogen batteries, etc., with operating voltages ranging DC 0~420V.

*Less than 10V, DC5V power supply is required for independent power supply!

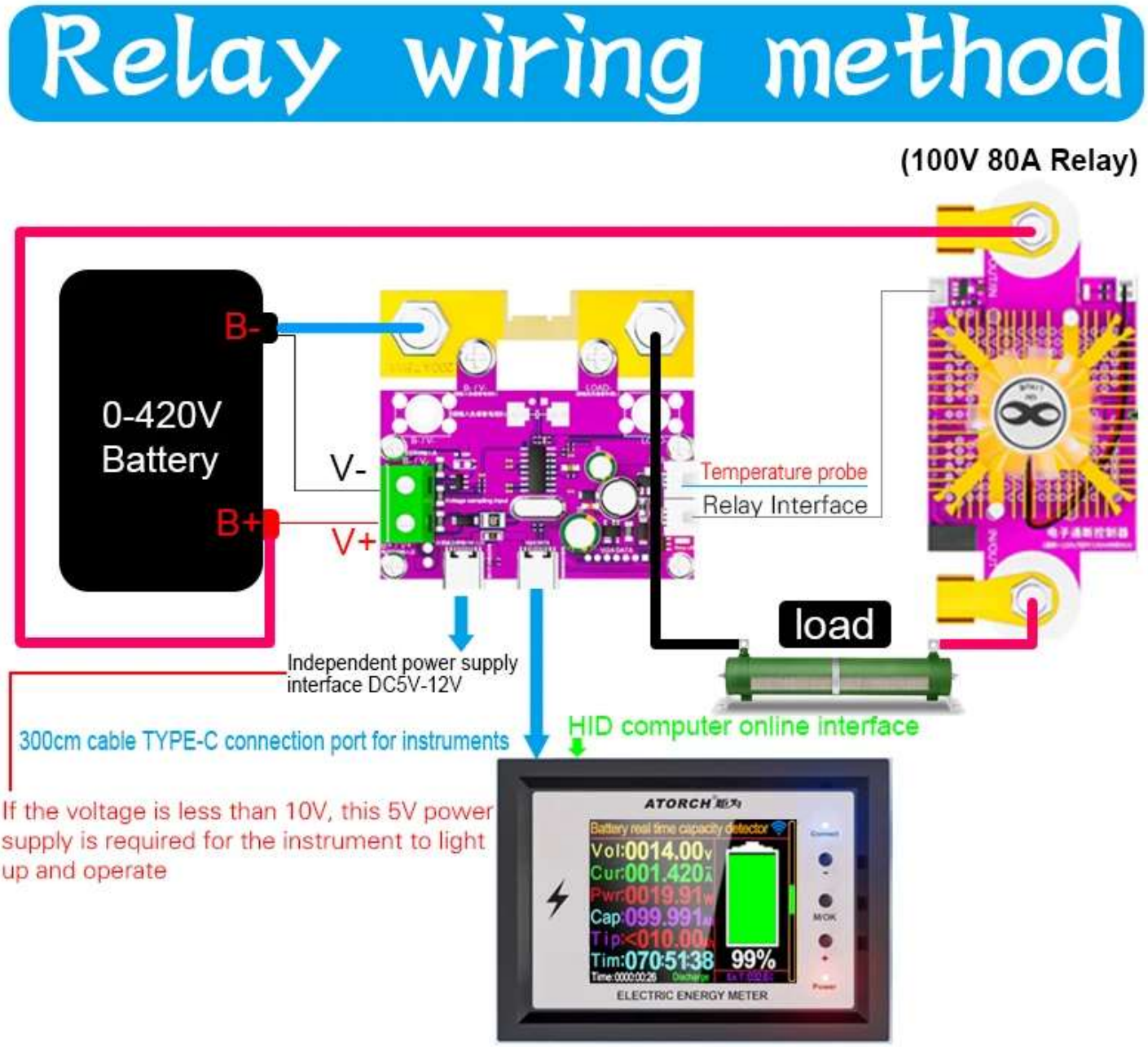
*Built in WiFi module:Remote Control:Connect the DT20 meter Wi-Fi to 2.4GHz Wi-Fi, then you can monitor or adjust on your phone through the app at any time anywhere.

2. Wiring Instructions

1.>Excluding relay connection method



2.>Excluding relay connection method



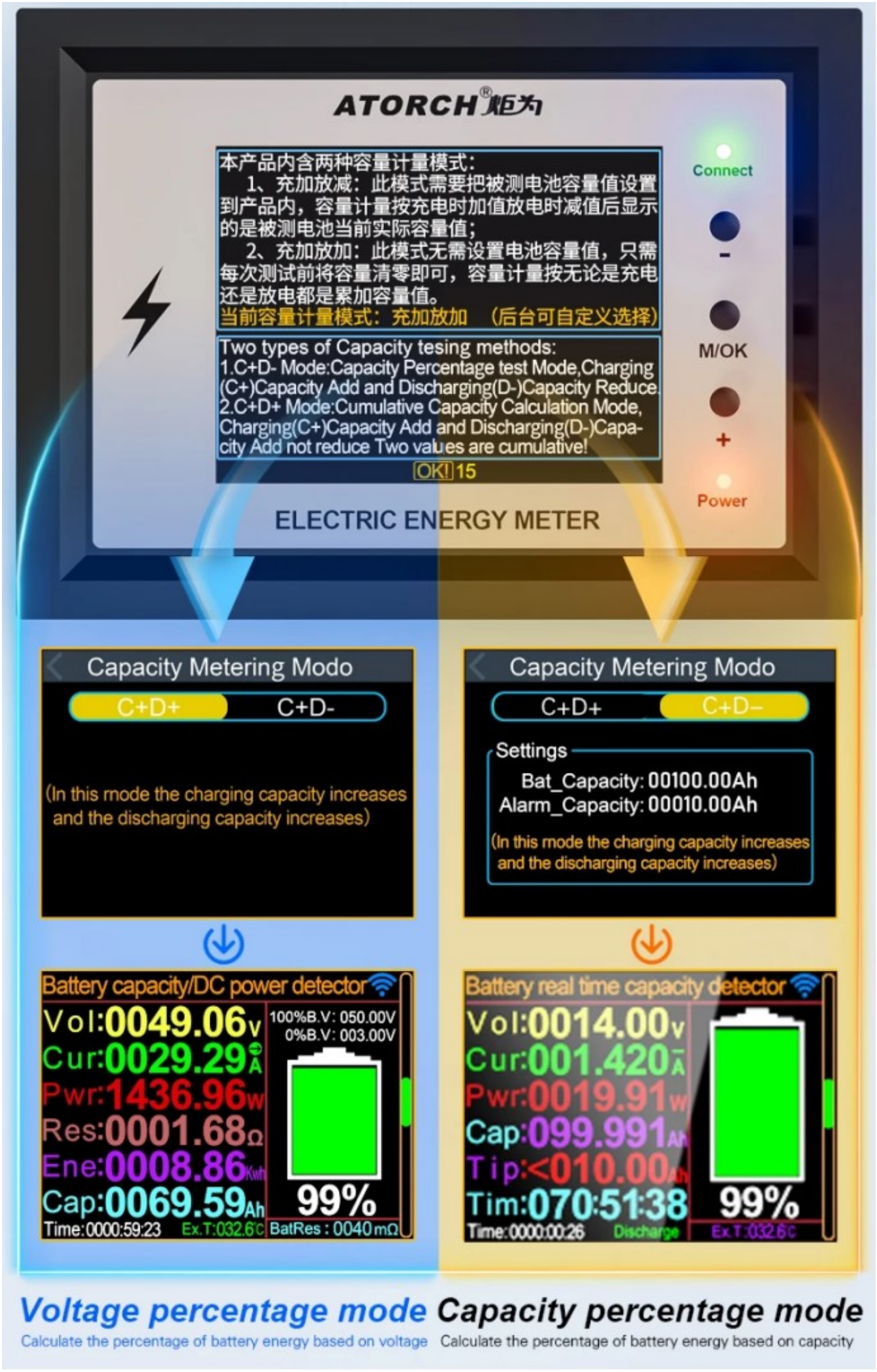
3. Two ways to test battery percentage

You can choose one of the appropriate ways to test your battery!

1.C+D-Mode: Capacity Percentage test Mode,Charging(C+)Capacity Add and Discharging(D-)Capacity Reduce.

2.C+D+ Mode: Cumulative Capacity Calculation Mode,Charging(C+)Capacity Add and Discharging(D-)Capacity Add not reduce Two values are cumulative!

Operation method: Please long press M key to enter background, select: Capacity metering mode,and choose testing mode you need!

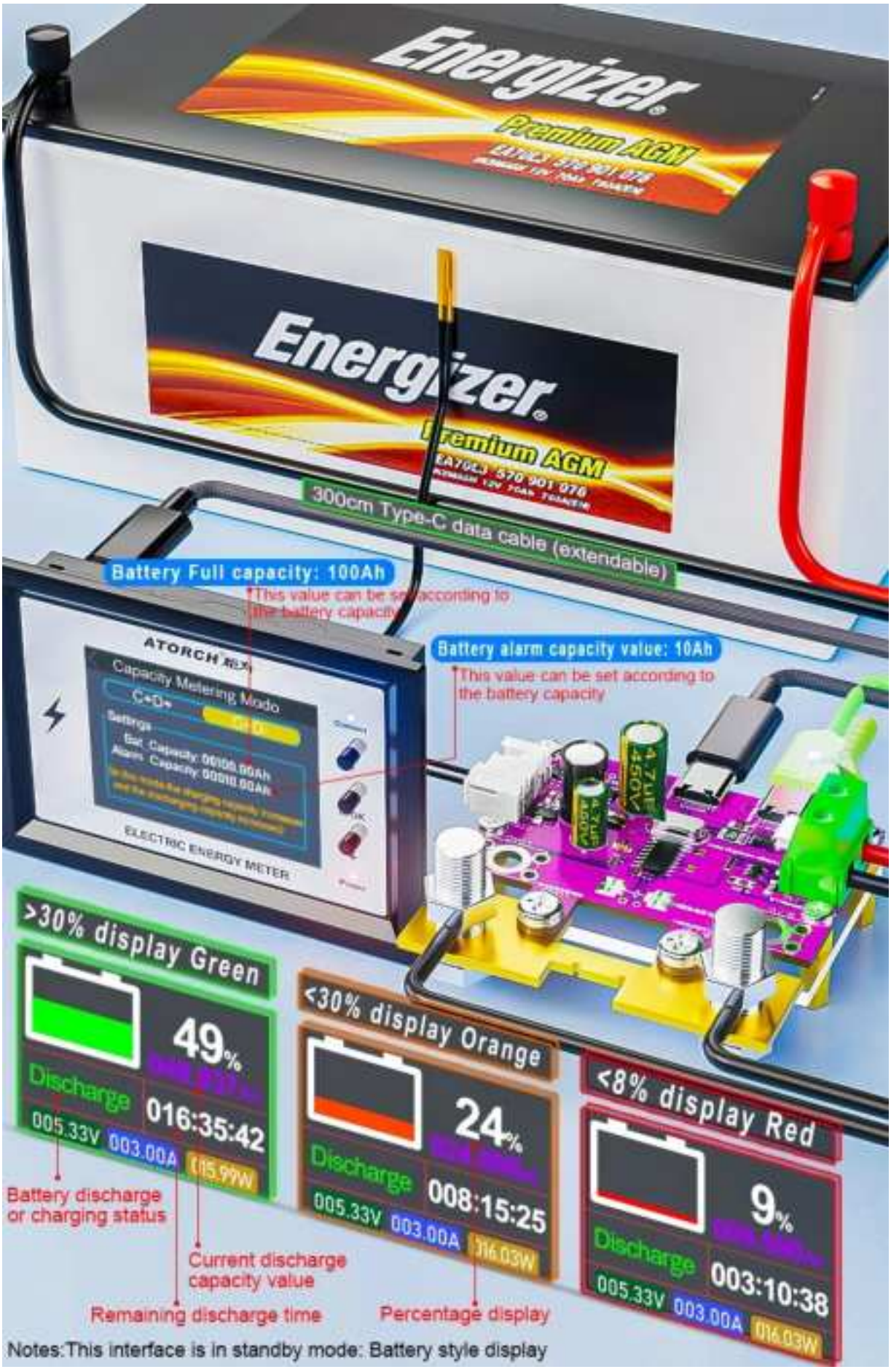


Voltage percentage mode
Calculate the percentage of battery energy based on voltage

Capacity percentage mode
Calculate the percentage of battery energy based on capacity

1. >Capacity percentage mode

Operation method:
Please press and hold the M key to enter the background,select: Capacity metering mode (C+D -) mode test!



2. >Battery level percentage color change display

High and low threshold free setting for real-time detection of charging and discharging control output

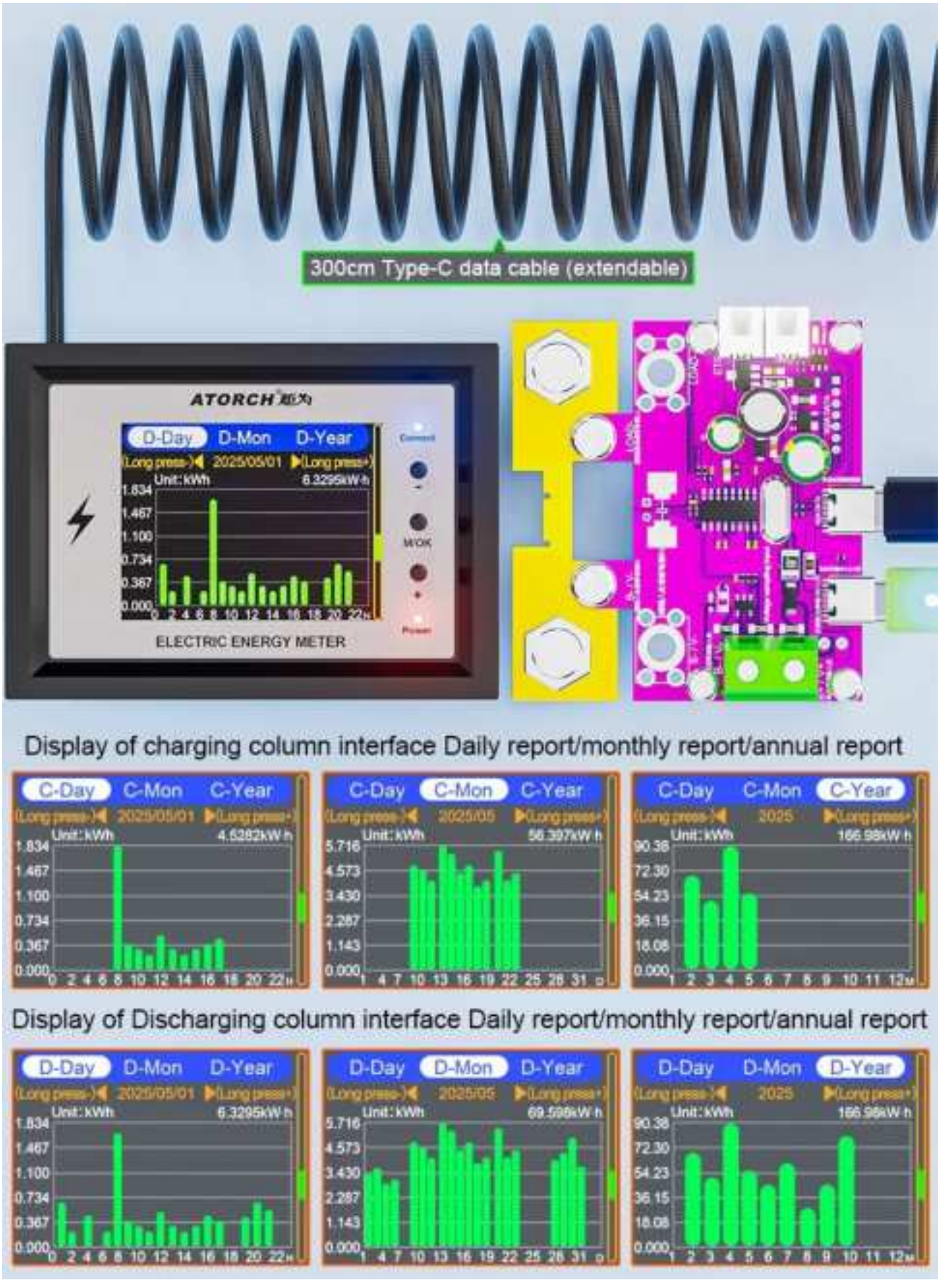
This meter allows users to freely set the corresponding full charge voltage value and minimum discharge voltage value for battery types in the background, After calculating the percentage based on the threshold set by the user, the system displays the percentage color change through the battery symbol (green >30% yellow < 30%, red < 10%); When the display is within the range of 1% to 100%, the red light on the Power panel lights up, and the relay output interface outputs a high level to control the relay to connect the current path. When it exceeds the range of 1% to 100%,the red light goes out and the relay outputs a low level to disconnect the current path, ensuring safe charging and discharging protection for the battery, avoiding the risk of battery damage due to over-charging and discharging. It can also be used for other purposes of over-voltage and low-voltage disconnection protection.

4. CW24 WiFi Battery Capacity Meter view

5. Four Standby Display modes

6. Measurement data of charging and discharging capacity statistics table

View charging and discharging capacity/daily report/monthly report/annual report Real time management of efficient charging and discharging power, statistics of daily charging and power consumption, real-time viewing of charging and discharging operation power through the host interface, real-time recording of daily, monthly, and annual charging and discharging power data, simple operation, and high measurement and statistical accuracy.

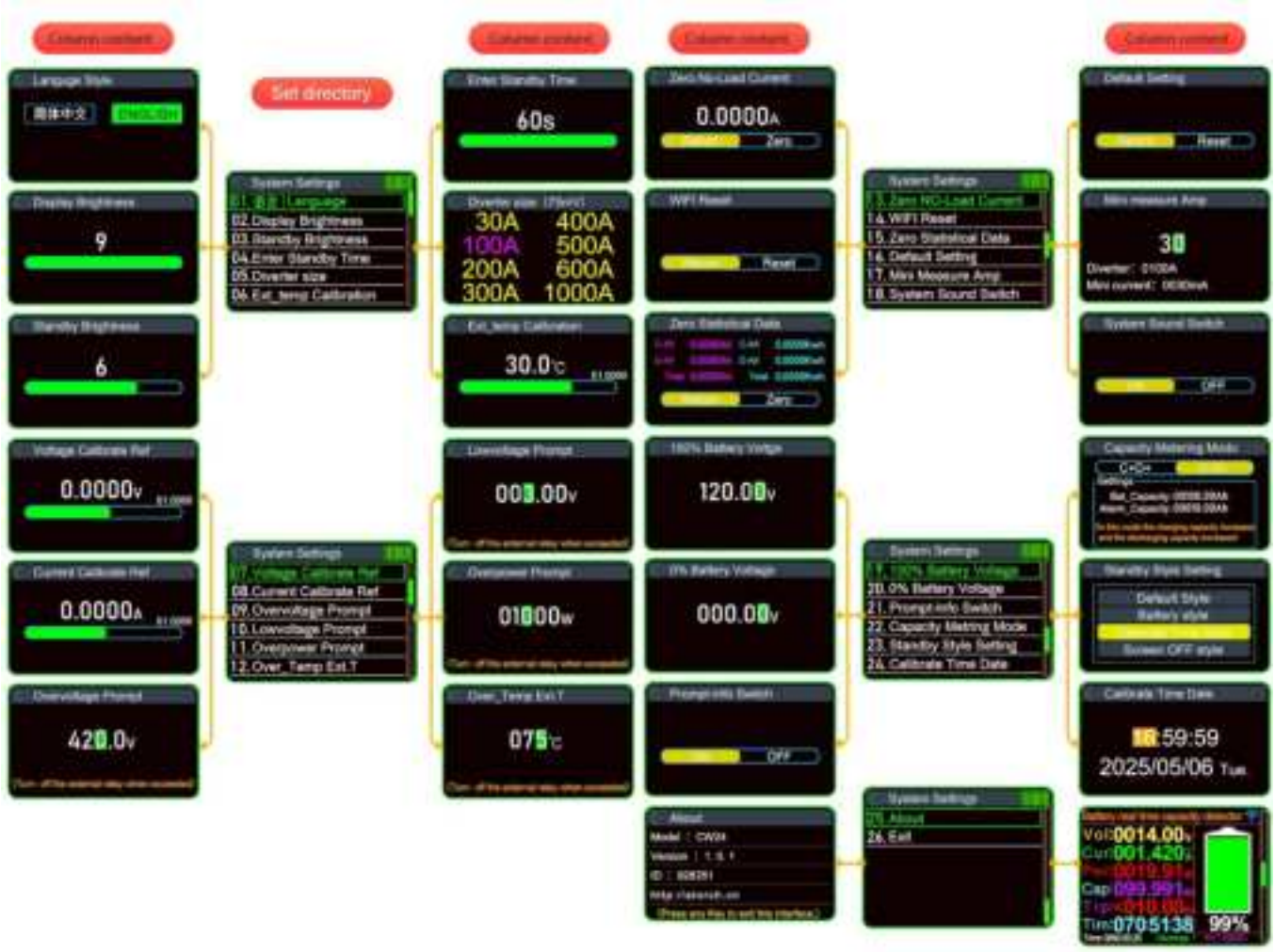


7. CW24 Multi HD Color Screen Interface Design

The CW24 true color screen brings you a different color visual experience, with multiple functional interface contents designed, multiple parameters displayed on one screen, and switching between different functional interfaces through short button presses ..

8. Latest backend settings

Long press the “M” key to enter the background, then short press the“+”/ “-"keys to select the column and enter the parameters under the corresponding function settings.



9. Independent statistical function for charging and discharging capacity and energy

After summarizing the urgent needs of numerous photovoltaic power generation users for engineers, ATORCH designed an independent statistical interface page for charging and discharging capacity and electricity. The page includes the total charging capacity value, total discharging capacity value, total charging and discharging capacity value, total charging energy value, total discharging energy value, total charging and discharging energy value, etc., which makes the data more detailed and clear at a glance.

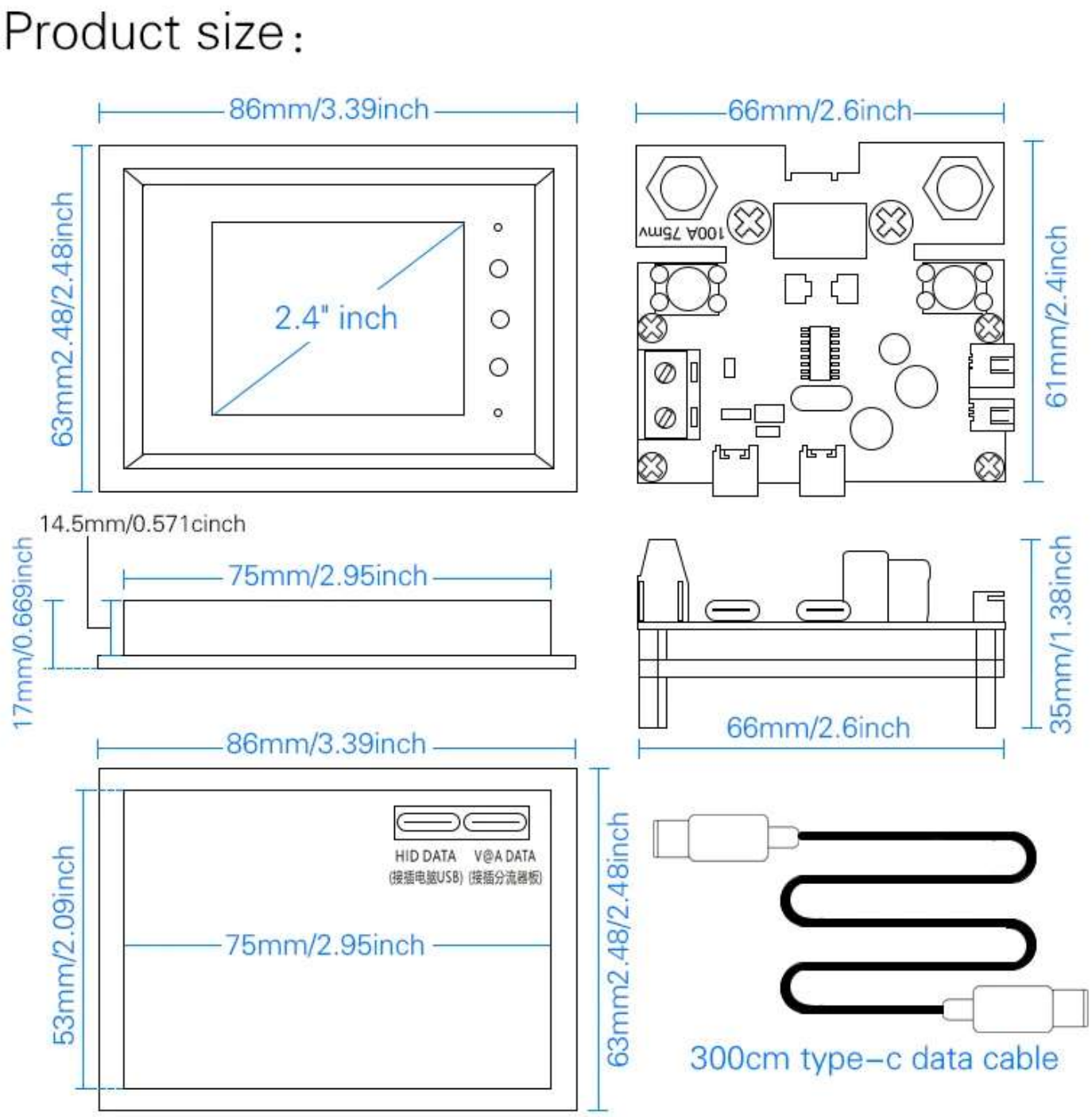
10.Four fold alarm prompt

Dual alarm with sound and display for

Over-voltage/ Low-voltage/ Over-power/ Over-temperature!

Long press the"M/OK" button to enter the backend system settings for the Over-voltage threshold, Low-voltage threshold, and Over-power threshold of the tested battery. After the probe exceeds the temperature threshold, the device will display an alarm message and the internal buzzer will beep to remind users to charge the battery in a timely manner due to low battery voltage and low battery capacity, in order to avoid situations where the battery runs out of battery.

11.Product size:



12.Powerful IoT intelligent APP control software

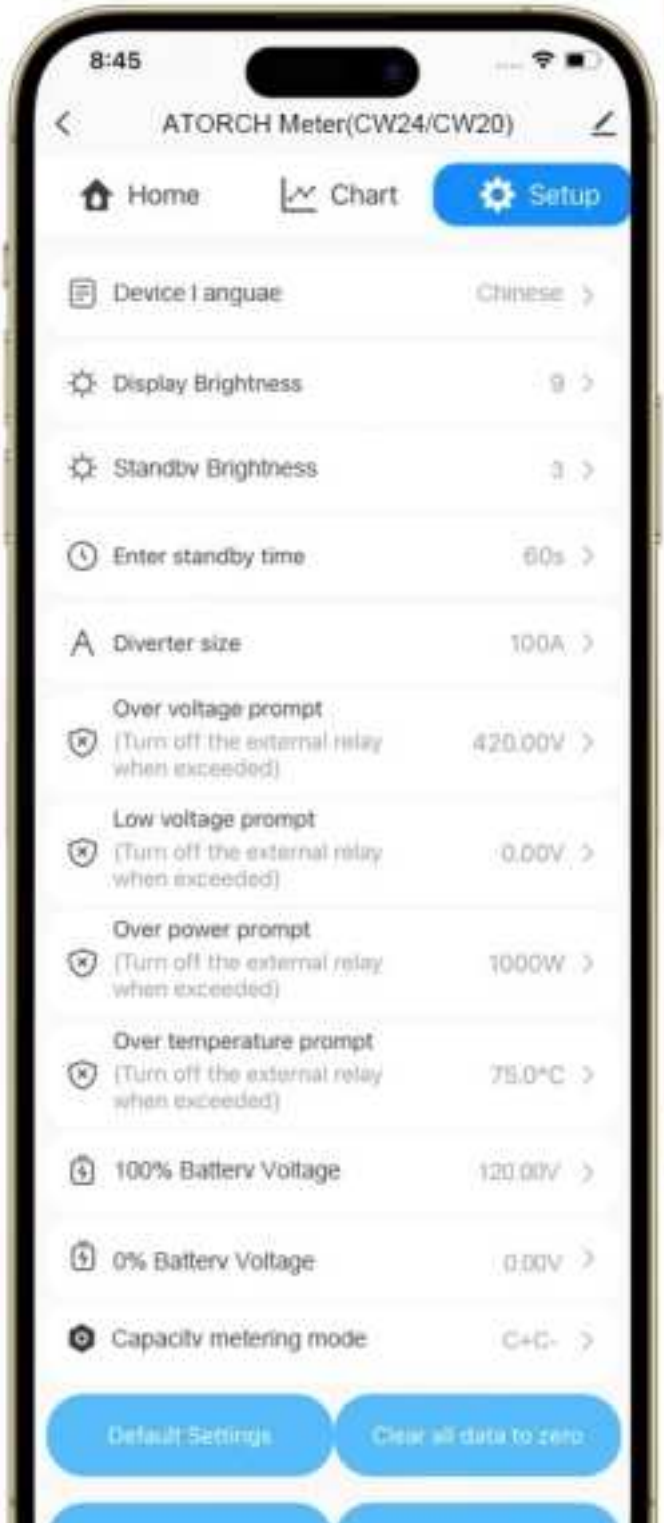
WiFi connected DC meter (CW24) can be downloaded from the smart life app and installed on your mobile phone to achieve remote control and testing, with rich functions. It almost covers all the functions of the host remotely on the mobile app for functional control, battery power data detection, charging and discharging curves, and charging Daily/monthly/annual electricity column statistics, etc .....

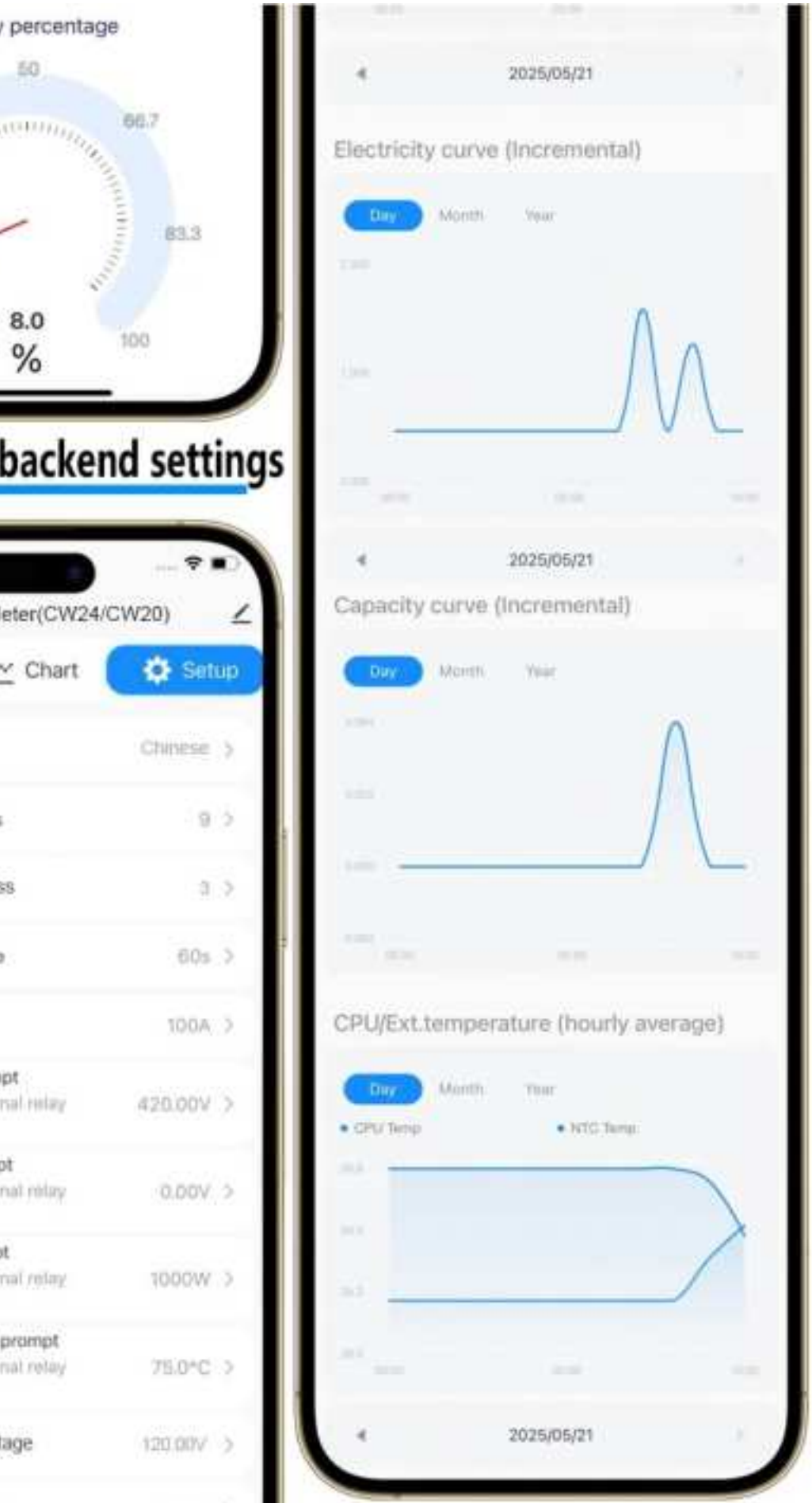
Note:Supports 2.4G WiFi network, requires Bluetooth device and WiFi signal to be turned on!

Mobile APP homepage display

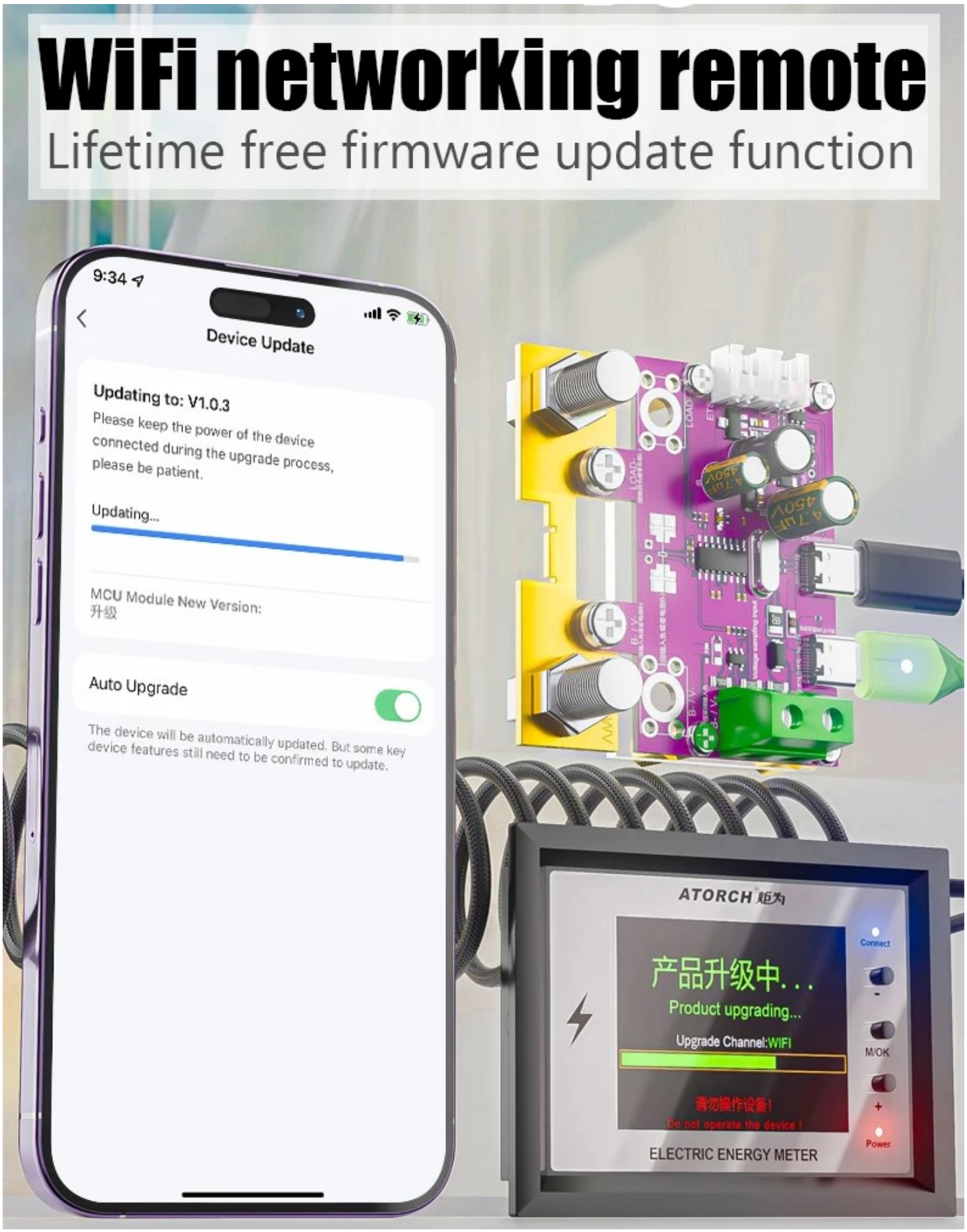
Mobile APP Graph display

Mobile APP backend settings

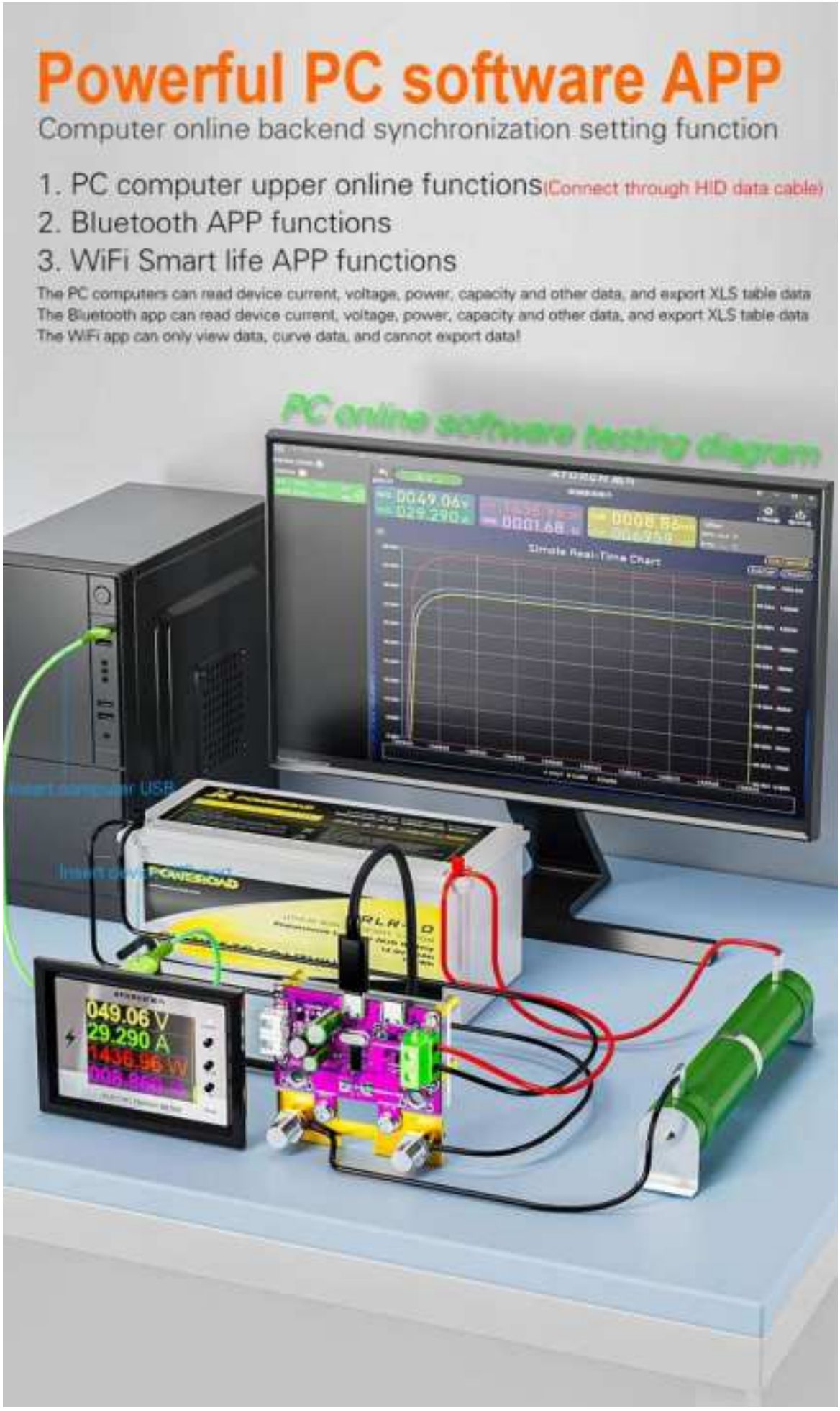




13.Support Firmware upgrade



14.Powerful PC software APP



15.WiFI Voltmeter Distribution Network Description

WiFI Voltmeter Distribution Network Description

WiFi connection to the network only requires three steps

*For voltmeters with WiFi modules

Download the Smart Life APP Smart Connection Meter "CW24"

01

- Smart life APP Tuya APP
- Can be downloaded from the mobile app market (Google Play Market, Apple APP Store)

Add "ATorch as WiFi Connected Electricity Meter "(CW24)"

02

After being powered on, the device's red light flashes and remains on to enter the distribution network mode; Waiting for WiFi connection.

Boot interface

Power on distribution network waiting the interface

Power on distribution network to enter the interface

Paired successfully WiFi interface

*For voltmeters with WiFi modules

Smart Life APP Pair Operation Steps

03

Attention: Be sure to turn on Bluetooth and location permissions when adding devices

Open the Smart Life app and it will automatically pop up
To add a device, click Add to proceed

Select device working WiFi and enter Click to manually enter the password

Enter the WiFi name and Password, and then Click Next to continue

After pairing is completed, Click on Next

After a successful WiFi connection, multiple values can be set for remote control

After a successful connection, open the app and automatically connect via WiFi

16.CW24 DC0-420V Product Parameter

CW24 detachable WiFi smart voltmeter					
Prducts Model	**30A**	**100A**	**200A**	**500A**	**1000A**
Measure voltage	DC0-420V	DC0-420V	DC0-420V	DC0-420V	DC0-420V
Measure current	0.100-30.000A	0.10-100.00A	0.20-200.00A	0.50-500.00A	1.00-1000.00A
Measure power	12.60KW	42.00KW	84.00KW	210.00KW	420.00KW
Operation type	3 Key button	3 Key button	3 Key button	3 Key button	3 Key button
Capacity range (Ah)	999999Ah	999999Ah	999999Ah	999999Ah	999999Ah
Energy Range (Wh)	999999K*Wh	999999K*Wh	999999K*Wh	999999K*Wh	999999K*Wh
Battery charge	√	√	√	√	√
Battery discharge	√	√	√	√	√
Over-voltage protection reminder function	√	√	√	√	√
Low-voltage protection reminder function	√	√	√	√	√
Over temperature protection reminder function	√	√	√	√	√
Over-power protection reminder function	√	√	√	√	√
Screen color size	Color 2.4 inches	Color 2.4 inches	Color 2.4 inches	Color 2.4 inches	Color 2.4 inches
Firmware update	√	√	√	√	√
Bluetooth	√	√	√	√	√
WiFi	√	√	√	√	√
Computer Online	√	√	√	√	√
Export Data	√	√	√	√	√
Remote control	√	√	√	√	√
Battery Percentage	√	√	√	√	√
Percentage of battery capacity	√	√	√	√	√
Mobile app	Tuya or Smart life app (Free)				
Product size	Panel: 86 * 63 * 17mm Diverter: 66 * 61 * 35mm	Panel: 86 * 63 * 17mm Diverter: 66 * 61 * 35mm	Panel: 86 * 63 * 17mm Diverter: 66 * 61 * 35mm	Panel: 86 * 63 * 17mm Diverter: 66 * 61 * 35mm	Panel: 86 * 63 * 17mm Diverter: 120 * 70 * 48mm

17.100V/80A Relay description

18.CW24 DC 0-420V 30A Product list

1.30A meter WiFi version x1pcs
2.300cm type-c date cables x1pcs
3.Temperature probe x1pcs
4.USB power supply cables x1pcs

19.CW24 DC 0-420V 100A Product list

1.100A meter WiFi version x1pcs
2.300cm type-c date cables x1pcs
3.Temperature probe x1pcs
4.USB power supply cables x1pcs

20.CW24 DC 0-420V 200A Product list

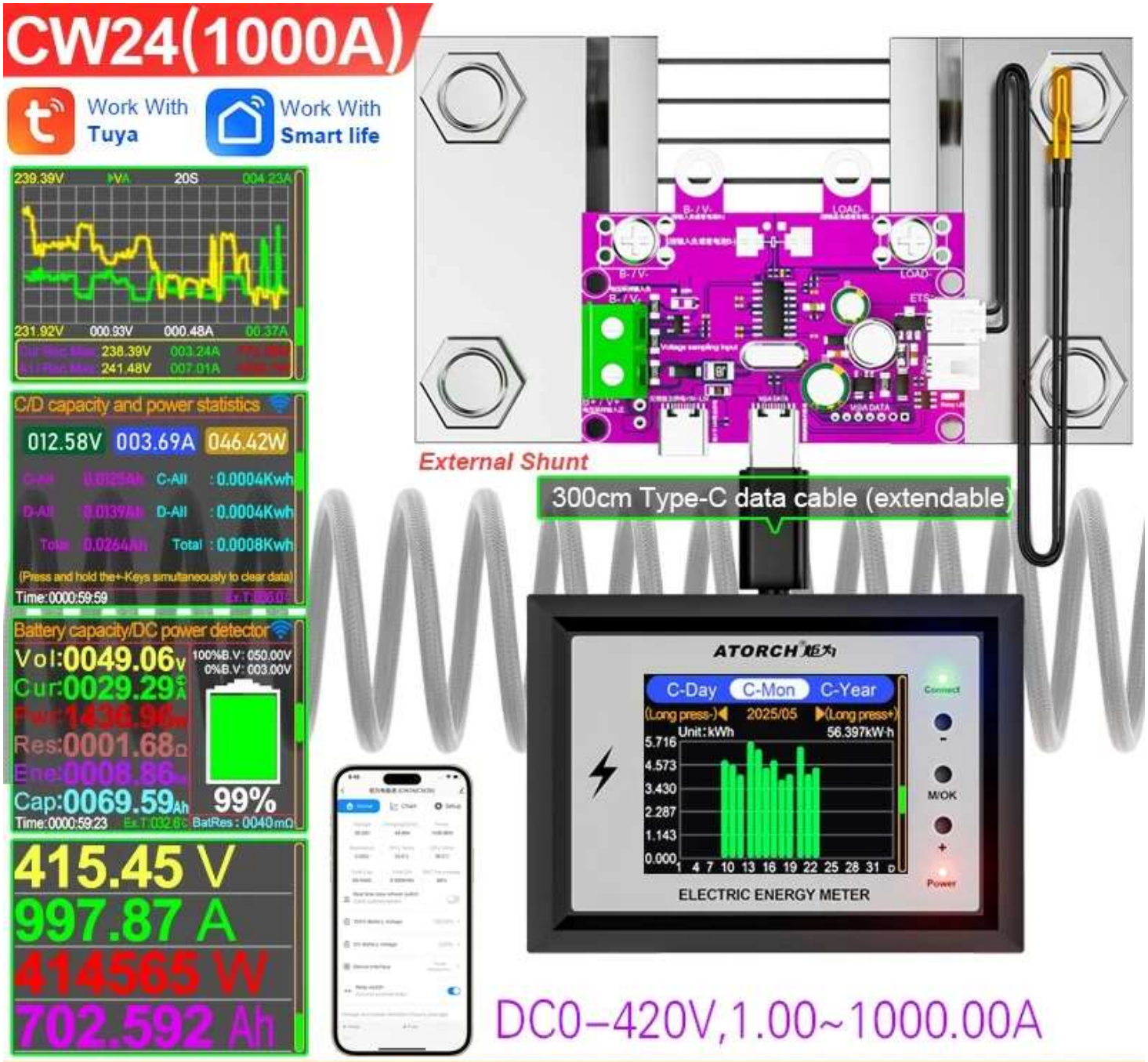
1.200A meter WiFi version x1pcs
2.300cm type-c date cables x1pcs
3.Temperature probe x1pcs
4.USB power supply cables x1pcs

21.CW24 DC 0-420V 500A Product list

1.500A meter WiFi version x1pcs
2.300cm type-c date cables x1pcs
3.Temperature probe x1pcs
4.USB power supply cables x1pcs

22.CW24 DC 0-420V 1000A Product list

11000A meter WiFi version x1pcs
2.300cm type-c date cables x1pcs
3.Temperature probe x1pcs
4.USB power supply cables x1pcs



WiFi Curve Energy meter+300cm cable+Temperature probe

23.CW24 1000A Assembly Instructions

CW24 1000A Installation diagram

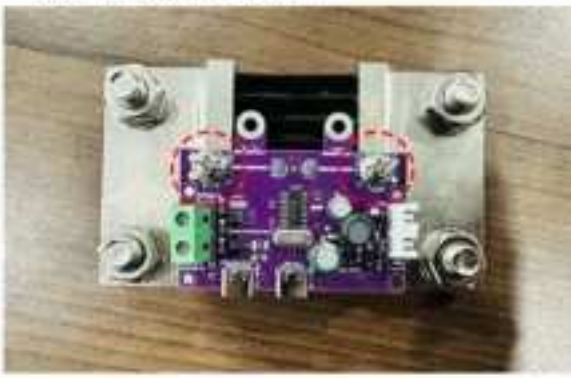
Due to the heavy weight of this 1000A shunt, it may cause damage to the control panel. When you receive it, please install it according to follow below instructions before use!

1. Control module and 1000A Shunt

2.Remove the 1000A shunt screws with a screwdriver

3. Align the screw holes of the control board with the screw holes of 1000A shunt

4. Then, according to following diagram, tighten and fix the two screws on the control board. Done!



5. Install the display panel and splitter according to the following diagram