

Product firmware upgrade instructions:

1. The startup information has changed. If you need to turn off information monitoring, please long press the "M" key to enter the background and turn off the information prompt!
2. Battery percentage (100% full voltage and 0% low battery voltage) and OVP (overvoltage alarm), LVP (low voltage alarm) need to be set separately, which can be set to the same value or different values
3. This product is a bidirectional current, with a+symbol for charging and a - symbol for discharging, changed to the direction of the arrow (charging position ← symbol, discharging → symbol)
4. When encountering WiFi connection failure, long press the "M" key to enter the background and select the WiFi reset option
5. The system sound can be turned off or on, long press the "M" key to enter the background settings
6. Language selection, long press the "M" key to enter the background settings

APP upgrade instructions:

1. Increase battery percentage display (numerical and graphical display)
2. Charging as current, power will not change, discharging: The symbol - will be displayed in front of the current power value, for example, charging 12.0V 1.00A 12.00W, discharging: 12.0V -1.00A -12.00W is displayed
3. Graph curve: Real time data can be opened, and the data will change in real time
All data is uploaded to the cloud once an hour and displayed, calculated on average every hour
4. Add a switch for the relay (the device side requires long pressing the "+" key or "-" key to turn on and off). This function will only take effect if the relay package is purchased

Warm reminder before purchase

The capacity tested for this product is the total capacity, which is the accumulated data! Whether in charging or discharging mode, if the data is not reset zero, the capacity is accumulated! The battery percentage is calculated based on the fully charged voltage (100% battery voltage) and the cut-off voltage (0% battery voltage).

So before each charge or discharge, it is necessary to reset zero the data and test the battery's single capacity!

!!!!

It is not battery charging: capacity add(+), discharging: capacity reduce(-), battery percentage is not calculated based on total capacity (AH) and remaining charge (AH)

Before making a purchase, please read this paragraph carefully to avoid any misunderstandings. Thank you!



DT20 Wi-Fi series product manual

Important statement:

This Meter does not immediately display the capacity of the connected battery when it is powered on, but rather after receiving the goods. It is necessary to strictly follow the instructions to fully charge the battery first, then connect it to this meter and press and hold the plus or minus buttons at the same time. After clearing the capacity of this meter to zero, the accumulated measured capacity is discharged through this meter until the battery runs out of charge. Quantity is the storage capacity of the tested battery !!! If you are a novice user, please refer to the user manual for detailed instructions or contact Seeking help and explanation from the manufacturer's technical personnel for learning!

Voltage measurement range: 0~420V

□ 30A □ 100A □ 200A □ 300A □ 400A □ 500A □ 600A

!!!Device Need DC 5V Power supply)!!!→



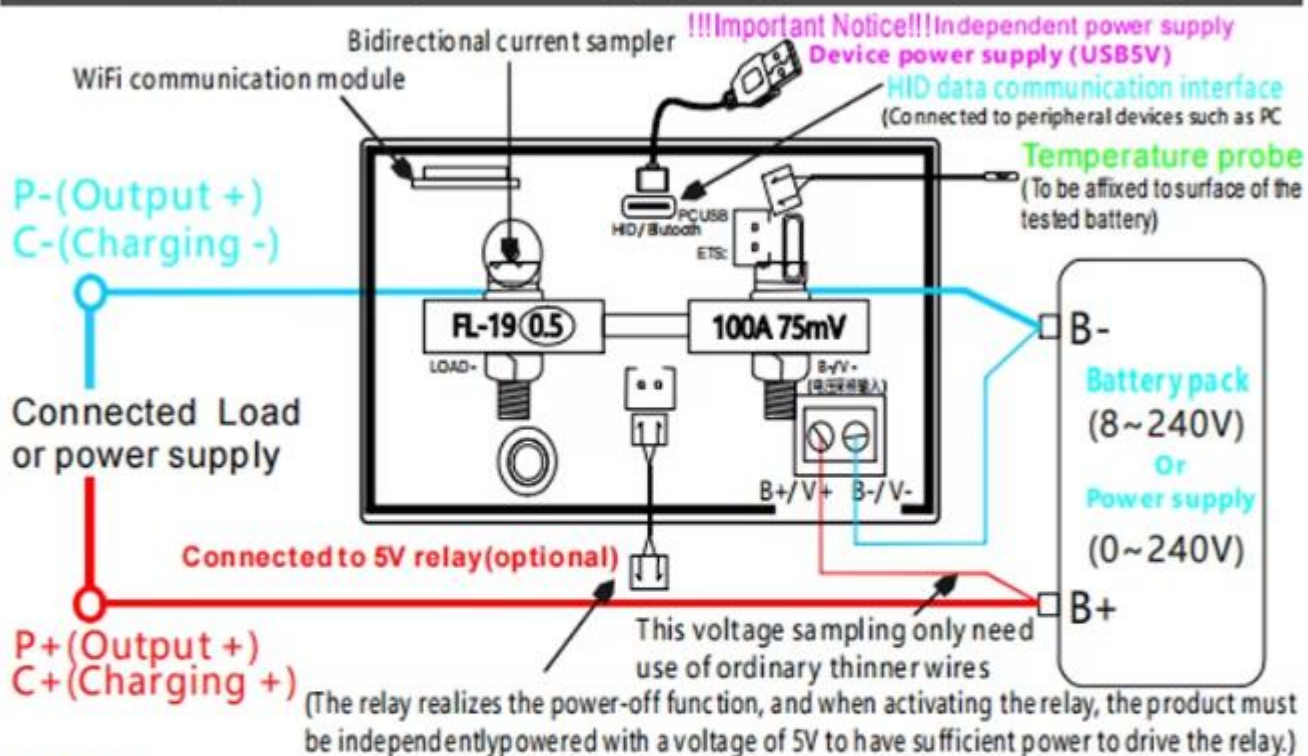
This device is used to measure and display the voltage, current, power, simulated load resistance value, discharge capacity, electricity level, battery temperature, over-voltage prompt, low-voltage prompt, over-voltage prompt, as well as the percentage of electricity level corresponding to the battery voltage ratio of the battery pack/power supply

Application

*This Device is suitable for measuring and displaying parameters such as voltage, current, power, and electrical capacity of DC power sources, batteries, or battery packs.

*Suitable for all types of lithium batteries, lithium iron phosphate, lead-acid, nickel hydrogen, and DC power supplies with working voltages ranging from 0 to 420V

**True four wire wiring instructions (0~420V)
(HID independent power supply/Type-C 5V power supply)**



Attention:

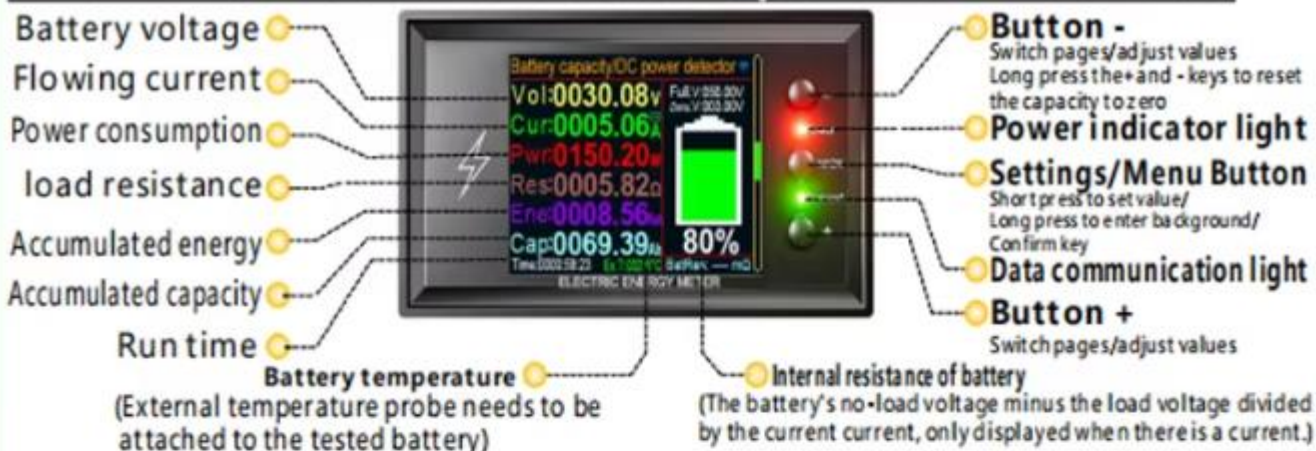
Please strictly follow the wiring diagram. The sampler must be connected in series to the negative circuit of the battery, and it is strictly prohibited to connect to the positive circuit!

1. The sampler used in this meter must be connected in series to the negative electrode circuit of the battery pack. The sampler should be connected to the negative electrode B - of the battery, and the P - end should be connected to the negative electrode P - / C - for charging and discharging.
2. Take one red and one black wire to connect the positive and negative terminals of the battery to the voltage sampling input interface shown in the diagram, for voltage sampling.
3. Connect the randomly delivered Type-C data cable to a 5V USB power supply to power the product and it will display normally.
4. Wiring principle: Ensure that all current flowing through the battery passes through the bidirectional current sampler shown in the diagram!

Warning:

The current line passing through the load should be as thick as possible and meet the required carrying current of the load! The thicker the wire diameter, the better!

Main interface and button operation methods



English display interface



Note: There have been some changes on this page. Please refer to the actual product upon receipt. Thank you

How to add device in APP (tuya or smart life app)

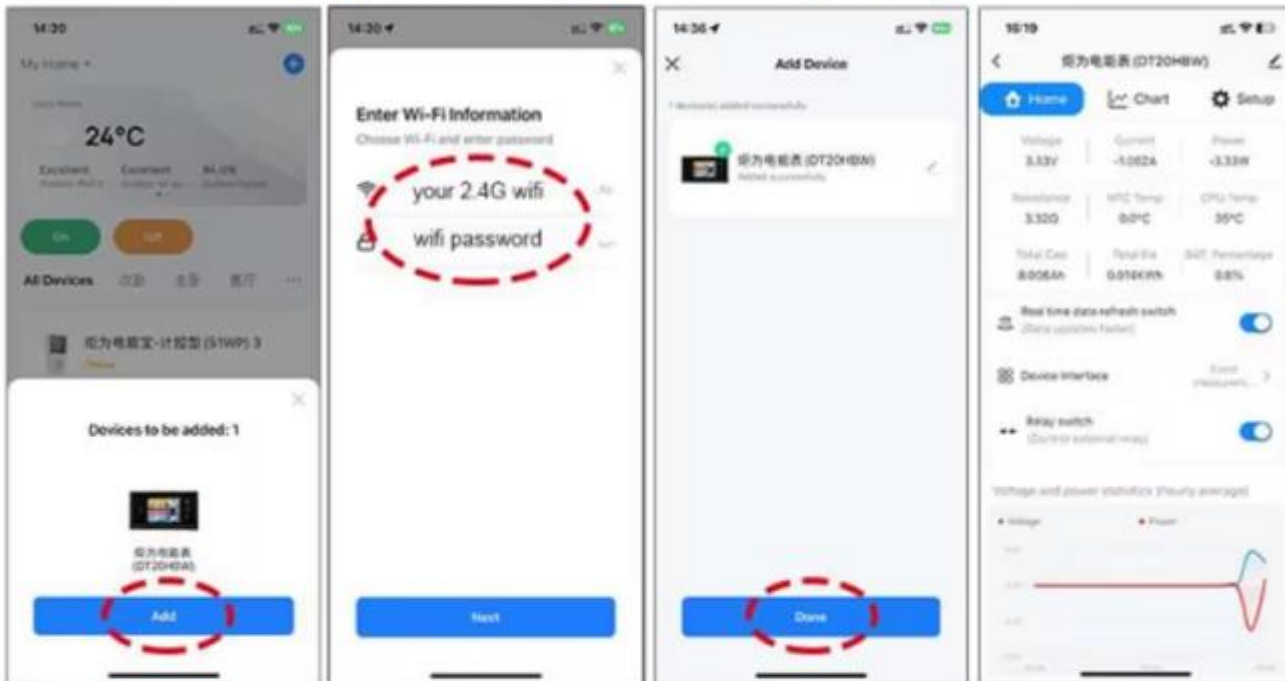


Works with
Tuya



Works with
Smart Life

1. Download and install APP on mobile, and register with your phone number
2. Powered by a DC USB 5V power supply, the product's connection light flashes and enters pairing mode.
3. Start Tuya Smart app on mobile, goes as following step by step;



Home

Overview of Main Interface Data

Chart

View voltage/power/energy/CPU temperature curve

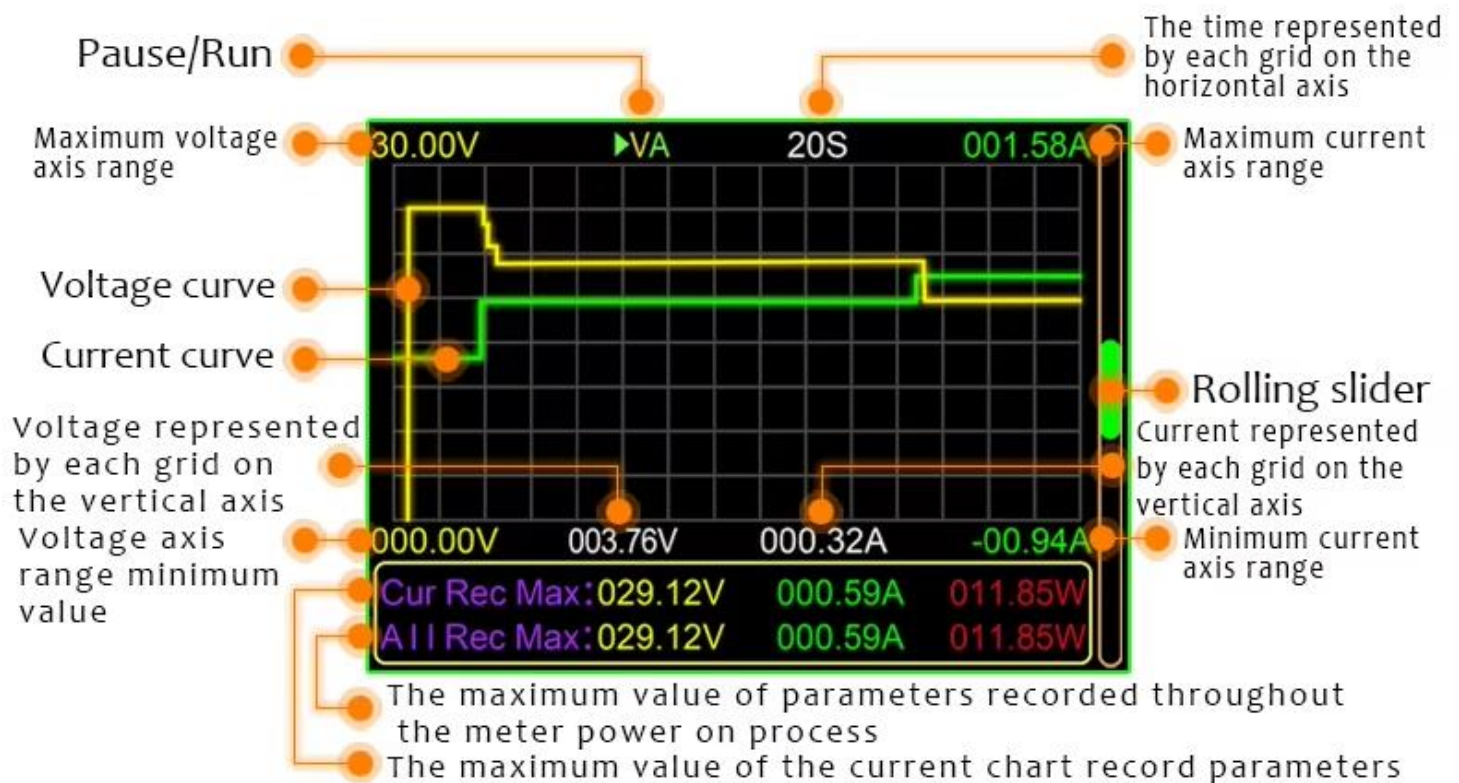
Setup

Adjust protection parameters

Product parameters

1. Voltage range: DC 0-420V (DC5V independent power supply)
Capacity range: 0-99999AH
Current range: 0~30A/0.1~100A/0.2~200A/0.3~300A/0.4~400A/ 0.5~500A/
0.6~600A(optional)
2. Support the modification of circuits that require additional relays to be fully charged and fully discharged, which can protect the battery;
3. Support low-voltage, over-voltage, over-Power prompt or power outage (when adding 5V relay circuit); Support bidirectional current testing access, After the line, there is no distinction between the direction of current!
4. Support shunt selection: 100A/200A/300A/400A/500A/600A

Voltage Current Curve description



English display interface

Start screen



info detection

To skip this screen, long press the "+" button
Software initialization completed
Check voltage sampling data ✓
Check current sampling data ✓
Check WIFI chip data ✓
Check Bluetooth chip data ✗
Start WIFI program
Hardware self test completed
About to enter the network program or function program
(Startup Info can be turned off by background settings)

WIFI link



Language selection interface



Main interface



Alarm interface



Percentage interface



Curve interface



Large font display interface



Overvoltage alarm interface



Lowvoltage alarm interface



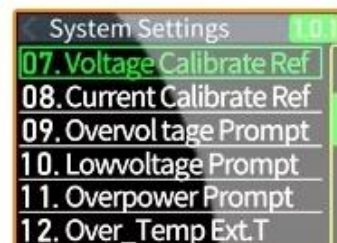
Overpower alarm interface



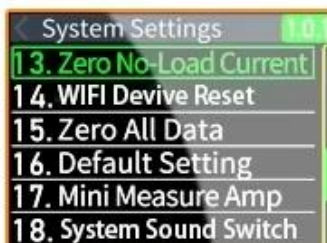
System Settings 1



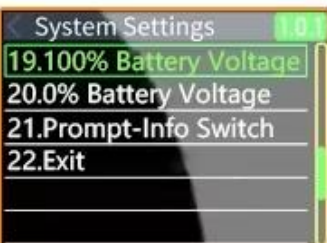
System Settings 2



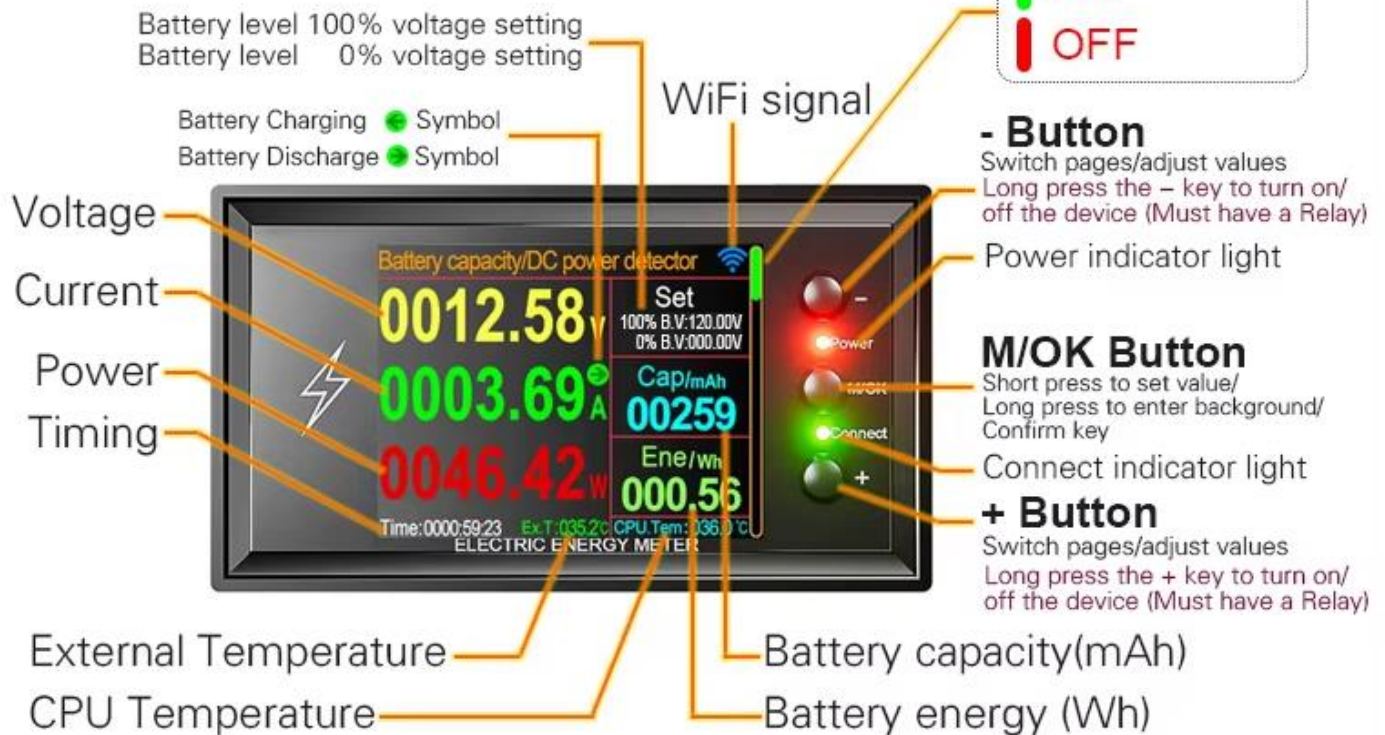
System Settings 3



System Settings 4



Key operation and introduction



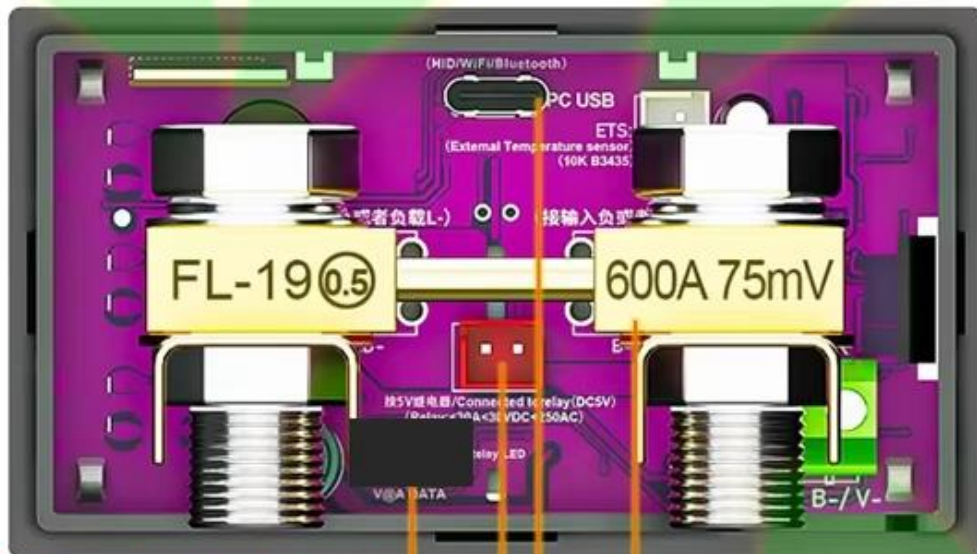
Built-in WIFI module



Alarm buzzer



Temperature probe interface



This part of the change has been cancelled

USB independent Power interface

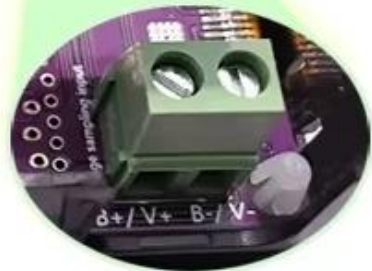
DC5V relay interface

HID data communication interface

(Connected to peripheral devices such as PC/
Bluetooth module/Wi Fi module)

Shunt specifications:

100A/200A/300A/400A/500A/600A (optional)



Battery V+V-

Introduction to relays

1. Need Additional purchase
2. Realize the function of fully charging and power-off the battery, as well as power-off after discharging the battery
3. Implement overvoltage, low-voltage, and power outage functions



5V 30A Relay

Connecting Relay for Attention

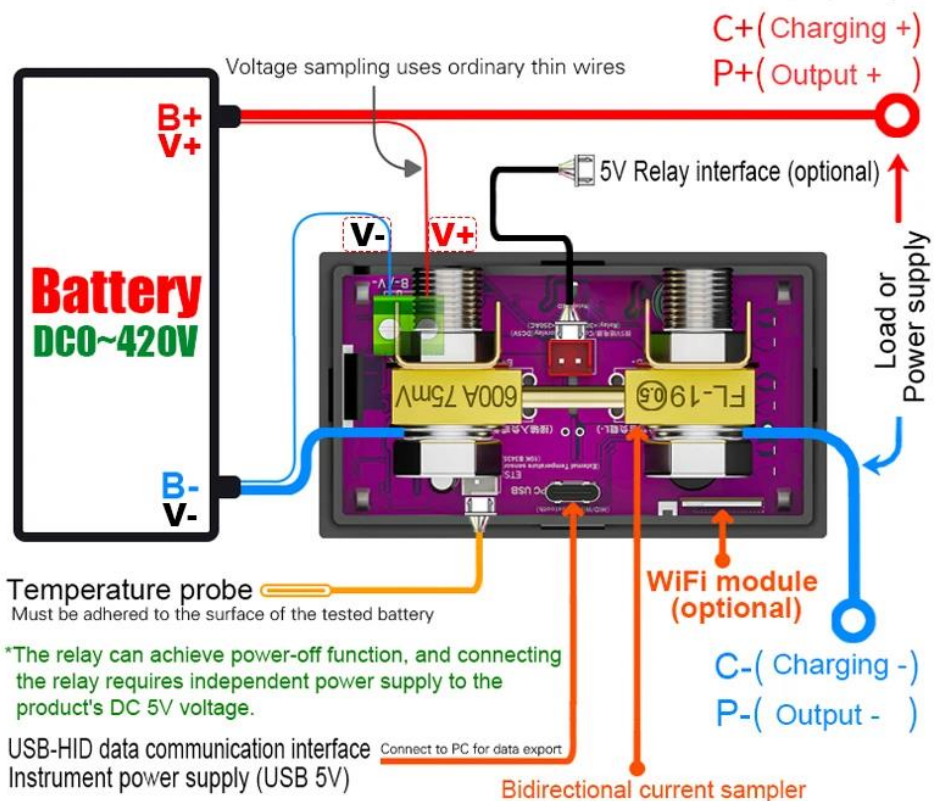
- ① When using a relay, it must be powered independently by 5V.
- ② Relay connected to output positive pole
- ③ Independent power supply cannot use the same circuit as the tested power supply
- ④ If the battery is charged, the input is connected to a charger, and the output is connected to a fully charged battery, which will automatically disconnect to protect against the risk of overcharging

Connection method

Using 4–wire wiring for more accurate measurements

Whether your battery is lead–acid, ternary lithium battery, lithium iron phosphate, or other types of batteries, as long as it is connected according to the following diagram, all devices within the voltage range of 0~420V can be connected

(Please make sure to supply 5V voltage to the independent power supply interface, so that the instrument can be powered on and the system can run, and the screen will light up.)



Attention: Please strictly follow the wiring diagram. The sampler must be connected in series to the negative circuit of the battery, and it is strictly prohibited to connect to the positive circuit!

- ① The sampler used in this meter must be connected in series to the negative electrode circuit of the battery pack. The sampler should be connected to the negative electrode B – of the battery, and the P–end should be connected to the negative electrode P –/C – for charging and discharging.
- ② Take one red and one black wire to connect the positive and negative terminals of the battery to the voltage sampling input interface shown in the diagram, for voltage sampling.
- ③ Connect the randomly delivered Type–C data cable to a 5V USB power supply to power the product and it will display normally.
- ④ Wiring principle: Ensure that all current flowing through the battery passes through the bidirectional current sampler shown in the diagram!

Warning: The current line passing through the load should be as thick as possible and meet the required carrying current of the load! The thicker the wire diameter, the better!

Regarding wire selection				
线径 Wire diameter	铜线温度Copper wire temperature			
(大约值) (Approximately)	60°C	75°C	85°C	90°C
电流 (A) Current (A)				
2.5mm ²	20	20	25	25
4mm ²	25	25	30	30
6mm ²	30	35	40	40
8mm ²	40	50	55	55
14mm ²	55	65	70	75
22mm ²	70	85	95	95
30mm ²	85	100	110	110
38mm ²	95	115	125	130
50mm ²	110	130	145	150
60mm ²	125	150	165	170
70mm ²	145	175	190	195
80mm ²	165	200	215	225
100mm ²	195	230	250	260

Adding Relays to achieve power-off function

Connect according to the diagram below, modify and add additional relay circuits, which can support automatic power-off protection during battery testing when fully charged and fully discharged, as well as automatic power-off protection for overvoltage, overvoltage, and overvoltage during power testing. Test various batteries / power adapters, constant current loads, power banks, etc

