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Instructions for USB Tester with Full Colour Display

-Model: UM25/UM25C

Dear Customer,

Thank you for purchasing this Full Colour USB Tester from Hangzhou Ruideng Technologies Co., Ltd. Prior to using this product we recommended that you briefly familiarize yourself with these instructions. In order to ensure the correct operation and use of the device. We also advise that you keep these instructions in a safe place for future reference as may be needed.

Technical Parameters:

Model: UM25/UM25C

Display screen：1.44 Inch color LCD display

Voltage measurement range:4-24.000V

Voltage measurement resolution:0.001V

Current measurement range: 0-5.0000A

Current measurement resolution: 0.0001A

Capacity accumulation range: 0-99999mAh

Voltage measurement accuracy:±（0.5‰+2digits）

Energy accumulation range:0-99999mWh

Current measurement accuracy:±（1‰ +4 digits）

Load impedance range: 0.8Ω-9999.9Ω

Time measurement range:0-99h59min59s

Temperature range:-10℃~100℃/0℉~200℉

Temperature measurement error:± 3℃/ ± 6℉

Screen brightness setting: Levels 0-5

Delay off the screen time：0-9minutes

Voltage graphing range: 4-24.00V

Current graphing range:0-5.000A

Product weight:23.74g(UM25C)/19.26g (UM25)(No packaging)；54.56g(UM25C)/50.08g (UM25)(With packaging)

Refresh rate: 2Hz

Dimensions：71.2mmx30.5mmx12.4mm(UM25C)/71.2mmx30.5mmx11.3mm(UM25)

Quick charge recognition mode：QC2.0、QC3.0、APPLE 2.4A/2.1A/ 1A/0.5A、Android DCP、SAMSUNG

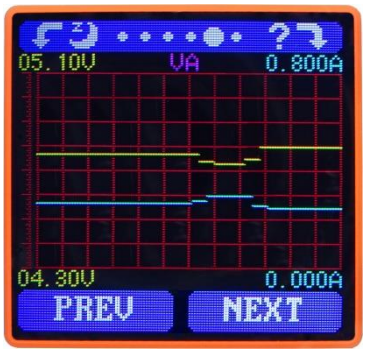
Function Interfaces

Measurement Main Interface

Quick Charge Recognition Interface

Charging Recording Interface

Data Connection Cable Impedance Measurement Interface



Measurement Graphing Interface

System Parameter Setting Interface

The Core Function:

PC Bluetooth Communication
Android Phone APP Control
Quick Charge Recognition
Data Record and Store
Capacity/Energy Detection

Differential Voltage Method Measurement Data Connection Cable Impedance
Voltage/Current/Power Detection
Load connecting detection function (screen auto off, plug the load, screen auto lighting)

Device Layout

A： Micro USB Port

B：Multifunction buttons (4)

C：Bluetooth Switch

D：USB A Female Port

E：USB A Male Port

F：Type-C Input Port (Only VBUS、GND、CC1、CC2 four wires)

G：1.44 Inch Color Screen

H：Type-C Output Port (Only VBUS、GND、CC1、CC2 four wires)

I：Bluetooth Indicator: When connected to the host computer control software, the Bluetooth indicator changes from flashing to steady state. When connecting, the Bluetooth icon is displayed on the screen. (Bluetooth communication version only).

Interface Prompt Representing Functions

1： Press and hold the key to rotate the Screen Left

2： Press the key to close the screen

3：： Press the key to open the help interface

4： Press and hold the key to rotate the screen right

5： PREV Press PREV to previous page

6： NEXT Press Next to next page

Operating Instructions

When the unit is first powered on the welcome screen is displayed followed shortly by the main interface screen.

Hidden interface: Pressing any button whilst powering on the module will display three options. Option 1 selects the Chinese Interface and option 2 selects the English interface.

The third option is to reset（after reset, system setting data was restored to the factory setting, all the stored data was not reset）.Release the button at the desired selection. Pressing and holding the button after stepping to the third option will exit the hidden interface.

Hidden Interface

Welcome Interface

Interface 1: Main Measurment Interface.(As shown below)

7：Voltage Measurement

8：Current Measurement

9：Accumulated Capacity

10：Accumulated Energy

11：Temperature Measurement

12：Number of the Data Group in use

13：Load Equivalent Impedance

14：Power Measurement

Press the ‘ ? ’ button to enter the interface as shown above:

Press and hold the ‘NEXT’ button to switch Data Group. The USB tester can provide a total of 10 groups of data to save and view. These are numbered 0-9.

With Data Groups 1-9 selected the current mAh and mWh are saved after power off. They will continue accumulating the next time the tester is powered on. When the data group selected is 0 then the current value of mAh and mWh will be temporarily saved at power off. When the device is next powered on these values will be recalled and will begin flashing. When the accumulated mAh exceeds 1 mAh, the previous data will be cleared and accumulation will restart.

With a Data Group selected, press and hold the ‘PREV’ button to clear the mAh and mWh. (As shown)

Press ‘NEXT’ to switch to the Quick Charge Recognition Interface.

Interface 2: Quick Charge Recognition Interface

15： D +: (DP) data positive signal level.

16：D-: (DM), data negative signal level.

17： Mode display

The product will automatically identify a device with a supported fast charging mode. At this time the device supports the QC2.0、QC3.0、APPLE 2.4A/2.1A/ 1A/0.5A、Android DCP、SAMSUNG.(**Note**: *This quick charge agreement recognition model is for reference only, because cell phone updated quickly, it can't be absolutely accurate identification*）

Press ‘NEXT’ to switch to the Charging Recording Interface.

Interface 3: Charging Recording Interface

18： Accumulated Capacity

19： Accumulated Energy

20：Time display：The total accumulated recording time.

21： Capacity/Energy statistics trigger current

22：REC：recording status indicator. ‘REC’ displayed in red indicates that recording is stopped. ‘REC’ displayed in green indicates that recording is in progress.

After power on, when the current flowing is greater than the Low Current trigger value. The system automatically begins to record the accumulated capacity, energy, and time elapsed. The ‘REC’ indicator will change from red to green.

To set the Current trigger value, press and hold the "Next" button to highlight the value then press the ‘PREV’ button to adjust the value as required. The value can be set anywhere between 0.01A- and 0.30A. (10mA to 300mA).

Press "Next" button to switch to the Data Connection Cable impedance Measurement Interface.

Interface 4: Data Connection Cable Impedance Measurement Interface.

The Tester can use

differential voltage method to measure the resistance of a data connection cable

23：USB Tester directly connected to the power supply with Voltage and Current values displayed

24：USB Tester connected via a data connection cable with Voltage and Current values displayed.

25：R: Data Connection Cable resistance.

Measurement procedure:

First, connect the USB Tester directly to the power supply and adjust the appropriate load current (recommended value 1A) . Press and hold the 'NEXT' button to begin recording data. The indicator prompt will stop flashing .

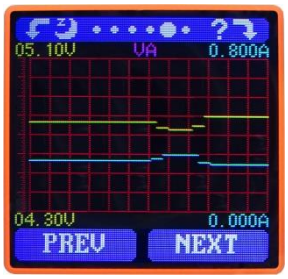
Second, unplug the USB Tester and then reconnect it to the power supply via the Micro USB/Type-C IN data connection cable and adjust the load current to the same value as in the first step. Press and hold the 'NEXT' button to begin recording data. The indicator prompt stops flashing and the Data Connection Cable resistance measurement test is completed and the value displayed.

Note: If during the second step the screen turns black, this indicates that the voltage difference is too high and the tester will enter the 4V power-down state. The load current needs be reduced. Then re-start the measurement from the first step. After the Data Connection Cable resistance test is completed, the Tester needs to be powered off and then on again to resume measurement.

Press the 'NEXT' button to switch to the Measurement Graphing Interface.

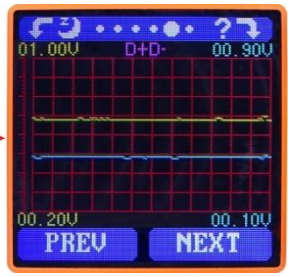
Interface 5: Measurement Graphing Interface

This interface displays the voltage measurement over time in the 4-24V range and will automatically adjust the displayed range in real time to account for voltage fluctuations. And the current measurement over time in the 0-5.000A range and will automatically adjust the display range in real time to account for current fluctuations.



Press and hold "NEXT" to switch to D+D- graphing, as picture

This interface displays the D+ /D- voltage measurement over time in the 0-3.3V range and will automatically adjust the displayed range in real time to account for D+/D- voltage fluctuations.



Press the 'NEXT' button to switch to the system parameter setting interface.

Interface 6: System Parameter Setting Interface

26：Auto screen off time

27：Screen brightness

28：Temperature display C /F

29：Theme background color

30：Theme foreground color

Press and hold the "Next" button

to enter into setting state, press “NEXT” button to step through the options of auto screen off time, brightness level, temperature display units, theme background color and theme foreground color. Stop on the value you wish to change then press the "PREV" button to change the setting.

For auto screen off time setting press ‘PREV’ to repeatedly step though the 10 options from 0 to 9 minutes. Default time is 1 minutes.

For the screen brightness setting, press ‘PREV’ to repeatedly step though the 6 options from 0 to 5 where 0 is the lowest brightness level and 5 is the highest. Default brightness is 4.

For the temperature display units, pressing the ‘Next’ button toggles the setting between C and F. default temperature unite is C.

For theme background color, press ‘PREV’ to repeatedly step though the 7 options from 0 to 6 where the color sequence is red, green, blue, yellow, light blue, pink, white and black. Default color is 2, blue.

For theme foreground color, press ‘PREV’ to repeatedly step though the 7 options from 0 to 6 where the color sequence is red, green, blue, yellow, light blue, pink, white and black. Default color is 6, white.

At any setting state, press and hold the ‘Next’ button to exit the settings menu.

The PC Control Software Installation Instruction

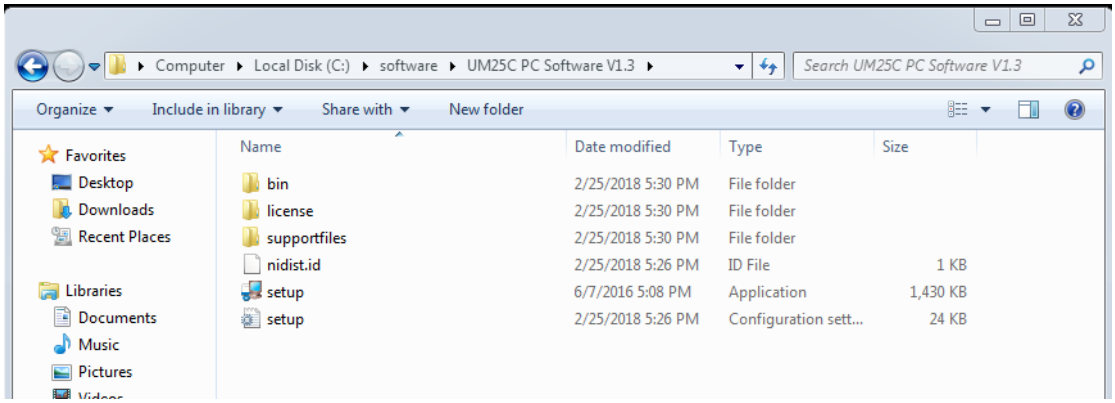
-mode: UM25C

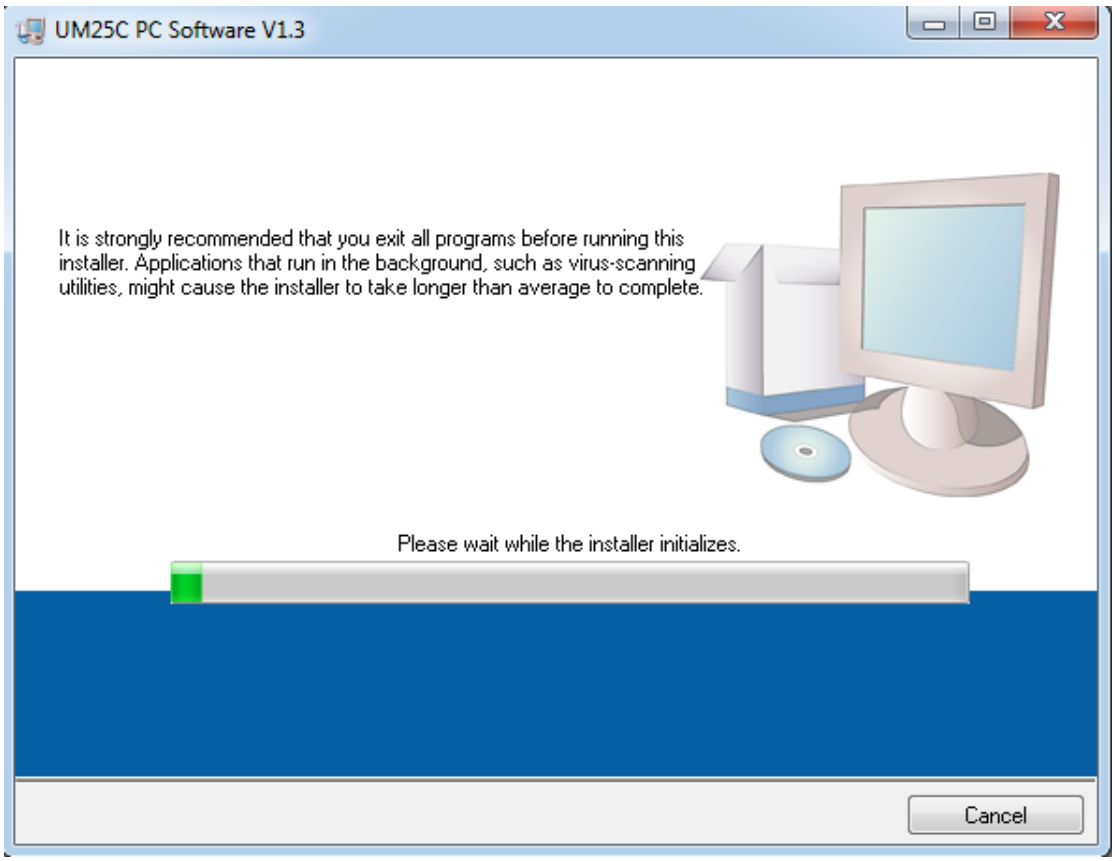
Note: This product only supports Windows 7 and above.

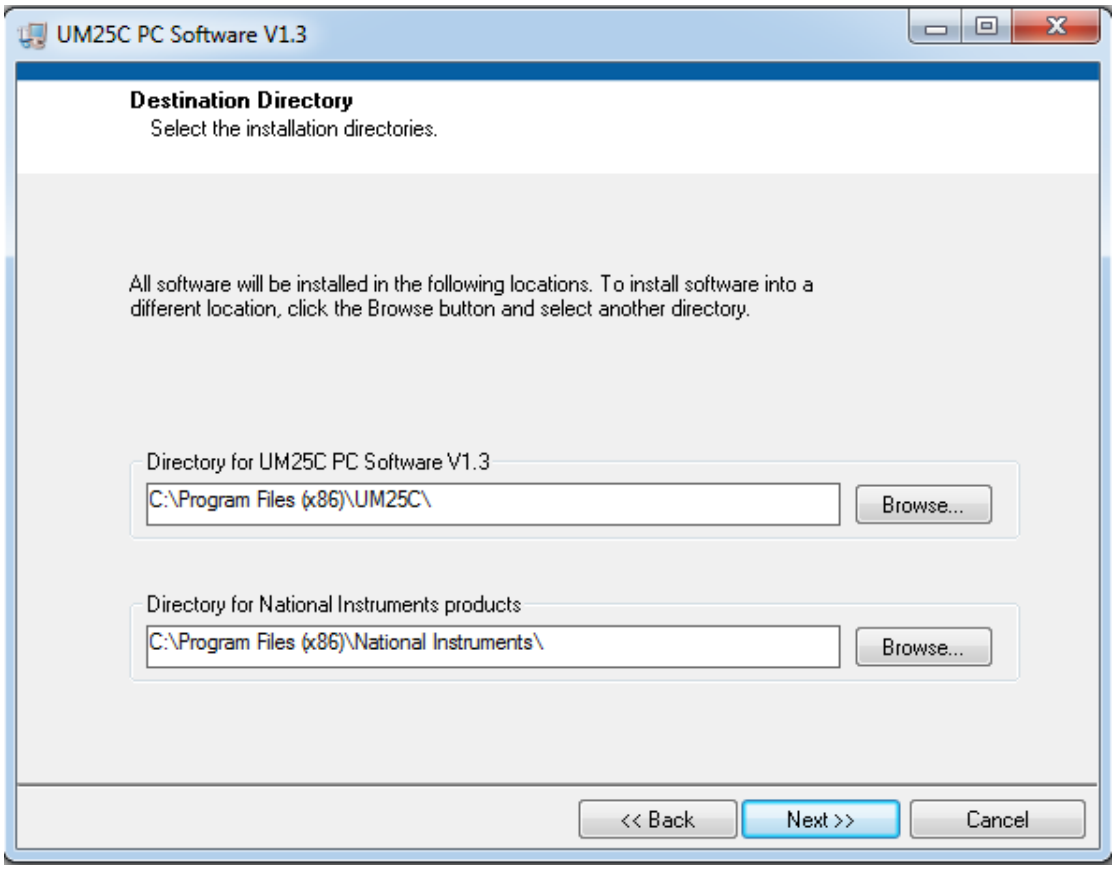
1 Unzip the installation package

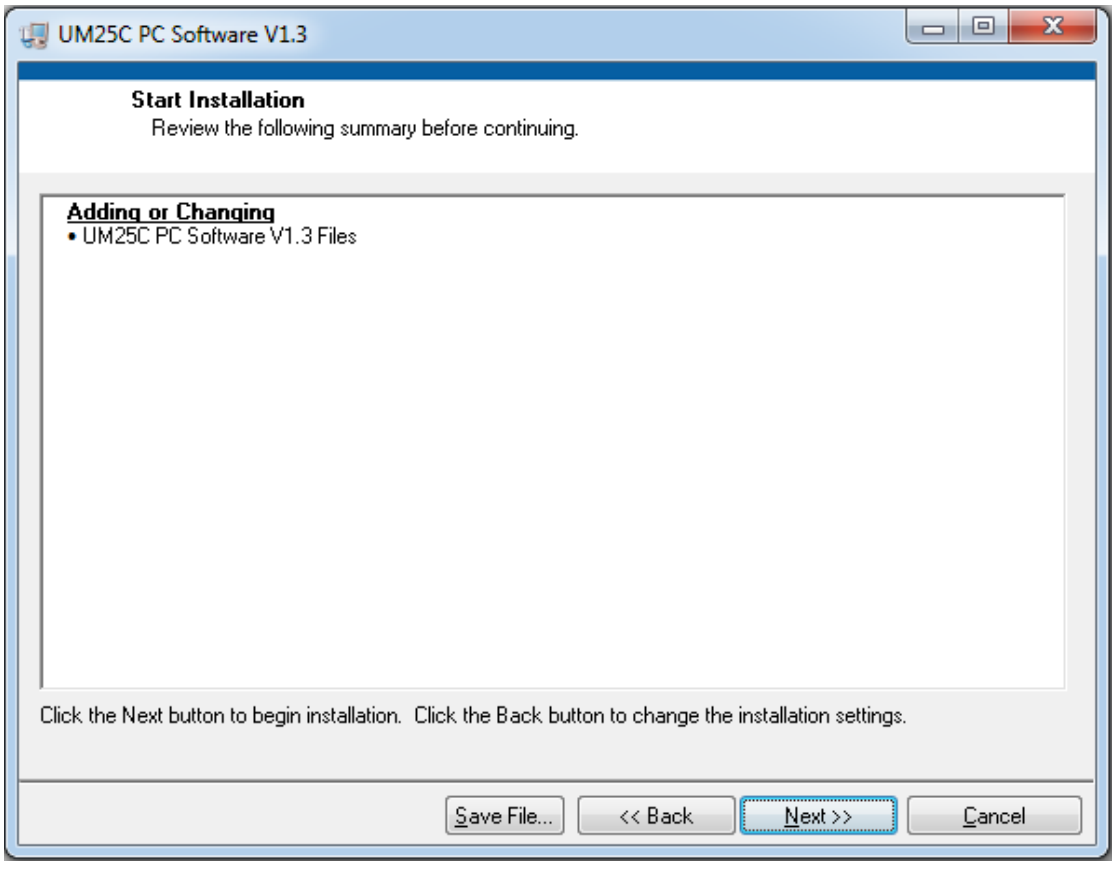
Note: Before unzip the installation package , please install the font package “Arial Unicode MS”.

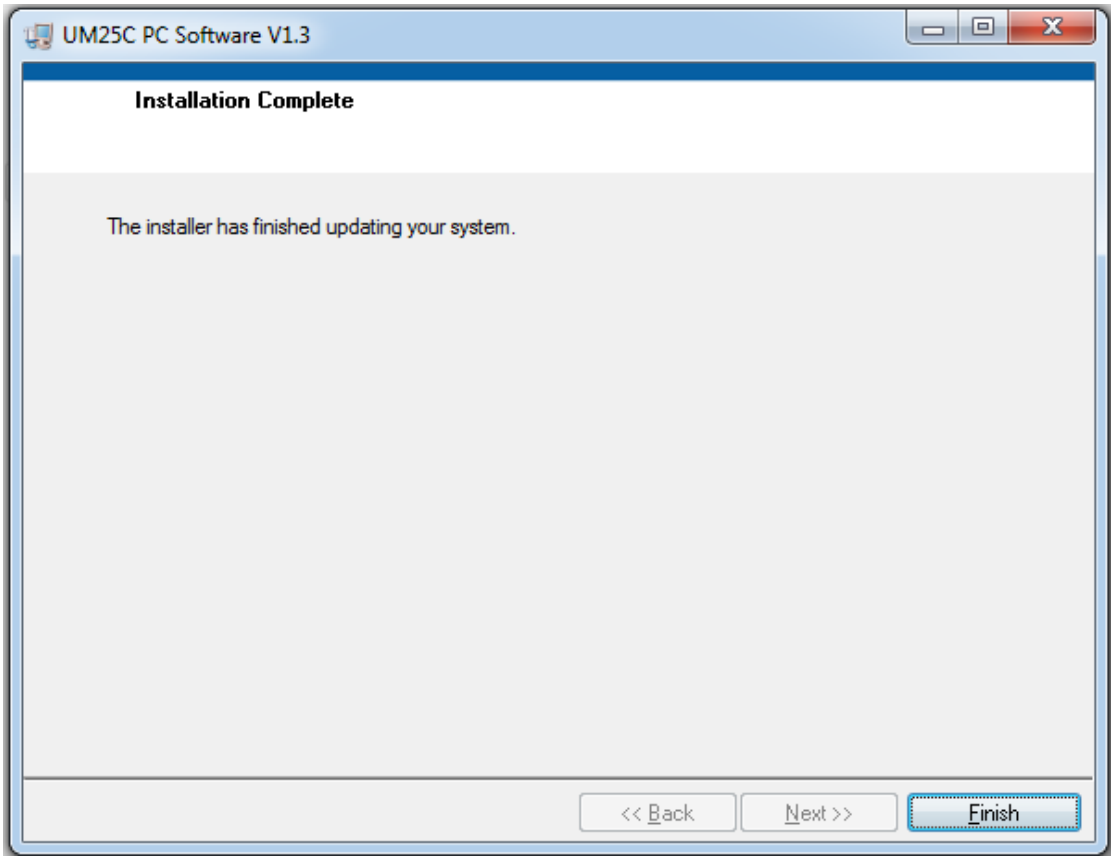
2 Click setup to install






UM25C PC Software V1.3
Destination Directory
Select the installation directories.
All software will be installed in the following locations. To install software into a different location, click the Browse button and select another directory.
Directory for UM25C PC Software V1.3
C:\Program Files (x86)\UM25C\
Browse...
Directory for National Instruments products
C:\Program Files (x86)\National Instruments\
Browse...
<< Back
Next >>
Cancel

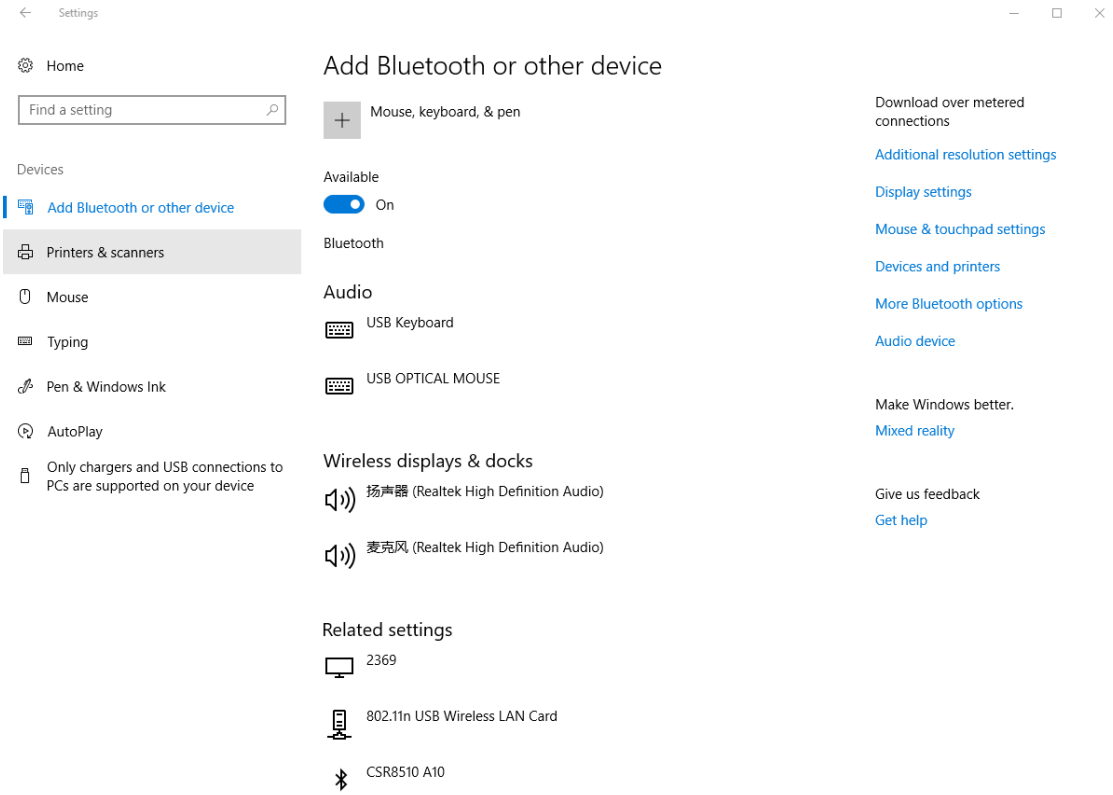

UM25C PC Software V1.3
Start Installation
Review the following summary before continuing.
Adding or Changing
• UM25C PC Software V1.3 Files
Click the Next button to begin installation. Click the Back button to change the installation settings.
Save File...
<< Back
Next >>
Cancel

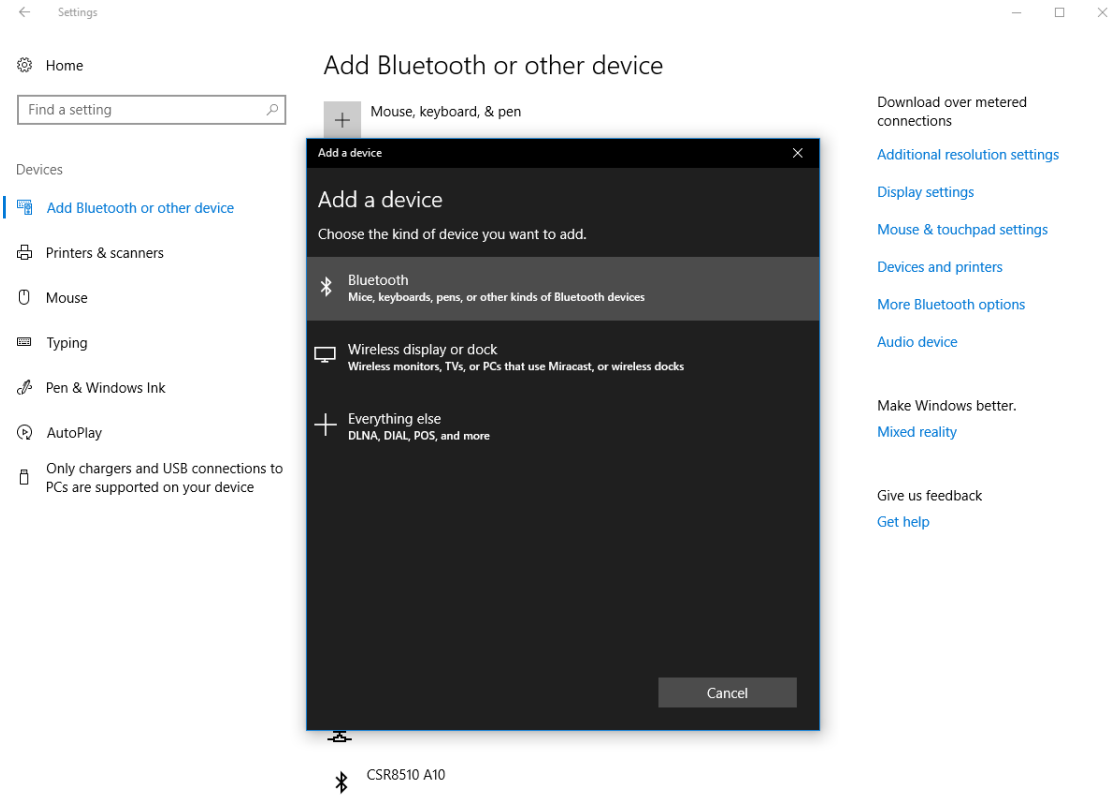


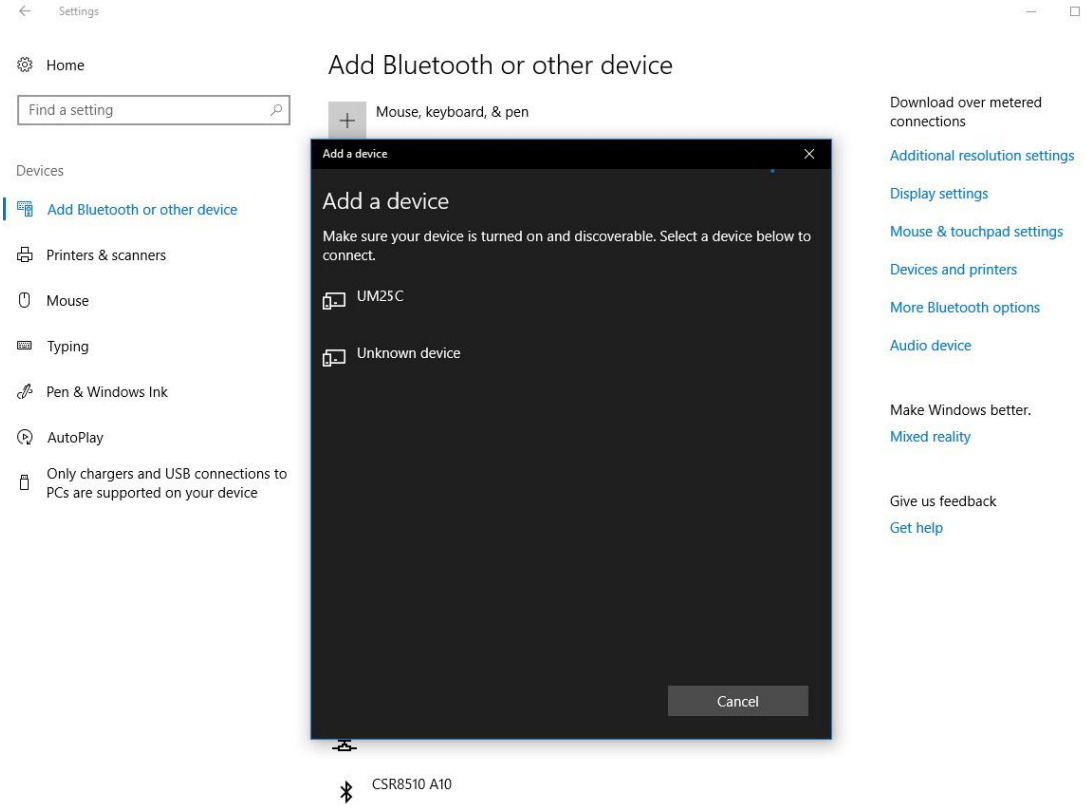
3 Bluetooth connection

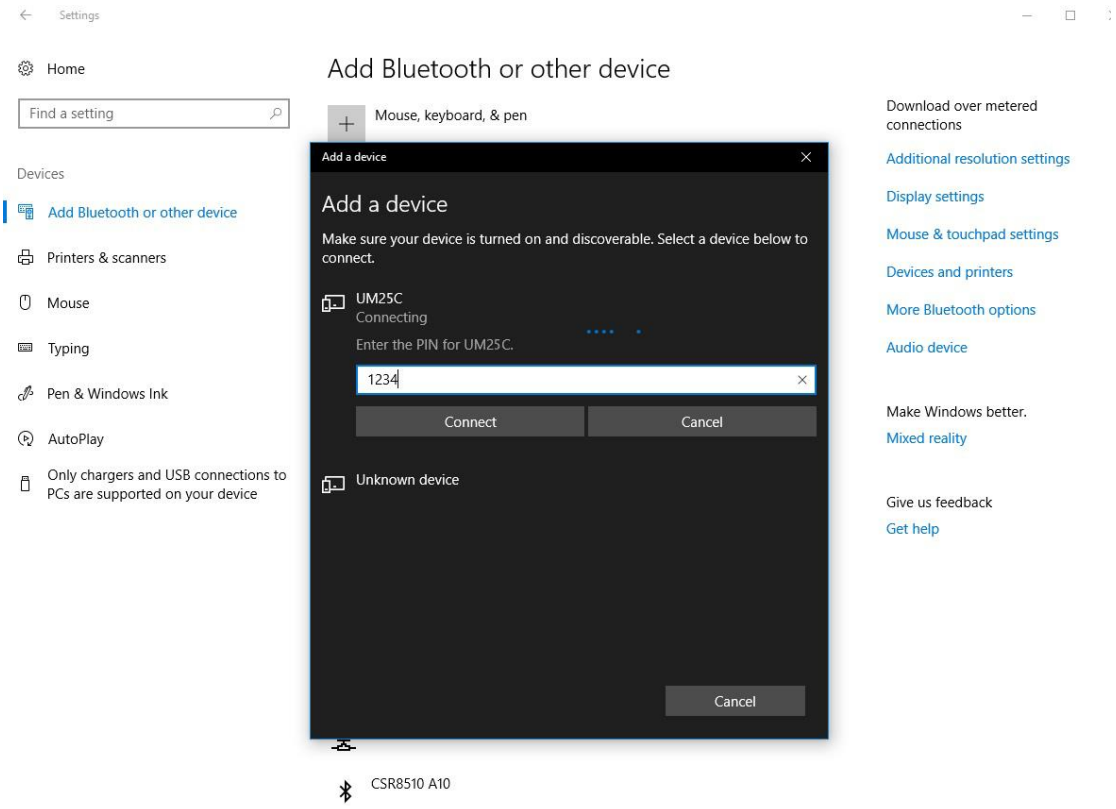
3.1 open the bluetooth switch on the UM25C.

3.2 Use the compute to search bluetooth device.




Settings
Home
Find a setting
Devices
Add Bluetooth or other device
Printers & scanners
Mouse
Typing
Pen & Windows Ink
AutoPlay
Only chargers and USB connections to PCs are supported on your device
Add Bluetooth or other device
Mouse, keyboard, & pen
Add a device
Add a device
Choose the kind of device you want to add.
Bluetooth
Mice, keyboards, pens, or other kinds of Bluetooth devices
Wireless display or dock
Wireless monitors, TVs, or PCs that use Miracast, or wireless docks
Everything else
DLNA, DIAL, POS, and more
Cancel
CSR8510 A10
Download over metered connections
Additional resolution settings
Display settings
Mouse & touchpad settings
Devices and printers
More Bluetooth options
Audio device
Make Windows better.
Mixed reality
Give us feedback
Get help

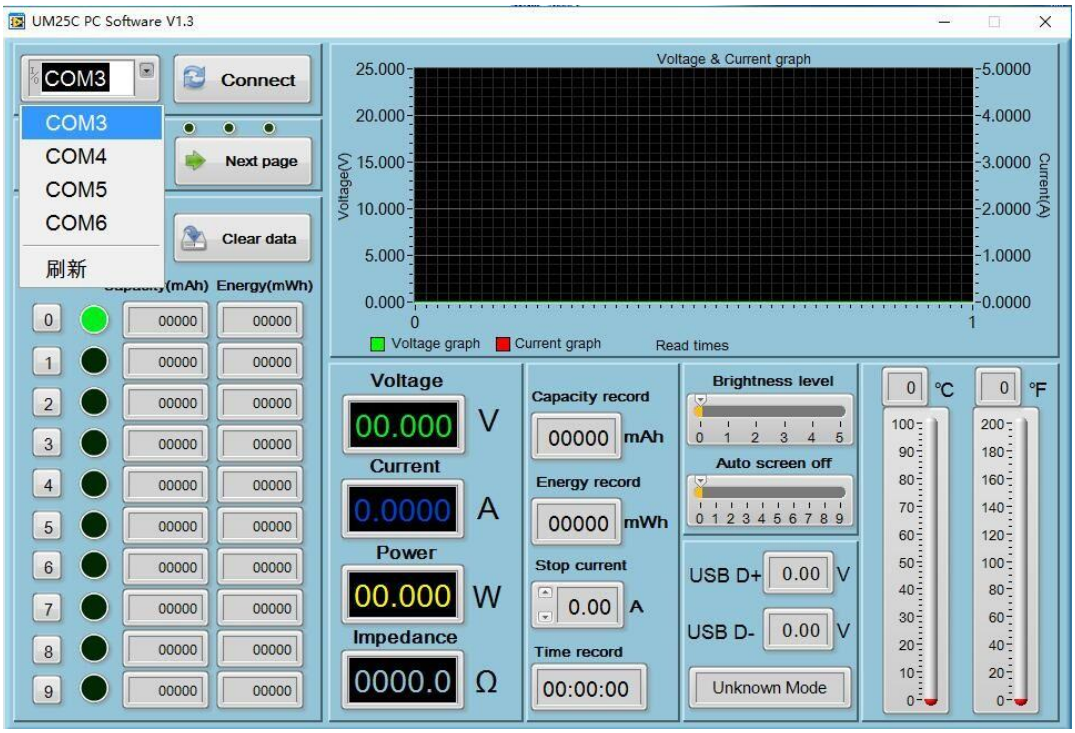

Settings
Home
Find a setting
Devices
Add Bluetooth or other device
Printers & scanners
Mouse
Typing
Pen & Windows Ink
AutoPlay
Only chargers and USB connections to PCs are supported on your device
Add Bluetooth or other device
Mouse, keyboard, & pen
Add a device
Add a device
Make sure your device is turned on and discoverable. Select a device below to connect.
UM25C
Unknown device
Cancel
CSR8510 A10
Download over metered connections
Additional resolution settings
Display settings
Mouse & touchpad settings
Devices and printers
More Bluetooth options
Audio device
Make Windows better.
Mixed reality
Give us feedback
Get help



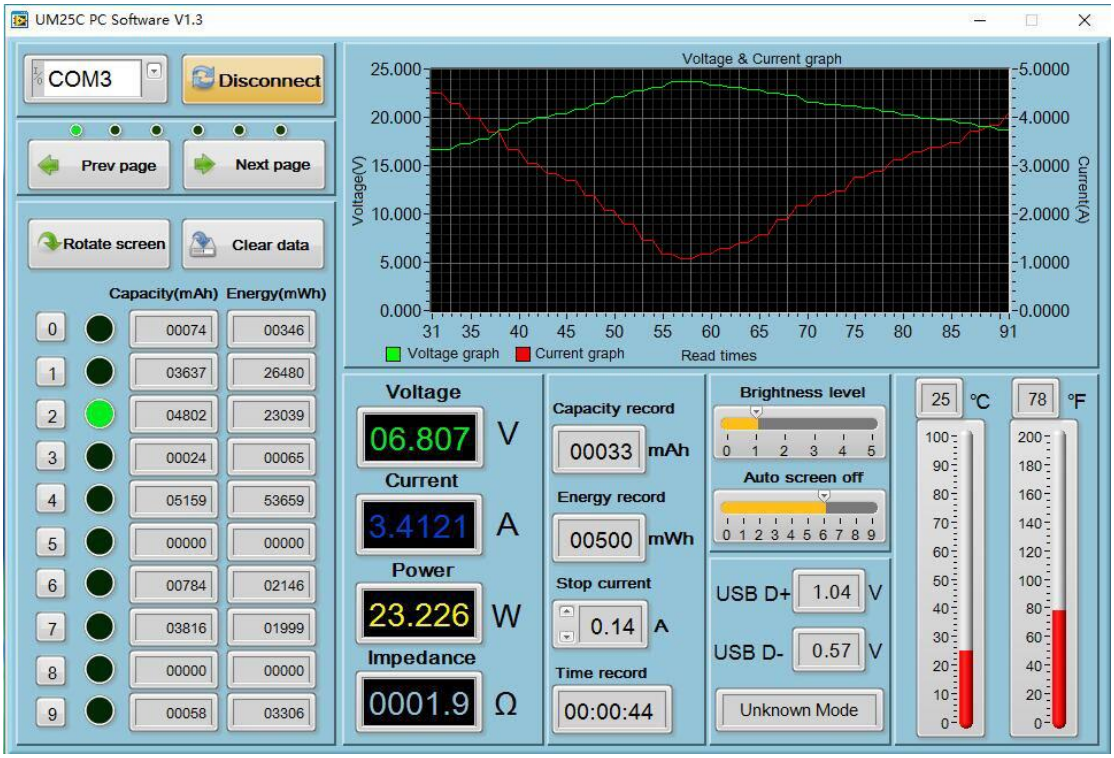
3.3 View bluetooth setting

Select the device connected with bluetooth, view the bluetooth series port COM what PC was using. Efferent direction COM (UM25C'Port') is bluetooth connection port. (note: at win7 system, select bluetooth device, right-click to view properties, display the following widows, view COM port of bluetooth setting, select efferent direction series port to connect. At win10 system, select bluetooth device, click "more bluetooth option", view COM port of bluetooth setting, select efferent direction series port to connect.)

3.4 Connect bluetooth:

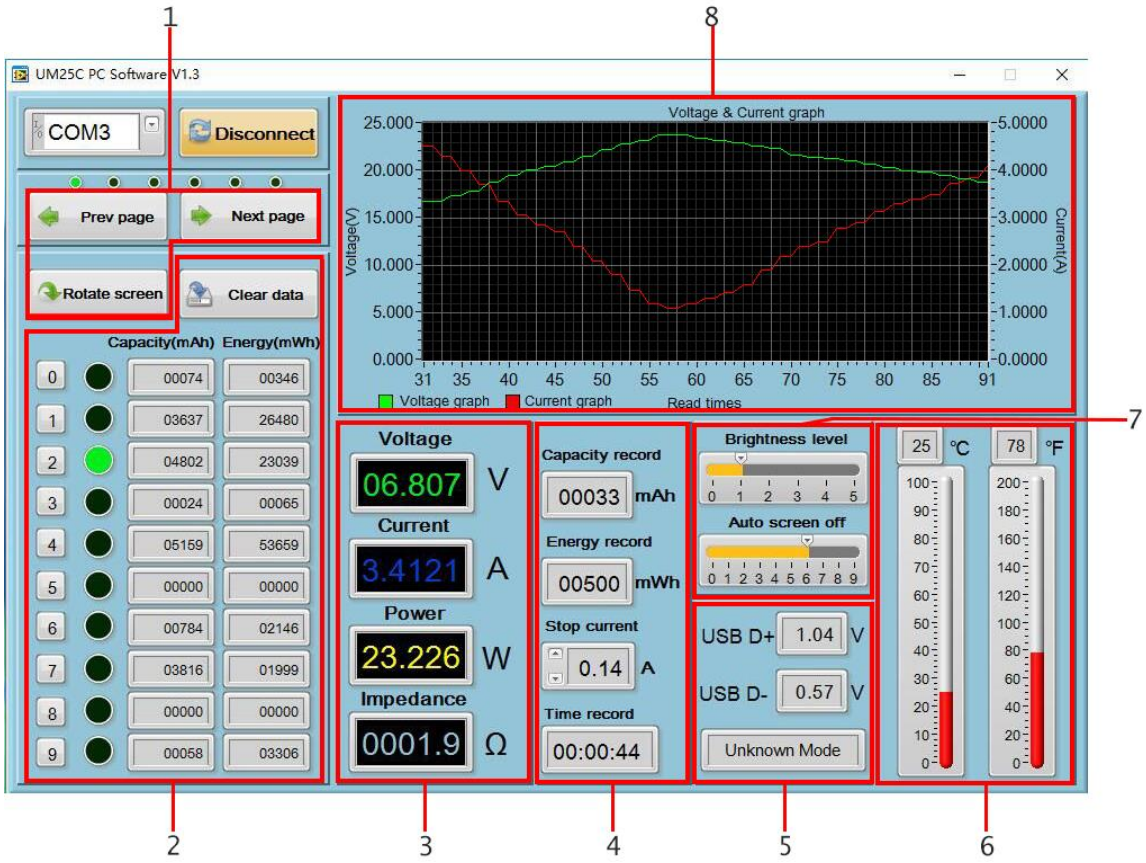


3.5 When the Bluetooth indicator changes from blinking to static, click "Connect"



4. Function Introduction

4.1 Program interface overview:



1: Basic functions: Previous page, Next pages, Rotate screen,

2: Corresponding data group: data group switch (click the corresponding number to switch directly into this data group), data group data clear

3: Corresponding the main display interface 1: main measurement interface

4: Corresponding the main display interface 3: Data recording interface

5: Corresponding the main display interface 2: Quick Charge Recognition interface

6: Corresponding the main display interface 6: temperature unite switch, dual format temperature display

7: Corresponding the main display interface 6: screen brightness, auto screen off time.

8: Corresponding the main display interface 5: Voltage-Current Graphing Interface.

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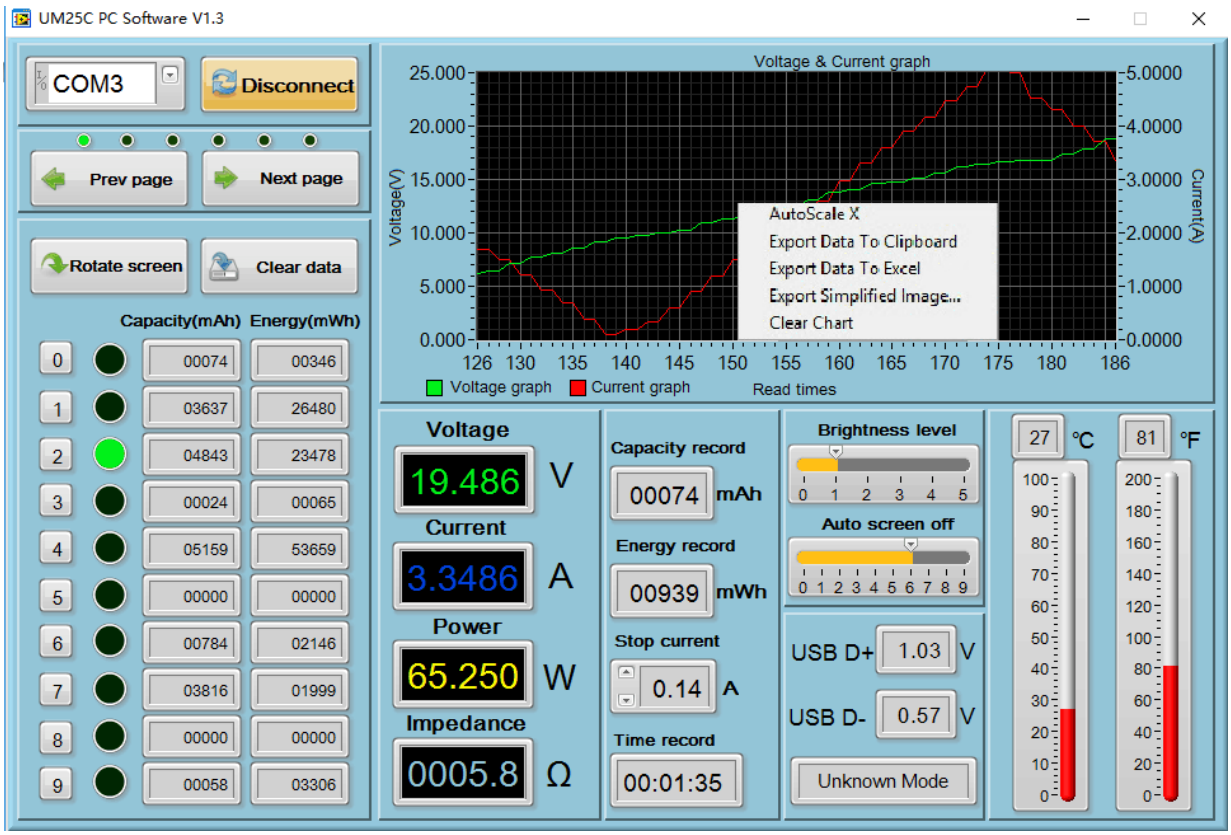
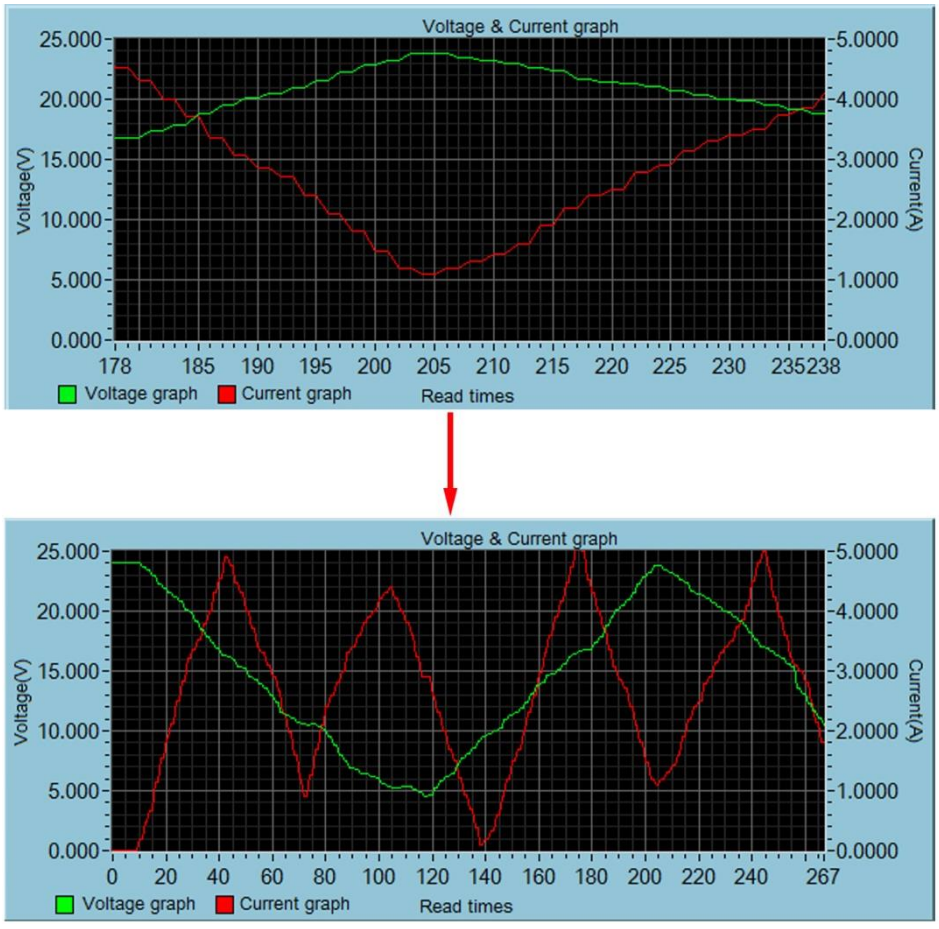
4.2 Graphing and Data Export:

Move mouse over the Voltage / Time measurement graph then right-click and select the following options:



4.2.1: Automatically adjust the X axis:



4.2.2: Export data to the clipboard:

Format : Reference point number on X Axis, Voltage value at that reference point.

```
Read times - Voltage graph Voltage(V) - Voltage graph
Read times - Current graph Current(A) - Current graph
0 23.998 0 0.0002
1 23.998 1 0.0002
2 23.998 2 0.0001
3 23.998 3 0.0001
4 23.998 4 0.0002
5 23.998 5 0.0002
6 23.998 6 0.0021
7 23.998 7 0.0021
8 23.998 8 0.0018
9 24.084 9 0.0018
…
```

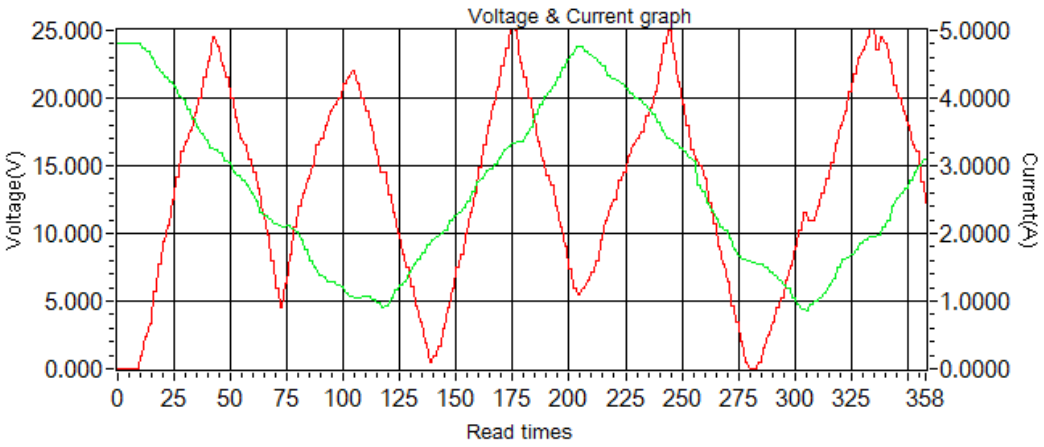
4.2.3: Export data to Excel:

The X scale is adjustable to your preference. You can export up to 120 data reference points, or, only export the current recording data set. Please note, the exported data is only for Microsoft Office Excel.

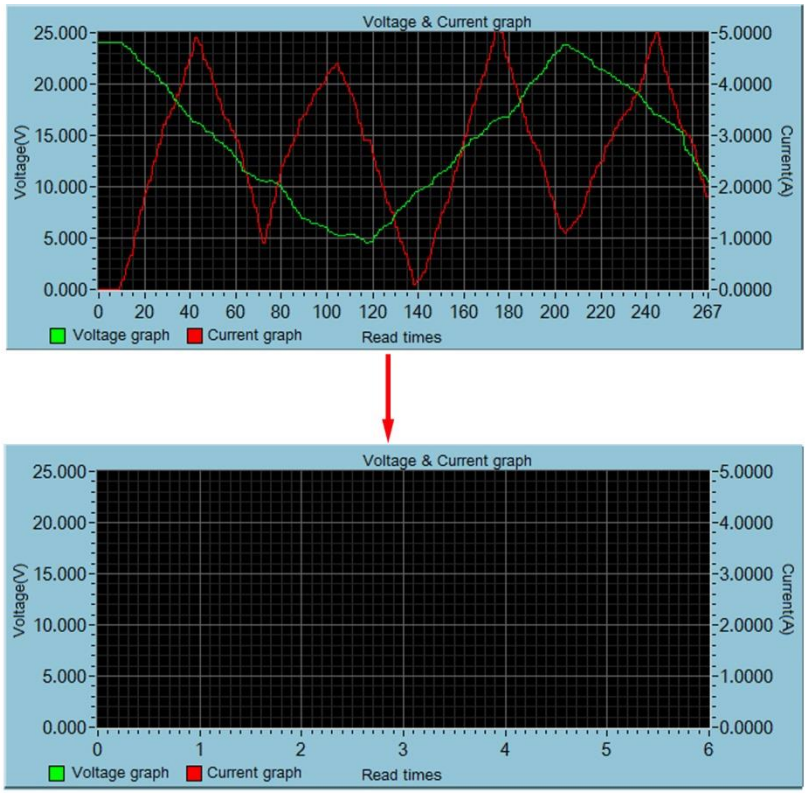
E1

	A	B	C	D
1	Read times - Voltage graph	Voltage(V) - Voltage graph	Read times - Current graph	Current(A) - Current graph
2	0	23.998	0	0.0002
3	1	23.998	1	0.0002
4	2	23.998	2	0.0001
5	3	23.998	3	0.0001
6	4	23.998	4	0.0002
7	5	23.998	5	0.0002
8	6	23.998	6	0.0021
9	7	23.998	7	0.0021
10	8	23.998	8	0.0018
11	9	24.084	9	0.0018
12	10	24.084	10	0.201
13	11	23.686	11	0.201
14	12	23.686	12	0.4862
15	13	23.44	13	0.4862
16	14	23.44	14	0.6776
17	15	22.972	15	0.6776
18	16	22.972	16	1.1439
19	17	22.317	17	1.1439
20	18	22.317	18	1.5536

4.2.4: Export simplified images:



4.2.5: Clear chart:



Note:

1. for desktop, when you use the bluetooth adapter to make bluetooth connection, Please don't use the adapter own driver, and use the windows system bluetooth driver, otherwise the module can't make SSP series port communication. If you have installed the adaptor driver, you can uninstall it and unplug the adaptor, then plug in again, the system will install it automatically.
2. after power off, when power on again, you need to select the COM port again. When the bluetooth indicator is lighting, you can connect the PC with module
3. ease use windows official version, simple version may lose some part.
4. en communicating, don't press the button on tester, otherwise there will be some error data.

5. The exported data is only for Microsoft Office Excel.

UM25C Android APP Instruction

1, APP Installation:

NOTE： The APP only support Android 5.0 and above

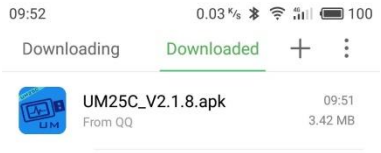
UM25C Android APP download：

http://www.mediafire.com/folder/q2b8h079hpywq/UM25

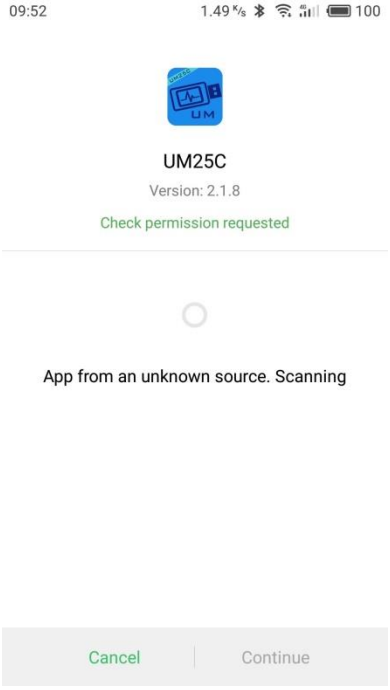
1.1 APP download link : http://www.mediafire.com/folder/q2b8h079hpywq/UM25, choose UM25C android APP file to download, you can use the computer to download , then sent the phone, or use the phone download directly.

1.2 Open the installation package

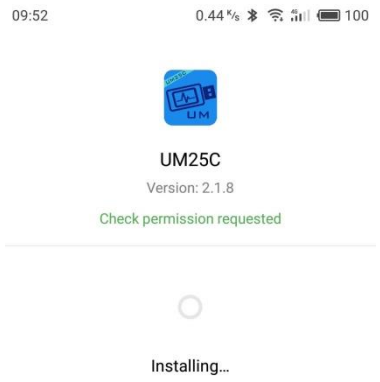
A



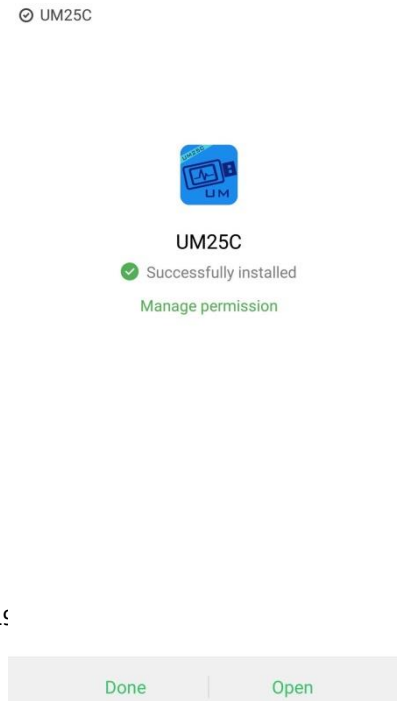
B



C



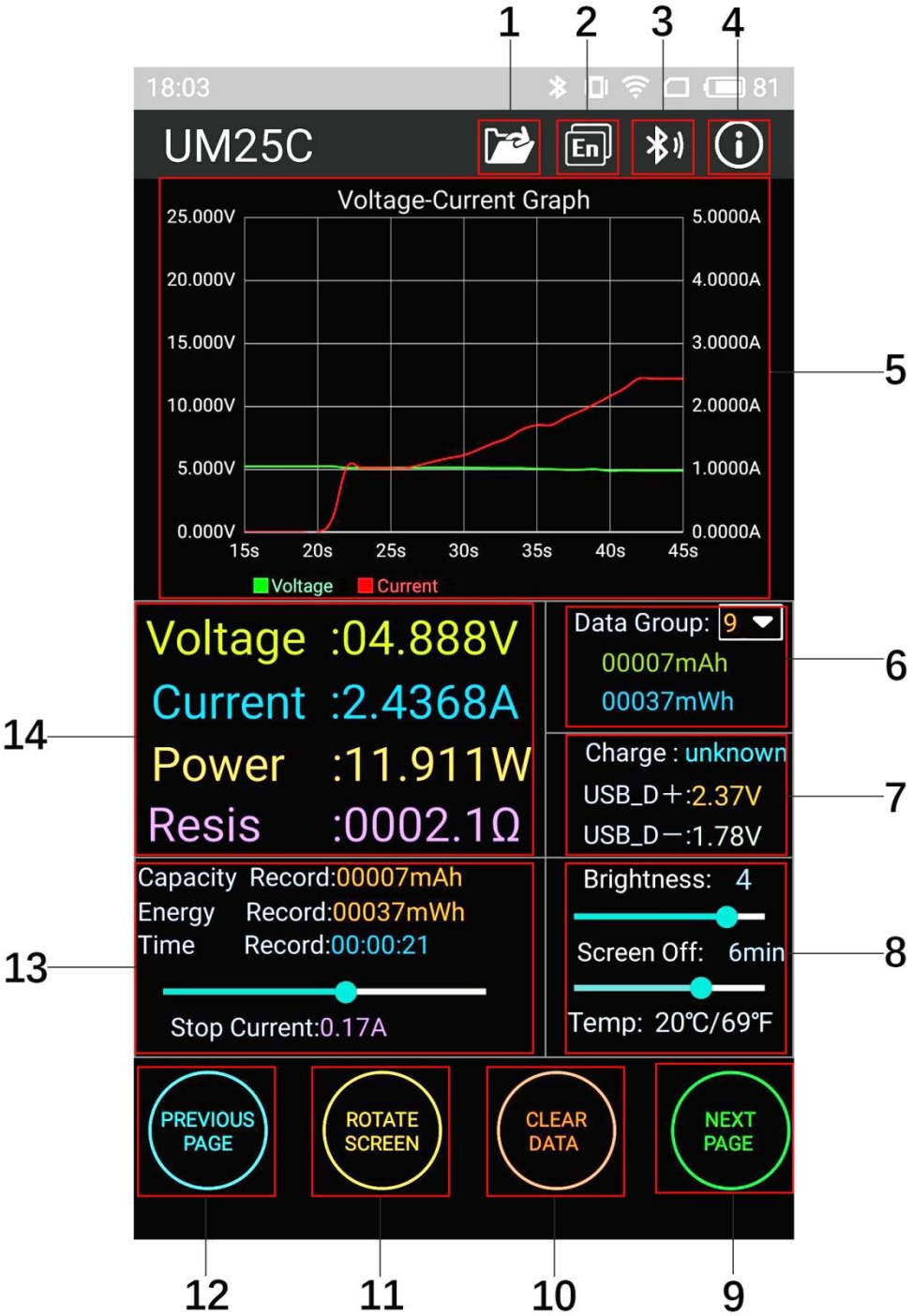
D



2. **After**

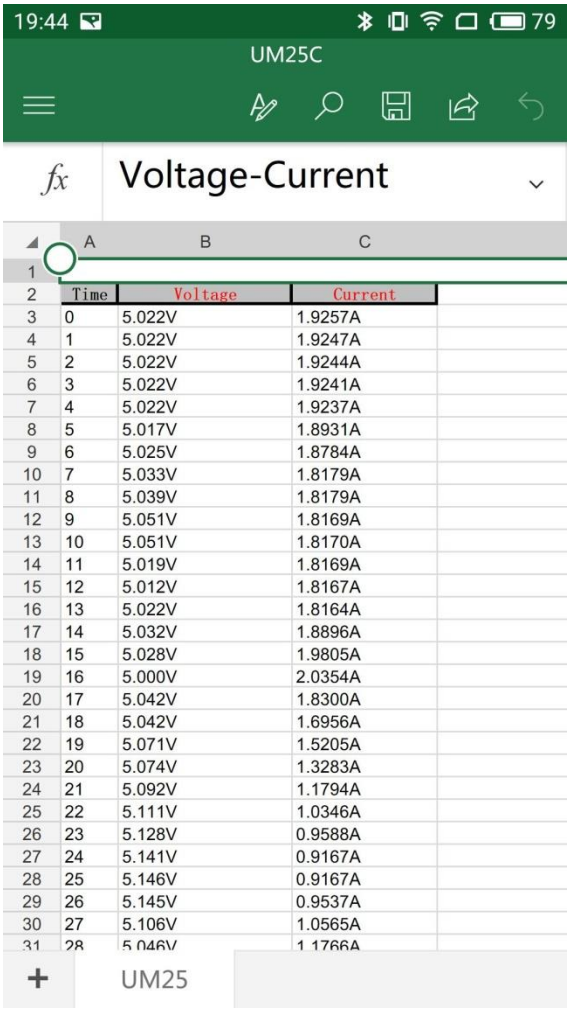
Installation APP icon as the picture

2.1 Click APP icon, the interface as the following:



1: Export data to the mobile phone folder（phone SD card root director, repeat to

write, generate graph directly in the excel.）



2: Multiple language choice, click this to select language. For now there are 17 kinds language (简体中文 繁體中文 English русский Español Deutsch Français 日本語 한국어 हिन्दी ไทย Bahasa Indonesia Hollands Polski Slovenskýjazyk latviešu valoda Türkçe), More languages continue to be updated.

3: Bluetooth connection: click this to select the device, search this device bluetooth name, select it and enter pair code (0000 or 1234), click connection (if you can’t search UM24C bluetooth name, you can connect the bluetooth on the phone bluetooth, then open APP to connect directly)

4: Procedural information the version number, the assist personnel information

5：Voltage-current measurement dual graph

6：Corresponding the main display interface 1: accumulated mAh, accumulated mWh.

7：Corresponding the main display interface 2: quick charge recognition, D+ D- data signal wire voltage

8：Corresponding the main display interface 6:

Screen brightness adjustment: press and hold the slider to adjust.

Off the screen time adjustment: press and hold the slider to adjust

Temperature display: Celsius/ Fahrenheit

9：Switch to next page

10：clearing key：clear current data group to zero

11：Rotation button: control USB tester display to rotate

12：Switch to previous page

13：Corresponding the main display interface 3, mAh and mWh display , time recording, control the slider to adjust the Low Current trigger value.

14：Corresponding the main display interface 1, voltage measurement value, current measurement value, power measurement value, load equivalent load impedance

Note

A：Because there are too many kinds android phone, so the UI display interface will be different at some brand phone or different scale screen of one brand phone

B：Application access requirements, allowing the necessary permissions when installing (allows the background running, allows to use bluetooth, allowing folder operation, allowed to read the application list); and also set application permissions at phone after installation: allows the background running , allow to be not cleaned after screen locked, allow auto-start and so on

C：Languages selection memory, only at first time you need to select the language when open APP.