



## U2, U2p

USB specification detector

V3.6

!!! U2 trick after entering the menu, high risk, do not take the phone!!!

Frequent firmware update, all functions in order to prevail in kind, please upgrade to the latest firmware version and download new instructions

For details, technical advice, firmware upgrade, PC Download

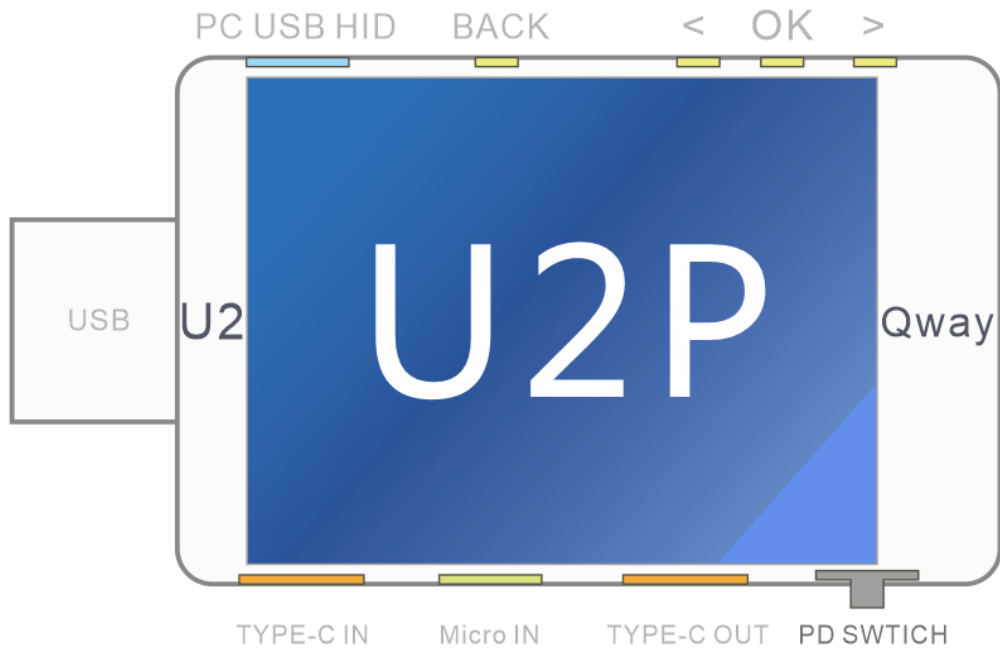
Uniform provided by the QQ group, group number: [313 755 927](#)

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U2 now in the sale of four basic keys U2P version

U2p firmware has dedicated buttons 4, four keys are valid

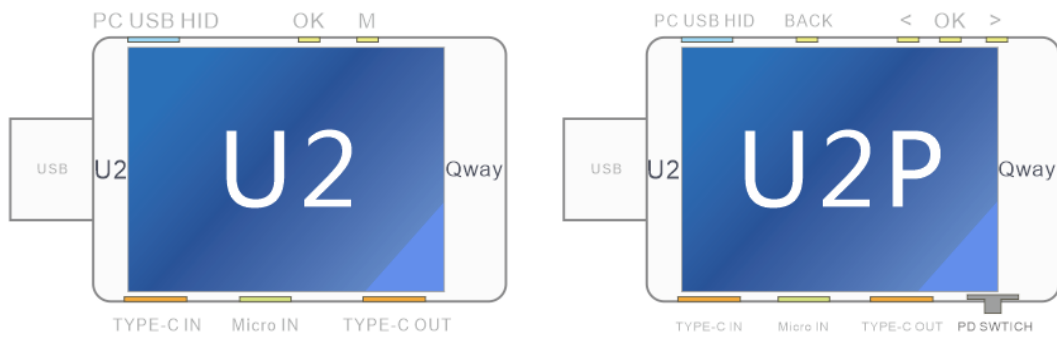
### Description U2P-4 Key: (new firmware button 4)

Back key: return key

<Keys: page up / page forward

> Key: Down / OK key back page:

Confirm / enter



按键说明 : U2p OK键 =U2 OK键  
 U2p >按键 =U2 M键

U2p "BACK" 和 "<" 按键  
 可唤醒屏幕，按键暂无其他功能

## U2 (2 buttons) / U2p (4 buttons) Introduction :( old firmware)

USB input port: QWAY-U2 Table USB-A type input port

USB output port: USB-A female type output

TYPE-C IN: type-c input port

TYPE-C OUT: type-c output

Micro IN: MicroUSB input port (external temperature sensor)

PC USB HID: Upgrade your computer USB port / PC data interface

OK button: Set / screenshots / exit button / - key

M key: switching menu / screen commutation / confirm key / button +

If key 2 U2p brush firmware U2, then U2p only two keys available at this time, the two key functions as follows U2P (U2p 4 users use the key version of the firmware)

U2P the ">" key = U2 U2P of the M key "OK"

button OK button = U2

U2P 2 Firmware button "<" and "BACK" button only wake-up function, no other function

### High energy remarks, do not look at a disadvantage: (U2 input-output withstand power)

QWAY-U2P USB input port patented design of high-current 5P USB-A male type input, 5A above can withstand high current input, power input support: The  $5A / 20V = 100W$  power

USB-A output port with female Foxconn 4P, 5A can withstand short-term current, but does not support the power output

If using the USB female connector Foxconn output, the maximum power should not exceed 25W example: input voltage 5V, no more than the input current. 5A; the input voltage of 12V, the input current does not exceed. 2A, more than 25W of power may damage the USB female contacts ( 25W conservative power, the actual big points no problem)

When a high current, high power operation, can use TYPE-C female outputs Note: MicroUSB female input port also does not support high current power, the input current can not exceed 2.5A

## U2 technical parameters:

Input voltage: DC 4 ~ 24V

Input current:  $\pm 5A$

Voltage Resolution: 0.00001V

Current Resolution: 0.00001A

Record Capacity: 0 ~ 99999Ah

0 ~ 99999Wh

NTC temperature sensor inside:  $-20\text{ }^{\circ}\text{C} \sim +120\text{ }^{\circ}\text{C}$  external NTC temperature

sensor:  $-20\text{ }^{\circ}\text{C} \sim +120\text{ }^{\circ}\text{C}$  storage medium: FARM ferroelectric memory 10 billion

lifetime flashing the firmware upgrade: Free drive the HID upgrade computer

connection: HID PC

## Key Instructions:

Key General information:

U2 M menu key :( except curve)

U2p ">" button

Press switch the menu / wakeup Press (menu portion switching direction)

U2 OK button multifunction key :( ) U2p "OK" button or switch screenshots

specific function keys for each menu description see

### U2P physical toggle switch PD:



**ON:** U2P PD chip and the internal interface TYPE-C

U2p case of a PD load may be detected using a PD, PD decoy, eMarker the wire rod detection, QC turn PD, PD monitoring and other functions

**OFF:** Disconnect the PD chip and the inner U2P TYPE-C Interface Physical

At this point U2p of all PD functions fail

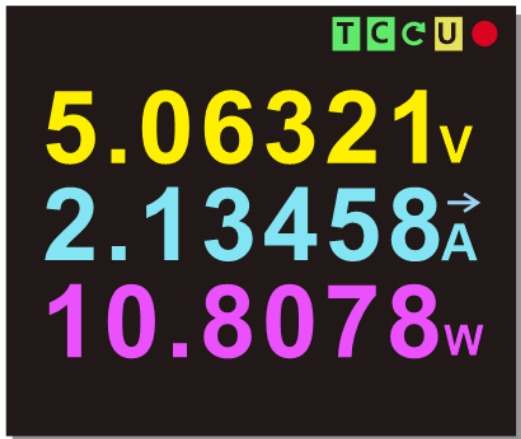
At this time, the charger connector and the PD alone U2p, U2p not work, black

#### **OFF mode of action : (Through mode)**

Completely disconnected U2p internal PD chip does not affect communication between PD and PD phone charging head

This mode is used to everyone calling on "Thru Mode" is without prejudice to any communication between the charger and the PD electrical equipment then the charger and the intermediate string into U2p PD electrical equipment, U2p relative to a common multimeter can U2p in any interface bright screen and monitor the state of current-voltage power line

## P1 characters menu:


	<p><b>OK button:</b></p> <p>Press: switch 5/6 show the numerical Press: the NC 5: 6 displayed at high speed: Slow precision</p> <p>(U2P Press OK to rotate the screen)</p> <p><b>M key:</b></p> <p>Press: Screen Press cut: switch the screen display direction</p>
---	---

Clean menu characters, only **Voltage** , **Electric current** , **power** Three key data

The arrows indicate the direction of current



Icon in the top right corner Description:

 (Five icons display function can be turned on and off in the settings menu inside)

 **T icon: Gestures Recognition icon**

Green indicates recognition function on gestures, gesture recognition gray closed function

is on, tap U2 two successive cut panel (double-click)

 **C icon: Serial communication icon**

Green for open, gray closed

Serial output data typically used Bluetooth version, the user can output serial data to other devices

In the case of serial interface function is on, C characters per flashing once a serial data transmission

 **Round arrow icon: Gravitational direction discrimination switch icon**

Green indicates the direction of gravity recognition feature is turned on, gray and thermometer close the

Home screen characters can interface to automatically rotating screen 4, 2 to the other interface

 **U icon: USB connection status indicator**

Yellow USB icon, U, S, B characters take turns flashing, on behalf of HID interface to connect the computer


is turned on, **green** Indicate successful connection, gray closed

 **Red origin: Icon Offline curve recording switch**

Red indicates an offline profile recording function is enabled, data is being recorded blinking red, not red flashes

to mean full, gray closed

**P2 capacity display menu: (U2P arrow keys to cut screen)**

	<p><b>OK button:</b>          Press: screenshot Press: Select-capacity recording Group          (U2P Press OK to rotate the screen)</p> <p><b>M key:</b>          Press: Screen Press cut: switch the screen display direction          (U2P press BACK switch group) (U2P length data are cleared BACK)</p>
---	--

**RUN:** normal display **STOP:** Screenshot pause

Group 6 Group capacity is recorded, recorded separately each time and the Ah and Wh

\* Mobile phones and other electrical equipment can record the time and the charge capacity, the battery capacity and then infer apparatus

\* Recording capacity of the constant-current load also works with charging power Po discharge recording the like, and then infer the actual capacity of the battery charging Po

Remarks:

This interface does not support data emptied, emptying 6 have the recording data of offline **three methods**

1. Empty arbitrary data in a comprehensive set of information interface (specifically read operation corresponding menu)



Comprehensive information interface




6-capacity recording quick menu group

2. In group 6-capacity recording quick menu, clear any set of data (specifically read the corresponding food Single Operation)

3. Power Press M enter the System Setup Menu "clear all records" item, the empty disposable

There are data. Note that this method will be emptied comprises six groups of data recording capacity and offline profile.

### P3 equivalent resistance menu:

	<p><b>OK button:</b></p> <p>Short press: Long press screen shot: LED ON OFF (LED Panel Light Bluetooth version only)</p> <p><b>M key:</b></p> <p>Short press: Cut screen Press: Reset minimum average maximum recording <b>(U2P press BACK reset data)</b></p>
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Equivalent resistance: equivalent resistance of electrical equipment (calculated by the voltage / current for reference) max: maximum recording min: minimum record AVG: AVG recording the maximum, minimum, average value in electrical equipment maximum, minimum and average voltage, current, power values during use.

Observation data may be inferred charging mobile phones and other electrical equipment where

Press M can be emptied and re-start recording the data (e.g. test phone, the phone can be connected to the charger, the charging state and other mobile phone then enters formal long press M button to start recording, so that more accurate data)

## P4 fast charge display menu:

		<p><b>OK button:</b></p> <p>Short press: NC</p> <p>Long press: to switch Celsius / Fahrenheit</p> <p>(U2P press OK to switch the temperature unit) (U2P press OK to enter the protocol interface) appears <b>countdown, let go Long press to enter again</b></p> <p><b>M key:</b></p> <p>Short press: Cut screen</p> <p>Press: fast charge to enter the interface protocol detection</p>
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D + D- voltage display: display the current voltage on the D + and D- ports fast charge protocol: according to current inferred D + and D- voltages and currents **possible** Fast charge protocol

**Inner temperature:** temperature display orange Internal U2 NTC temperature sensor on a PCB substrate

**Outside temperature:** External NTC temperature probe (optional) external probe temperature is automatically displayed (gray displayed when not connected " - the outside temperature - "character)


**Wake:** automatic wake-up current, i.e. the peripheral insert, pull automatic detection

When the screen is dark or black screen, external insert The change in the load operating current per unit time exceeds this setting will automatically wake up the screen

		<p>Decoy fast charge can return to the main screen</p> <p>Yellow labels are displayed decoy protocol</p> <p>Due to the fast charge the high voltage output will be the protocol interface</p> <p><b>Flashing red warning</b></p> <p>Security alert the user of electricity</p>
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!!! U2 trick after entering the menu, high risk, do not take the phone!!!!!! U2 trick after entering the menu, high risk, do not take the phone!!!!!! U2 trick after entering the menu, high risk, do not take the phone!!!!!!

## P5 integrated information menu:

 <p>5.2836 v <span style="color: green;">T C U</span> ●</p> <p>0.0000 A → 串口: OFF 组别: 1/6</p> <p>内部温度: 32.2°C 电流阈值 外部温度: -- ≥0.050A</p> <p>0.0049Ah 开机 00:00:00 0.0236Wh 记录 00:00:00</p> <p>离线曲线记录容量: 100%</p>	<p><b>OK button:</b></p> <p>Press: 6 sets the switching capacity data Press: the current data group capacity quickly emptied</p> <p>(U2P press OK interface switching temperature)</p> <p><b>M key:</b></p> <p>Press: Screen Press cut: switch <b>Thermometer</b></p> <p>(U2P long to clear the data by BACK)</p> <p>6 quick set volume data processing menu</p> <p>(Po charging efficiency calculation gadgets)</p>
---	--

Serial: OFF indicates serial data transmission function off ON: The group: represents

1/6 of the current group data is recorded

Current threshold: a rear off-line curve function is turned on, exceeds the current value will record data, such as: record phone charging capacity, the general current threshold setting 50mA, since the phone is fully charged, the charger or a certain current output, different mobile phone models there may be a few milliamps - two hundred mA range, it is necessary to set a threshold below this value is considered fully charged cell phone is no longer recording data, or else recorded capacity will be inaccurate. Other charging the recording apparatus can be set to 0 or other value according to the actual situation

AH: An Shirong amount of the recording current Wh groups: watt capacity of the recording time of the current recording groups: current record data statistically valid groups of time (automatic memory accumulation) start time: U2 energizing time (power is not saved) Offline curve recording capacity: green bar shows the percentage of remaining recording space: recording function turned off is displayed

The remaining recording capacity (the red space has been used, the remaining green)

### Offline charging curve using the method of recording data: Curve can be derived by recording PC

1. Turn off the record, "off-line recording time" menu to select the time you want to record.

Such as mobile phones 1A slow charge charging current, the battery capacity is 3400mAh, the charging time is then required about four hours, when the recording time may be set to five hours observation recorded. 2. Set off current threshold, meaning that the current exceed this value will be referred to record.

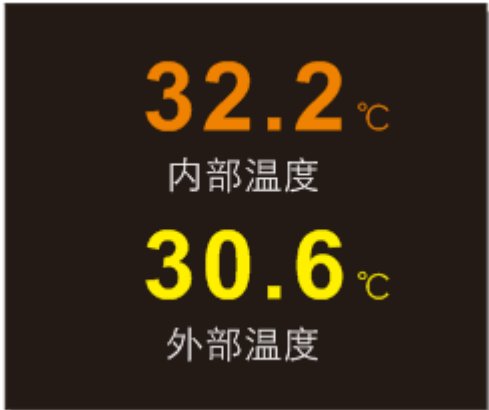
3. Enter off-line interface to delete the old curve curve data recording is restarted

## Thermometer:

Press M in long menu to switch to integrated information interface thermometer

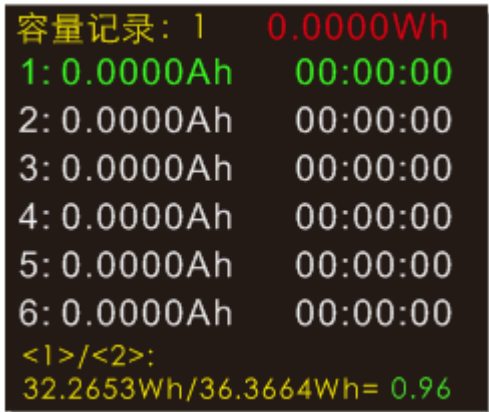
 <p>32.2 °C 内部温度</p>	<p><b>OK button:</b> Press: switching Celsius / Fahrenheit Press: NC</p> <p><b>M key:</b> Press: switching Celsius / Fahrenheit Press: cutting the screen</p>
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After inserting the external NTC temperature sensor, external temperature automatically simultaneously displayed

 <p>32.2 °C 内部温度 30.6 °C 外部温度</p>	<p><b>OK button:</b> Press: switching Celsius / Fahrenheit Press: NC</p> <p><b>M key:</b> Press: switching Celsius / Fahrenheit Press: cutting the screen</p>
---	---

## Group 6-capacity recording Quick Menu:

Press M in the integrated information to the secondary menu and switch between fast mass data processing menu

	<p><b>OK button:</b> Press: Select Up Group Press: clear the current data group</p> <p><b>M key:</b> Short press: Press down to select groups: cutting the screen (U2P direction key switch group)</p>
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## Charging treasure efficiency calculation Gadgets:

Po charge-discharge efficiency of the charge - the battery is automatically calculated stationary computing attenuation

Group 1 / Group 2 charge ratio of charge-discharge efficiency Po:

Po may be first charged is fully charged, then the charging Po group recording capacity is completely discharged and then switch to full power Group 2

So: 1/2 treasure will be able to know the charge-discharge efficiency of the battery can also be speculated that the aging

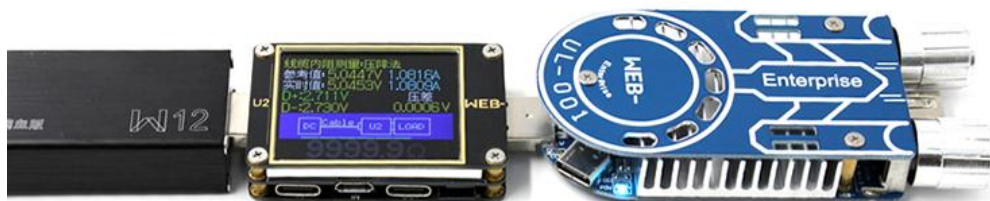
## P6 line resistance measurement menu:

	<p><b>OK button:</b></p> <p>Press: recording reference value Press: NC</p> <p><b>M key:</b></p> <p>Short press: Long press screen cut: NC</p>
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Measurement of the internal resistance voltage drop wire requires only two steps (required with constant load)

1: Charger + U2 + constant load: 1A or press OK record reference value, flashed 2: test series may measure a current through the data line data line voltage drop, and then automatically calculate the data line exhibits resistance

### WEB- U2 线材内阻 一键测量



**1** U2连接电源和恒流负载，电流调到1A左右，按OK键记录参考值



**2** 电源与U2之间串入待测线材，即可通过压降测试线材内阻



## CC线材内阻测量

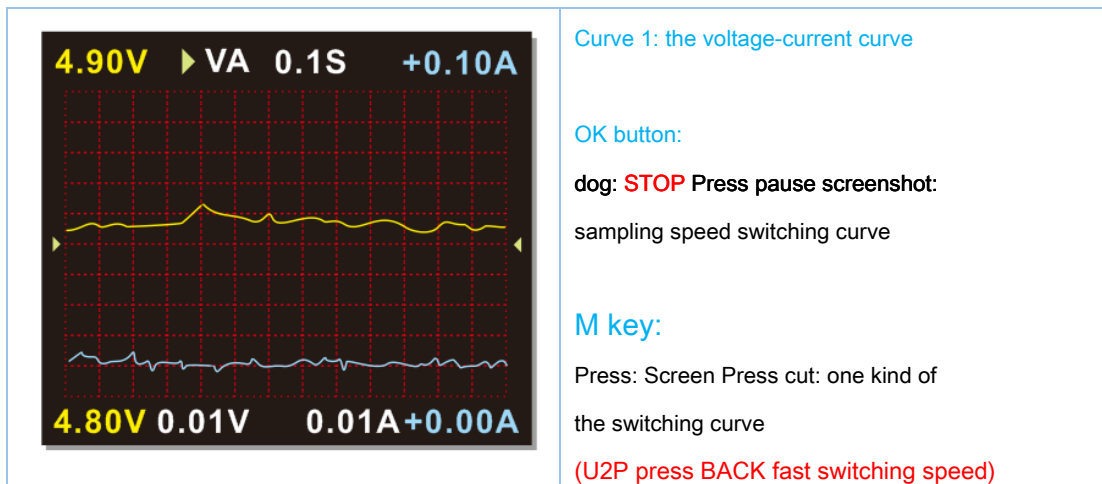


1 U2连接电源和恒流负载，电流调到1A左右，按OK键记录参考值



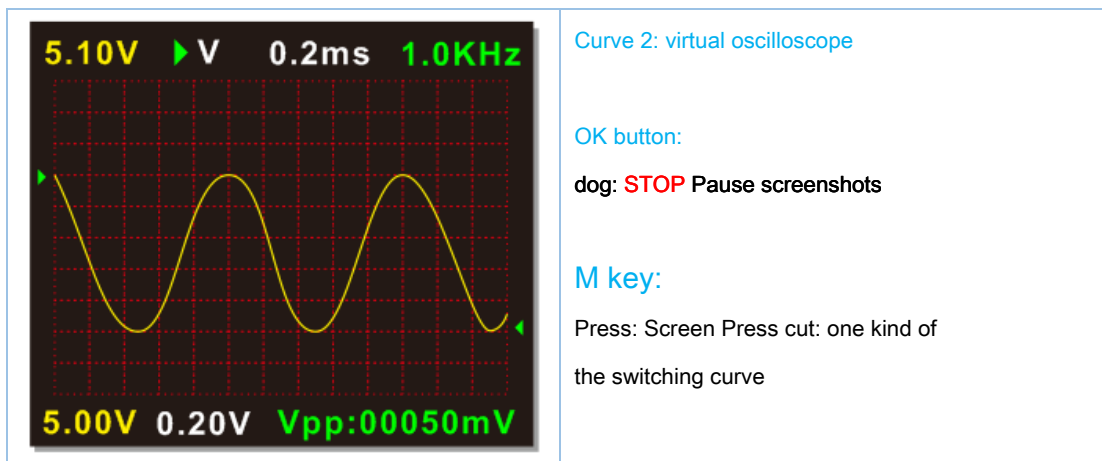
2 电源与U2之间串入待测线材，即可通过压降测试线材内阻

## P7 curves show:



OK button Short press: pause screenshots, to facilitate the observation waveform protocol, and then press the OK button again to return Press: switching curve scanning speed: 0.1s / 0.2s / 0.5s / 1s / 2s / 5s bottom of the screen parameters vertical white sensitivity, the moment FIG 0.01V / DIV 0.01A / DIV

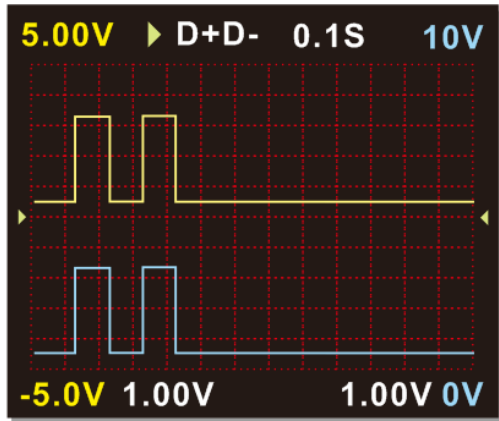
## High-speed Ripple Test / virtual oscilloscope



After entering the virtual oscilloscope mode, U2 initiates the internal high-speed AD 1M measurable signal acquisition and waveform frequency ripple power port, thereby assisting the user to determine the stability of the output of the Vpp power supply voltage variation amplitude (peak to peak) U2 power supply input jitter amplitude Vpp the larger, the more serious the top right described green power supply ripple waveform represents the current frequency 1.0KHz

Since U2 STM32F072 sampling rate of AD-chip ARM only 1M, bandwidth is not high, with the power supply filter capacitor with a terminal, it is possible to automatically measure the waveform of the frequency is not high

Friendly reminder: Ripple in detail above recommended measuring 50M normal oscilloscope measurements provided U2 may be used for different contrast charger output, for reference



Curve 3: D + D- curve

OK button:

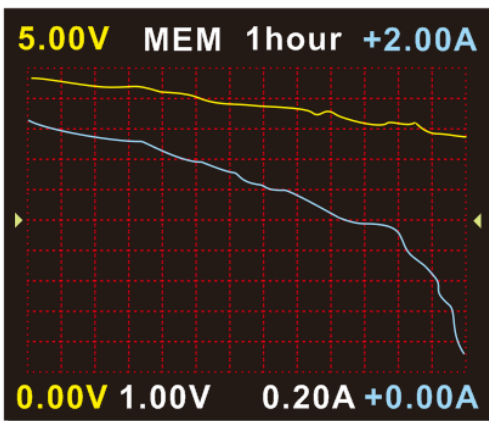
dog: **STOP** Pause screenshots

Screenshots can analyze most of the D + D- fast charge protocol

Press: sampling speed switching curve

M key:

Press: Screen Press cut: one kind of the switching curve



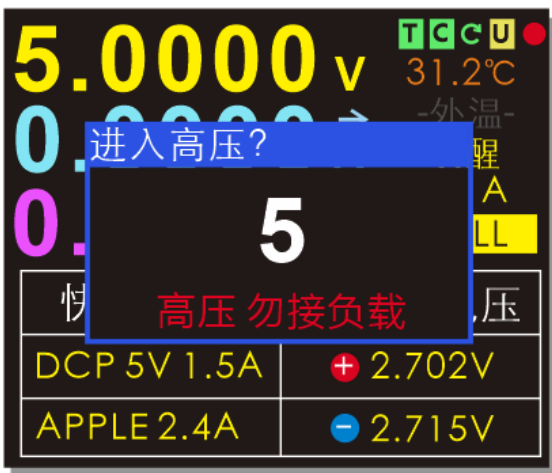
Curve 4: 1hour curve graph offline data recorded total duration OK key:

Short press: NC Press: **Remove** Curve data offline

M key:

Press: Screen Press cut: one kind of the switching curve

## Fast charge protocol detection trigger:



**Protocol interface**

Press the M key to activate the trigger menu  
(U2P press OK to activate the menu)

High voltage output! At your own risk!

Within 5 seconds, **once again** Press M key to enter the fast charge detection decoy menu

!!! U2 trick after entering the menu, high risk, do not take the phone!!!

# !!! White Warning!!!

## Do not know, do not look burnt phone

# !!! White Warning!!!

## How to enter the fast-charge detection menu

This interface Press M (U2 "M" key, U2p ">" button)

After five-second countdown appears, let go!

Before the end of the countdown,

### Once again, press M key


(U2P 4 button version Long press Ok again to enter the decoy menu)

<p>快充协议检测触发： 5.2612V</p> <p>01 快充协议自动检测</p> <p>02 QC 2.0</p> <p>03 QC 3.0</p> <p>04 QC 2.0 -&gt; PD</p> <p>05 PD 触发</p> <p>06 PD 嗅探</p>	<p>Press Press OK and M: the vertical selection function</p> <p>M key: press to enter</p> <p>OK key: Press Exit</p> <p>M, OK button: Press down protocol</p> <p>Tip: When the cursor is in the 01 menu, press OK to select up to quickly jump to the last menu</p>
<p>快充协议检测触发： 5.2612V</p> <p>07 Apple PD 电源检测</p> <p>08 PD E-Marker</p> <p>09 MFI 检测</p> <p>10 华为 FCP</p> <p>11 华为 SCP</p> <p>12 三星 AFC</p>	<p>!!! U2 trick after entering the menu, high risk, do not take the phone!!!</p> <p>!!! U2 trick after entering the menu, high risk, do not take the phone!!!</p>

<p>快充协议检测触发： 5.2612V</p> <p>13 VOOC DASH</p> <p>14 Super VOOC 10V</p> <p>15 VOOC virtual cable</p> <p>16 VIVO FLASH</p> <p>17 APPLE 5V 2.4A</p> <p>18 Charger Tool</p>	<p>VOOC virtual cable OPPO adding a dummy data line original function</p>
--	---

!!! U2 trick after entering the menu, high risk, do not take the phone!!!!!! U2 trick after entering the menu, high risk, do not take the phone!!!!!! U2 trick after entering the menu, high risk, do not take the phone!!!

## Menu protocols automatically detect fast charge

 <pre>协议检测: WITRN V6.3 PPSQC4+ PD3.0 20V 3.0A 60W PPS QC4+ 6: 5 9 12 15 20 3-21 PD2.0 APPLE 5V = 2.4A SAMSUNG 5V = 2.0A BC1.2 DCP 5V = 1.5A OPPO 1+ VOOC DASH QC2.0 5V 9V 12V 20V QC3.0 SAMSUNG AFC 9V 12V FCP 5.0V 9.0V SCP 3.4V-5.5V = 5.0A MTK PE1.1 PE2.0</pre>	<p>Do not add any interface automatically detects the load</p> <p>After testing is completed, press OK to exit</p>
--	--

Yellow protocol: detection Green Protocol: Re :not support

purple : Represents a third-party charging protocol (non-standard)

White: 6 groups expressed PD output voltage capability, the back of the specific output voltage 5V, 9V, 12V, 15V, 20V, 3-21 range as PPS

The first line PD Information: Show item maximum voltage, maximum voltage charging head portion Group

Not necessarily Is the maximum power output categories, the actual details of the menu observation data PD trigger Come

The first line PD protocol in purple when:

It indicates that the charging head may have PD protocol, or may not, need to unplug TYPE-C time line and then re-inserted further confirmed

Special Note: Due to third-party chargers compatible VOOC DASH, most require a lot of work will be the current output agreement, such as the IP6518 chip 1.XA need more current will be VOOC communication

And because of its built U2 small load can not produce a large current, so this interface does not support automatic detection of large current VOOC DASH third-party protocol detection VOOC DASH original charging head, since no large current can be it automatically detects the communication interface supports U2 VOOC DASH high imitation original and detected charging head

Note: Some chargers due to design problems may have to reset phenomenon in the testing process, which is the normal situation

Safety Warning: U2 performed automatically when the detection protocol, other protocols require MTK detected current modulation is required to start the internal loads, high temperatures are generated at this time do not meet the lower right corner of U2 (i.e., next to the outlet TYPE-C) to prevent high-temperature burns

```

协议检测: WITRN V6.3 OPPO 1+
TYPE C PD
PD INFO
APPLE 5V = 2.4A
SAMSUNG 5V = 2.0A
BC1.2 DCP 5V = 1.5A
OPPO 1+ VOOC DASH
QC2.0 5V 9V 12V 20V QC3.0
SAMSUNG AFC
HUAWEI FCP
HUAWEI SCP
MTK PE1.1 PE2.0

```

Menu protocols automatically detect fast charge

U2 original line can be detected without connecting OPPO DASH original line charging head

```

协议检测: WITRN V6.3 PD 2.0
PD2.0 20V 1.5A 30W
5: 5 9 12 15 20 PD2.0
APPLE 5V = 2.4A
SAMSUNG 5V = 2.0A
BC1.2 DCP 5V = 1.5A
OPPO 1+ VOOC DASH
QC2.0 5V 9V 12V 20V QC3.0
SAMSUNG AFC 9V 12V
FCP 5.0V 9.0V
HUAWEI SCP
MTK PE1.1 PE2.0

```

**purple** : Represents a third-party charging protocol (non-standard)

## Decoy menu General information:

**back: return options** Trick voltage can be maintained and exit (**high pressure**)

The following example QC2.0 decoy interface, after the trick QC2.0 9V voltage output back press exit option, continue charging head 9V voltage output may be high voltage charge trick out specific equipment used

**Back-** to keep output high voltage! Note electrical safety!

**exit: Exit Options** Trick voltage release exit (**Low pressure**)

General Back 5V output

For example, the following interface QC2.0 trick, trick the exit QC2.0 9V voltage output by the exit option, charging head safe voltage becomes 5V output

Specific trick when entering the menu:

**NG** It said it could not enter (usually the charger does not have this agreement or U2 does not support this protocol)

**OK** Ready to enter the express recognition is successful


\* Will always try to re-enter when the NG, this time press OK key to exit

\* Part of the agreement without displaying this screen and directly into the trick menu






### QC2.0 trick menu:

	<p><b>OK button:</b></p> <p>Short press: Select the trick, back, exit Long press: exit the field to perform the function</p> <p><b>M key:</b></p> <p>Short press: trick bar to select voltage Long press: exit the field to perform the function (drop out)</p>
---	---

### Security design:

When choosing 9V, 12V, 20V high voltage output, must press M confirmation Press M to select the gear to 5V without a long press M to confirm the automatic recovery system 5V output, to ensure electrical safety

### QC3.0 trick menu:

	<p><b>OK button:</b></p> <p>Short press: Select the trick, back, exit Long press: exit the field to perform the function</p> <p><b>M key:</b></p> <p>Press: trick bar, short press stepping Press: trick bar, a continuous length adjustment of back, exit confirmation performed (drop out)</p>
---	--

Note: the upper right corner of the interface for all trick

Red circle +: D + terminal voltage (unit: V) blue circle

-: D- port voltage (unit: V)

Yellow V: real-time voltage blue A: real-time current Purple W: real power

### QC2.0 PD fast charge transfer protocol (Normal head QC variant PD second charge iPhone X):

QC 2.0 -> PD		+0.64	-2.02
<b>11.268v</b>		0.0000A	0.0000W
<input type="checkbox"/> -	1	5.00V	3.00A
<input type="checkbox"/> +	2	9.00V	2.00A
<input type="checkbox"/> +	3	12.00V	1.50A
<input type="checkbox"/> +	4	20.00V	0.90A
OUT OK			
<input type="checkbox"/> back	<input type="checkbox"/> exit		

OK button:  
Short press: Select power adjustment, exit

M key:  
- : Broadcast reduce power 1W  
+ : Broadcast power increase 1W exit  
confirm execution (Long press to exit)

This function is to be normal QC charging head, mobile power QC play protocol output PD is converted to heat, must follow the steps below:

1. U2 is connected to the first head 2. The charging connector QC powered device PD U2 to enter QC-> PD menus line CC

Only detects whether charging head support QC, charging head does not detect the output voltage range of the broadcast so U2 default PDO

5V ~ 20V of PDO (PDO automatically adjusts the output)

When the charging head is not supported QC20V, and 20V electrical device requests at this time U2 detects whether a voltage 20V, 20V level if QC charger is not automatically canceled PDO 20V level, PD electrical equipment will automatically apply low voltage PDO stalls

#### Power settings:

Since most QC2.0 3.0 charging head, QC output power  $P_o$  charge generally does not exceed 24W  $24W / 12V = 2A$ ,  $24W / 20V = 1.2A$

So U2 provides power setting function, After setting power, U2 automatically calculate a current value to prevent a broadcast request over the electrical equipment QC charger power lead pull explosion

#### note:

Because of U2's D + D- interface is used to apply QC protocol, and some PD D + D U2 will interfere with electrical equipment leads to rejection, which is a normal phenomenon such as game consoles SWITCH will not be able to use this feature

Voltage and current broadcasting value displayed by the right to apply their own electrical equipment, such as a cell phone user can not change the application PD9V charge, if you want strong irrigation 20V, it is not allowed!

**PD trick menu (PD2.0 mode):**

		<p><b>OK button:</b></p> <p>Short press: Select the trick, back, exit Long press: exit the field to perform the function</p> <p><b>M key:</b></p> <p>Press: the PDO column selection voltage range Press: trick bar, a continuous length adjustment of back, exit confirmation performed (drop out)</p>
--	--	---

As shown above, the trick bar blue icon selection, then press M to select the output voltage PD

**PD decoy menu (PD3.0, PPS, QC4 + mode):**

		<p><b>OK button:</b></p> <p>Short press: Select the trick, back, exit Long press: exit the field to perform the function</p> <p><b>M key:</b></p> <p>Press: the PDO column selection voltage range Press: trick bar, a continuous length adjustment of back, exit confirmation performed (drop out)</p>
--	--	---

When the charger has a PPS output gear

- 1V, + 1V, + 4PPS voltage adjustment option 20mV and -20mV becomes white optional (non-PPS charger grayed)

At this time, the blue mode selection box to select the voltage range at the top, as if the gear selection pps FIG 5th gear 3.30-11.0V 2.00A (meaning that the adjustment voltage can be 3.3 ~ 11V)

Then press the OK key to switch to  $\pm 1V$  or  $\pm 20mV$  option to adjust the voltage PPS

Note: Some broadcast charging head voltage range is possible with the actual difference

PD sniffing (PD monitor PD Ethereal):

<p>PD Listener +0.44 -0.44</p> <p><b>9.0152v</b> 0.0000A</p> <p>0.0000W</p> <p>1 5.00V 3.00A          2 9.00V 2.66A          3 12.00V 2.00A          4 3.30-5.90V 3.00A          5 3.30-11.0V 2.65A</p> <p>PD 3.0 PPS 9.00V 2.66A 2/5</p>	<p>OK button:</p> <p>Short press: Long press to enter the raw data interface: Quit listening mode</p>
<p>PD Listener +0.44 -0.44</p> <p><b>9.0152v</b> 0.0000A</p> <p>0.0000W</p> <p>09 51A1 SRC CAP → 01/09          08 1482 REQUEST ← 0X09A6          07 0521 GOODCRC →          06 03A3 ACCEPT →          05 0241 GOODCRC ←          04 05A6 PS RDY →          03 1C82 REQUEST ←          02 07A3 ACCEPT →          01 09A6 PS RDY →</p> <p>PD 3.0 PPS 9.00V 2.66A 2/5</p>	<p>Raw data interface: OK button:</p> <p>Short press: Press the Select Package +: return voltage output broadcast packets (Exit) M button:</p> <p>Press: select package Press: Select the fast forward</p>

Blue said: Control information

Green said: Data information

Arrows indicate the direction of data:

Red Arrow: The host sends a message Yellow arrow: Slave upload messages

01 09A6 PSDRY: 01 information indicating the number, 09A6 indicates that the following information is header specific data (hereinafter, data can be empty)

The right block 01/09

01: which represents the currently selected packet 09: PD

represents the total number of packet buffers inside

The smaller the number of messages, the closer in time, the larger the number, the older. After the buffer is full, new messages automatically overwrite the old message

The new version of the firmware automatically hidden messages GOODCRC

The correct method of operation PD HID listening mode power supply:

	<p>PD sniffing - listening mode</p> <p>After entering this menu U2</p> <p>PD chip will enter a floating state</p> <p>At this time U2 PD charger connection screen is not bright</p> <p>Requires: PD power input plug</p> <p>Output plug powered device PD</p> <p>(Such as mobile phones, can be input charge Po PD)</p> <p>PD PD and other electrical equipment and communication head U2</p> <p>Will light screen</p> <p>This function can be detected before with U2 PD</p> <p>(E.g., mobile power FSP)</p> <p>The charging status of the device conflict</p> <p>Press OK to exit listening mode</p> <p>(After exiting power is not to keep monitoring function)</p>
---	--

## Monitor power connection method HID PD

More compatible device communication and charging monitor PD

You must follow the following steps:

U2 is connected to the PD 1. First charging head

2. USB HID interface U2 5V power supply


3. Finally, the electrical equipment is connected PD

Power HID Objective: not black, anti-packet loss, providing part of the PD Compatibility

### PD listening mode exit:

PD monitoring function needs to exit, please use common 5V power supply, and then press OK to exit

APPLE PD power detection:

	<p>OK button: Press: drop out</p> <p>Malic PD U2 is connected through power supply wires can TYPE-C</p>
---	---

Apple automatic recognition sequence number PD charger to automatically detect power charging head Apple Apple head convenient help determine authenticity  
Now that some cottage charging head can have a serial number written to, this feature is used only for determining assistance



This feature only supports testing TYPE-C (USB-C) interface Apple charger PD

A port of the old (USB-A Interface) old 5V1A 5V2.4A no other power source is a data PD

**E-Marker rod detection:**

PD E-Marker		+0.13 -0.17
<b>5.2573V</b>		0.0000A
		0.0000W
制造商:	USB3.1 GEN1	被动
线材长度:	1~2米	PD2.0
线材电压:	N/A	电流: 3A
制造商:	0x2B1D	
固件版本:	0x01	
硬件版本:	0x01	自动清除

OK button:  
Press: drop out

Use ordinary 5V supply  
**Do not** Using PD power supply

E-Marker feature requires exiting, please use the ordinary 5V supply Press OK to exit

Passive: Indicates active line / passive line (passive wire line should be passive meaning) PD2.0: Support PD2.0 / PD3.0 communication protocol E-Marker cable wire voltage: PD2.0 of Emarker no maximum voltage wire flag, so that the display N / A

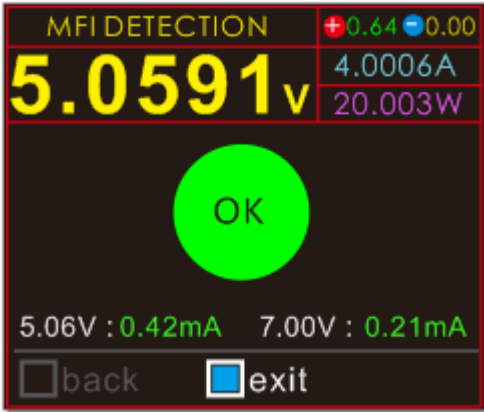
E-Marker 3 seconds automatically clearing function, customer-specific test batch plant (continuous measurement wires) common user presses the function button to close the M (gray auto clear function is turned off) when replacing the wire Emark similar test, in order to facilitate observation data, short press M to clear the old data immediately



Please use common 5V power supply (do not use PD Power)

Emarker a line C U2 insertion port (port C will do any of a) to float the other end of the wire

## MFI wire detection:

	<p>OK button: Press: <b>Exit M</b> key: dog: <b>Start detection</b></p> <p>Power supply must be used QC3.0</p>
---	--

Power supply must be used QC3.0

MFI wire detection detects only two high-voltage protection and quiescent current index Results represent compliance with static wire around 0.4mA high-voltage protection index test results do not represent the true and false wire

U2 no Lighting Interface, it can not detect the serial number MFI wire and encrypted information needed to detect the serial number and encrypted information, please look forward to U2 MFI version.

Tip: U2 use 5V power supply

As long as a plug (USB-A male other end into the female output U2) is inserted without head Lighting legacy line


CL can be measured (the same as long as the plug TYPE-C OUT C Interface port to U2.)

The new version supports PD CL line because of their work in a high pressure, it is not supported by this parameter measurement of high-voltage protection

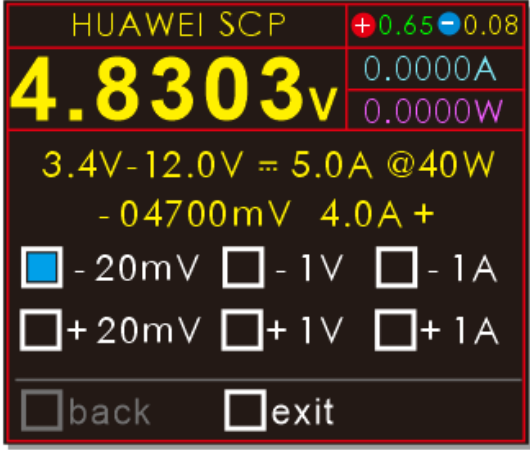
**The new CL line can not be tested**



### Huawei FCP menu:

	<p><b>OK button:</b></p> <p>Short press: Select the trick, back, exit Long press: exit the field to perform the function</p> <p><b>M key:</b></p> <p>Short press: trick bar to select voltage Long press: exit the field to perform the function (drop out)</p>
---	---

### Huawei SCP / SUPER SCP menu:

	<p><b>OK button:</b></p> <p>Short press: Select the trick, exit Long press: exit the field to perform the function</p> <p><b>M key:</b></p> <p>Press: trick bar, short press stepping Press: trick bar, a continuous length adjustment performed to confirm exit (drop out)</p>
--	---


This menu may be displayed on the voltage and current capability of the charger output Huawei SCP SUPER 4700mV FIG voltage decoy hair code, but the actual output of the charger is not necessarily accurate, large yellow digital 4.8303V U2 is the actual measured output voltage Huawei original SCP constant current charging head output capability, may be provided above the constant value

Is simply: U2: Charger, 4.7V output you right



Charger: receive! I will now output, but it seems the regulator allowed, there is 4.8303V

\* Some third-party display inaccurate data is incomplete because it led to crack the most common is the current display to zero, but this does not affect the U2 SCP SCP protocol detection decoy trick can not be saved, quit this interface fails immediately, so the only exit Exit option, there is no option to keep back

### Samsung AFC menu:

	<p><b>OK button:</b></p> <p>Short press: Select the trick, back, exit Long press: exit the field to perform the function</p> <p><b>M key:</b></p> <p>Short press: trick bar to select voltage Long press: exit the field to perform the function (drop out)</p>
---	---

### OPPO, a plus of VOOC DASH / Super VOOC 10V menu:

	<p><b>OK button:</b></p> <p>Short press: Select the trick, exit Long press: exit the field to perform the function</p> <p><b>M key:</b></p> <p>Short press: NC Long press: exit the field to perform the function (drop out)</p>
	<p>U2 supported the original OPPO, a mobile phone charger plus trick</p> <p>U2 can be directly plugged into the charger trick</p> <p><b>Green</b> : VOOC handshaking success <b>red light</b> : Communication is not supported VOOC</p>

Because third-party VOOC charging head requires a large current for a period of time before issuing a handshake and U2 built a small load can not produce such a large current

So it does not support the cottage VOOC DASH head detecting deception, third-party partially available

	<p><b>OK button:</b></p> <p>Short press: Select the trick, back, exit Long press: exit the field to perform the function</p> <p><b>M key:</b></p> <p>Short press: NC Long press: exit the field to perform the function (drop out)</p>
--	--

Decoy VOOC charger, or charging SVOOC 10V output Po

After decoy VOOC and Super VOOC, requires external load (more preferably 1A) in order to maintain good output protocol trick

**VOOC DASH dummy data line function**

	<p><b>OK button:</b></p> <p>Short press: Select the trick, back, exit Long press: exit the field to perform the function</p> <p><b>M key:</b></p> <p>Short press: NC Long press: exit the field to perform the function (drop out)</p>
--	--


**VOOC virtual calbe:**

VOOC / DASH original charge of virtual functions of the original data line  
 OPPO, plus a phone original charging head, you must use only the original data cable to the phone fast charge, use this feature U2 may be exempt from original data cable original head can also be used for mobile phone quick charge (using third-party data lines Please use good quality, due to the excessive current)

Usage: Original head -> U2-> cable -> Mobile

U2 directly inserted original head, which can use a third party line, can also observe the current-voltage charging


### VIVO dual engine flash charge trick menu:

	<p><b>OK button:</b></p> <p>Short press: Select the trick, back, exit Long press: exit the field to perform the function</p> <p><b>M key:</b></p> <p>Short press: trick bar to select voltage Long press: exit the field to perform the function (drop out)</p>
---	---

Security design:

When choosing 9V, 12V high voltage output, must press M confirmation Press M to select the gear to 5V without a long press M to confirm the automatic recovery system 5V output, to ensure electrical safety

### Apple charging accelerating trick menu:


	<p><b>OK button:</b></p> <p>Short press: Select the back, exit Long press: exit the field to perform the function</p> <p><b>M key:</b></p> <p>Short press: NC Long press: back, exit confirm execution (drop out)</p>
---	---

As there are many chargers do not support the recognition level Apple devices, these devices, although it can output high current, but only 500mA charging turtle speed when connected Apple devices

Typical examples: a large number of commercially popular music as QC3.0 fast charge, which can be output gear 5V output current 2A above, but by directly charging the Apple iPhone only 500mA charge acceleration activation U2, iPhone charge can approach full speed 2A

**Note: This feature does not enhance the ability of current charger, just let it play existing potential**

**Peripheral auxiliary small current (charging Po does not shut down):**

	<p>OK button: Short press: NC</p> <p>M key: Short press: NC Press: exit confirm execution (Long press to exit)</p>
---	--

Since many output terminal Po charging current detecting function, to prevent the phone when full power output continues

Therefore, most of the charging current is less than the output Po at about 100mA, over tens of seconds to several minutes will automatically turn off the output

So the question comes, many Bluetooth headsets, 3D glasses, children's watches, sports bracelet, tire pressure detector, and so the device is charging current is less than 100mA, then this time charge charge treasure, no charge tens of seconds, then charging treasure shut down

Lead to such equipment can not be charged especially when away from home, very convenient. Of course, now there are many new charging treasure small current output, can be used directly in need of U2 low current auxiliary devices charging function to help you solve this problem: Go Charger Tool menu, this feature automatically run, U2 every 10 seconds, automatically open internal load time

Let treasure charging current detection circuit can detect as well as external load, not to close the output, then you can connect a Bluetooth headset stay in charge of (the current version is not timing, later adding, remember to unplug the charging is completed, U2, prevent the electric charge treasure is done)

U2 every 10 seconds automatically start the internal load

Start time of less than 500ms, U2 will not lead to internal heat load starting loads so that the charging current detecting circuit Po external charging device also does not turn off the output

**Please quit after use, to prevent run out of electric charge treasure**

**This feature supports only be used in 5V state!!!**

## Parameter settings menu:

U2 pressing the power key and then enter the M setting menu (U2P Press> direction key to enter the power-on)

## Key Description Mode Setting menu:

M key: down to select / + 1 / Press enter menu / OK key to save Press: Select Up / -1 / Exit Press (restart the root directory)




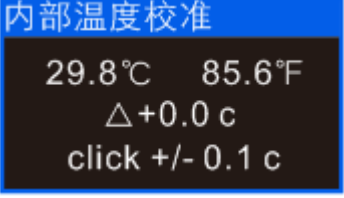
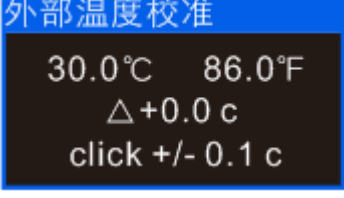



WEB- U2 Menu title behind the value indicates the current firmware version of the device




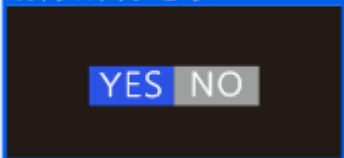
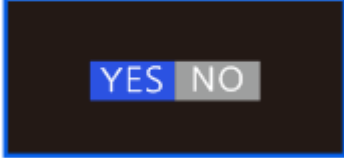
SN :



<p>工作屏幕亮度</p> 	<p>0 to 16 at the level of the operating state</p> <p>Screen brightness settings</p>
<p>待机屏幕亮度</p> 	<p>0 to 16 at the level of the dark screen state</p> <p>Screen brightness settings</p>
<p>进入待机时间</p> <p>1 minute</p> 	<p>How long dark settings automatically enter standby screen</p> <p>When set to 0: always on screen</p>
<p>电脑联机设置</p> <p>ON OFF</p> 	<p>PC USB HID port switch only affects computer on-line and on-line computer PC DFU Brush not affected by this switch affect</p> <p>Select blue</p>
<p>串口数据设置</p> <p>ON OFF</p> 	<p>Serial data output switch using Bluetooth or other serial data transfer needs to be activated</p> <p>Select blue</p>
<p>离线电流阈值</p> <p>0.01 A</p> 	<p>Offline curve recorded exceeds the threshold value set will record the current data value</p> <p>When set to 0: has been recorded till is full</p>
<p>离线记录时间</p> <p>1 hour 10.22 s/dot</p> 	<p>Offline curve profile record switch off the recording is full length of the total time from the stop (red dots lit)</p> <p>10.22s / dot represents a point of time of each recording interval</p> <p>When set to 0: Close records offline</p>

 <p>实时曲线设置 固定D+D-量程 ON OFF</p>	<p>D + D- curve range setting ON: a fixed range (the default value) to facilitate the observation of various protocols fast charge OFF: automatic range conveniently measured voltage value D + D- <a href="#">Select blue</a></p>
 <p>参考电压校准 10V 10.358V Δ-005893</p>	<p>After the reference voltage calibration requires an accurate voltage source 10V input 10.000V stable reference source press M to save calibration values</p>
 <p>参考电流校准 2A 2.0231A Δ-001386</p>	<p>After calibration requires the use of a reference current source 2A precision current reference source input 2.0000A stabilizing press M to save calibration values</p>
 <p>内部温度校准 29.8°C 85.6°F Δ+0.0 c click +/- 0.1 c</p>	<p>The internal temperature of the NTC sensor calibration requires an accurate thermometer M short press the OK key or plus or minus temperature values with the exact numerical agreement thermometer to save and exit press M</p>
 <p>外部温度校准 30.0°C 86.0°F Δ+0.0 c click +/- 0.1 c</p>	<p>NTC temperature sensor External calibration requires an accurate thermometer M short press the OK key or plus or minus temperature values with the exact value of the thermometer to show a consistent long-save exit Press M  <a href="#">Valid external temperature probe</a></p>
 <p>重力方向识别 ON OFF</p>	<p>Screen display direction P1 large screen display automatically switches the four-way switching menu to the other menu can be switched in accordance with the gravity 2  <a href="#">Manually fixed direction grant senses a user can turn this feature off</a></p>



<p>手势动作识别</p> 	<p>Hand gesture recognition may identify the user double action: cutting the screen frequent vibration environment the user may turn this feature prevents false triggering this function is generally used as the</p>
<p>电流变化唤醒</p> 	<p>load detection automatically inserted</p> <p>Inserting the user changes the operating current load per unit time exceeds the set value automatically bright screen</p>
<p>MTK 检测设置</p> 	<p>Since MTK may be automatically detected when the protocol interface detection U2 need to open the case and the internal load will heat to heat sensitive user can close detection MTK</p>
<p>清除所有记录</p> 	<p>A clear key group 6 and offline data capacity Qu</p> <p>Line recording data</p>
<p>恢复默认参数</p> 	<p>Restore all system parameters and user-school</p> <p>Quasi-factory-default values</p>

Remarks:

If there is no sophisticated equipment not to self-calibration parameters, if not carefully calibrated lead to inaccurate measurements can press the menu "Restore default parameters" to restore the factory default parameters calibrated items

Offline curve function is the use of FRAM memory board, long-time recording voltage, current, temperature of several parameters, for example, generally used for charging curve can record detailed record phone charging curve

#### Offline profile recording function using the steps:

**1. Turn off the record, "off-line recording time" menu to select the time you want to record.**

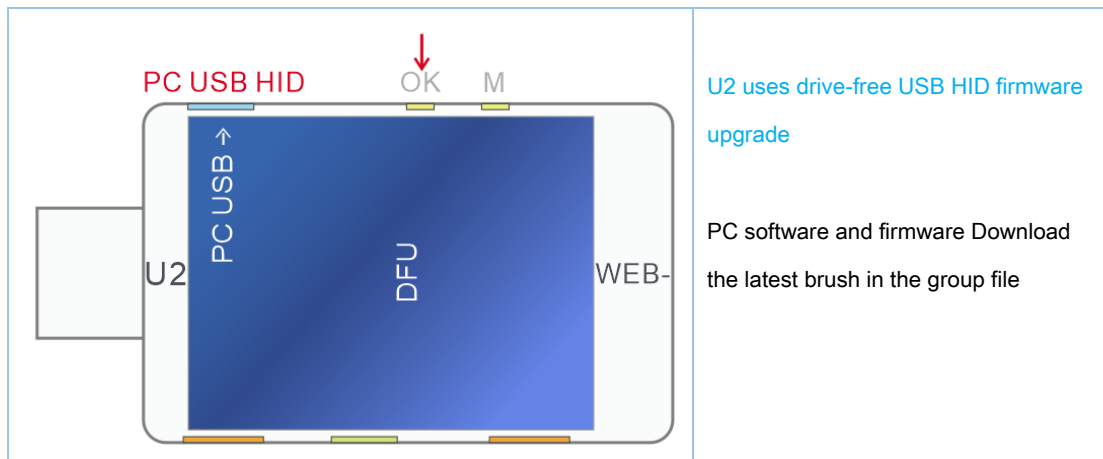
Such as mobile phones 1A slow charge charging current, the battery capacity is 3400mAh, the charging time is then required about four hours, when the recording time may be set to five hours observation recorded.

**2. Set off current threshold, meaning that the current exceed this value will be referred to**

record. For example when the phone is full, there are circuit current 20mA, then the threshold should be set to more than 20mA, or offline data records would have been kept, leading to greatly exceed the capacity of mobile phone battery capacity statistics, statistical error.

**3. Enter off-line interface to delete the old curve curve data recording is restarted**

## Firmware upgrade instructions:



Firmware upgrade methods and procedures:

1. U2 first without electricity, according to OK key grimdeath
2. MicroUSB data cable to the computer and a PC USB HID interface to U2 U2 case starts to take power from the computer into DFU mode connection, see above (at this time can let go)
3. Run the PC software, then switch to "upgrade" label



4. Online successful, the software will display "Connected" and you can see the product serial number
5. Press the "Open" button to import your firmware needs to be updated
6. Press the "Upgrade" button to upgrade, upgrade success of U2 pulled restart

Note: Do not run software to run as administrator

Note: You can not online is generally a system problem, see "not online solution"

## Precautions:

- \* U2 working voltage can not exceed 24V, current can not exceed 5A beyond the scope of use of the device will burn and lose the value of maintenance
- \* When using an external sensor measures the temperature should not exceed the use-range
- \* Since U2 comes up to six USB ports, when in the fast charge mode or a high-pressure fast-charge triggering the phone is charging, power several USB interface + and - poles are in a parallel state, a high pressure will also output: In this case cut Do not use other external USB port to other devices, high-voltage output devices peril burned Oh!
- \* HID USB connection with the computer power supply and other power supply pole + isolation diode, the high-pressure fast charge can also be connected to the computer security
- \* **The computer must be connected and the only connection port can not be connected to other computers via HID USB port, other ports have a high voltage output burnt computer danger !!!**
- \* U2 will start the internal conditions in the automatic detection protocol or MTK, VOOC decoy decoy and other needs for the current modulation adjustable load discharge, the system will generate heat, which is normal

**Safety Warning: U2 performed automatically when the detection protocol, other protocols require MTK detected current modulation is required to start the internal loads, high temperatures are generated at this time do not meet the lower right corner of U2 (i.e., next to the outlet TYPE-C) to prevent high-temperature burns**

\*\*\*\*\*

And parameters described above may be mistakes please  
update to the latest version of the specification, the firmware and  
software without notice, the final interpretation of all Wei Jian Technology

\*\*\*\*\*