Instructions for USB Tester with Full Colour Display

-Model: UM24/UM24C

Contents

Dear Customer,

Thank you for purchasing this Full Colour USB Tester from Ruideng Technology Co. Ltd. Prior to using this product we recommended that you briefly familiarize yourself with these instructions in 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: UM24 /UM24C

Voltage measurement range: 4.50-24.00V

Current measurement range: 0.000-3.000A

Capacity accumulation range: 0-99999mAh

Energy accumulation range: 0-99999mWh

Load impedance range: 1.5-9999.9Ω

Temperature range: -10℃~100℃/0℉~200℉

Screen brightness setting: Levels 0-5

Voltage graphing range: 04.5-24.0V

Dimensions：71.2mmx31.8mmx11.3mm

Display screen：1.44 Inch color LCD display

Product weight:20.75g

Voltage measurement resolution: 0.01V

Current measurement resolution: 0.001A

Voltage measurement accuracy: ± (0.2% + 1digit)

Current measurement accuracy: ±(0.8％+3 digits)

Time measurement range: 0-99h59min59s

Temperature measurement error: ± 3℃/ ± 6℉

Auto screen off time: 1-9 minutes

Current graphing range: 0.00A-3.00A

Quick charge recognition mode：QC2.0 QC3.0

Refresh rate: 2Hz

Function Interfaces

Measurement Main Interface	Quick Charge Recognition Interface	Data Recording Interface	Data Connection Cable Impedance Measurement Interface

Voltage Graphing Interface	Current Graphing interface	Settings Interface

Device Layout

1: Multifunction buttons (4)

2: Micro USB Port

3: USB A Male Port

4: USB A Female Port

5: 1.44 Inch Color LCD Screen

6: Bluetooth Indicator Light: 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).

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 zero the Current reading (Ensure there is no load connected to the unit). Holding the button will step

through the 3 options. Release the button at the desired selection. Pressing and holding the button after stepping to the third option will exit the hidden interface.

Interface 1: Main Measurment Interface.

1: Voltage measurement.

2: Current measurement.

3: Accumulated Capacity.

4: Accumulated Energy.

5: Temperature.

6: Number of the Data Group in use.

7: Load equivalent impedance.

8: Power measurement.

Press the "Help" 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 "Help" button to clear the mAh and mWh.

Press "Next" to switch to the Quick Charge Recognition Interface.

Interface 2: Quick Charge Recognition Interface.

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

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

11: Mode display: The product will automatically identify a device with a supported fast charging mode. At this time the device supports the QC2.0 and QC3.0 mode only.

Press "Next" to switch to the Data Recording Interface

Interface 3: Data Recording Interface

12: Time display: The total accumulated recording time.

13: Low Current trigger value.

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 Low Current trigger value, press and hold the "Next" button to highlight the value then press the 'Next' 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 be used to measure the resistance of a data connection cable.

14: 1. USB Tester directly connected to the power supply with Voltage and Current values displayed.

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

16: R: Data Connection Cable resistance.
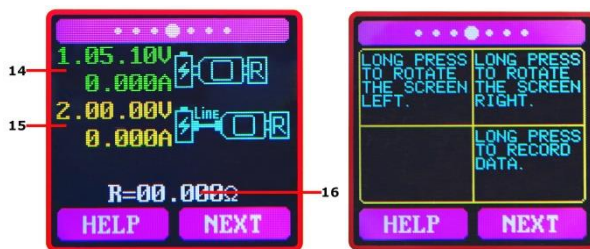
Measurement procedure:

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 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 4.5V power-down state. The load current needs to 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 voltage graphing interface.

Interface 5: Voltage Graphing Interface.

This interface displays the voltage measurement over time in the 4.5V-24.0V range and will automatically adjust the

displayed range in real time to account for voltage fluctuations.

Press the "Next" button to switch to the Current graphing interface.

Interface 6: Current graphing Interface.

This interface displays the Current measurement over time in the 0.00A-3.00A range and will automatically adjust the displayed range in real-time to account for Current fluctuations.

Press the "Next" button to switch to the Settings interface:

Interface 7: Settings Interface.

17: Auto screen off time

18: Screen brightness

19: Temperature display C /F

Press and hold the "Next" button to step through the options of auto screen off time,

brightness level and temperature display units. Stop on the value you wish to change then press the "Next" button to change the setting. For auto screen off time setting press 'Next' to repeatedly step though the 10 options from 0 to 9 minutes. For the screen brightness setting, press 'Next' to repeatedly step though the 6 options from 0 to 5 where 0 is the lowest brightness level and 5 is the highest. For the temperature display units, pressing the 'Next' button toggles the setting between C and F. To exit the Settings menu press and hold the 'Next' button.

The PC Control Software Installation Instruction

Note: This product only supports Windows 7 and above.

1 Unzip the installation package

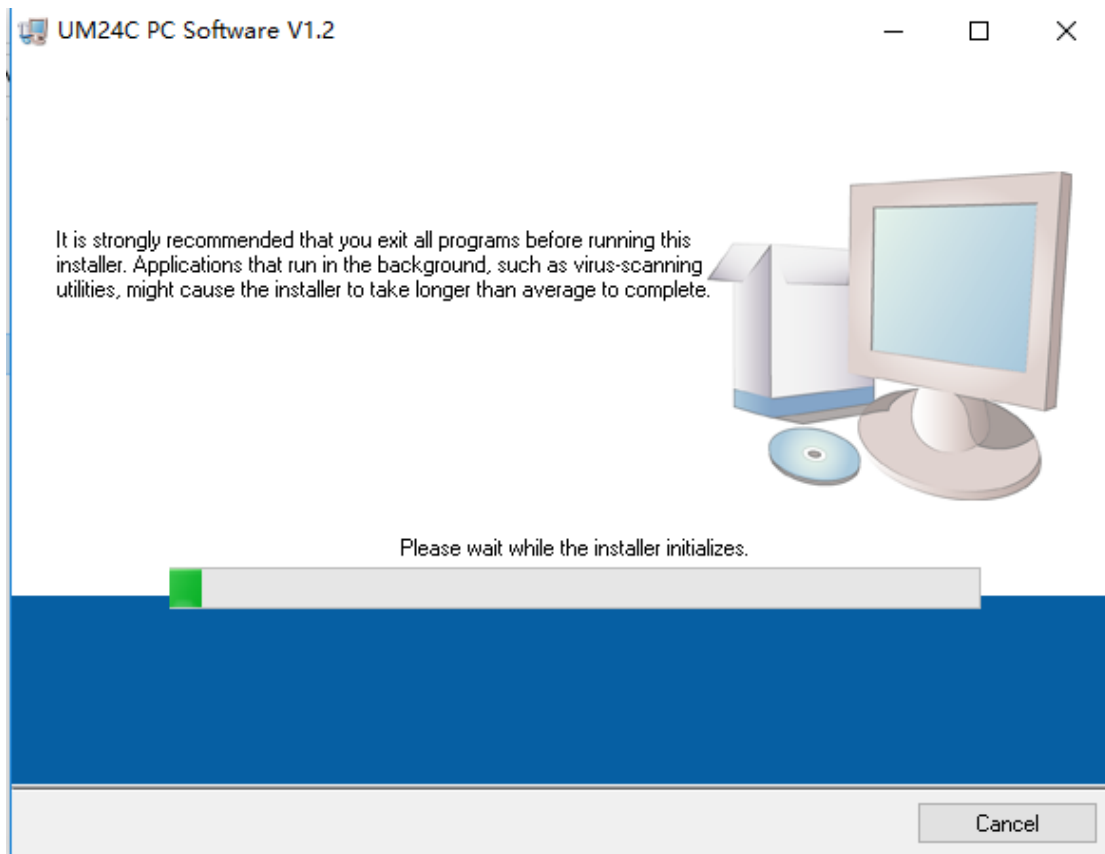Note: Before unzip the installation package , please install the font package "Arial
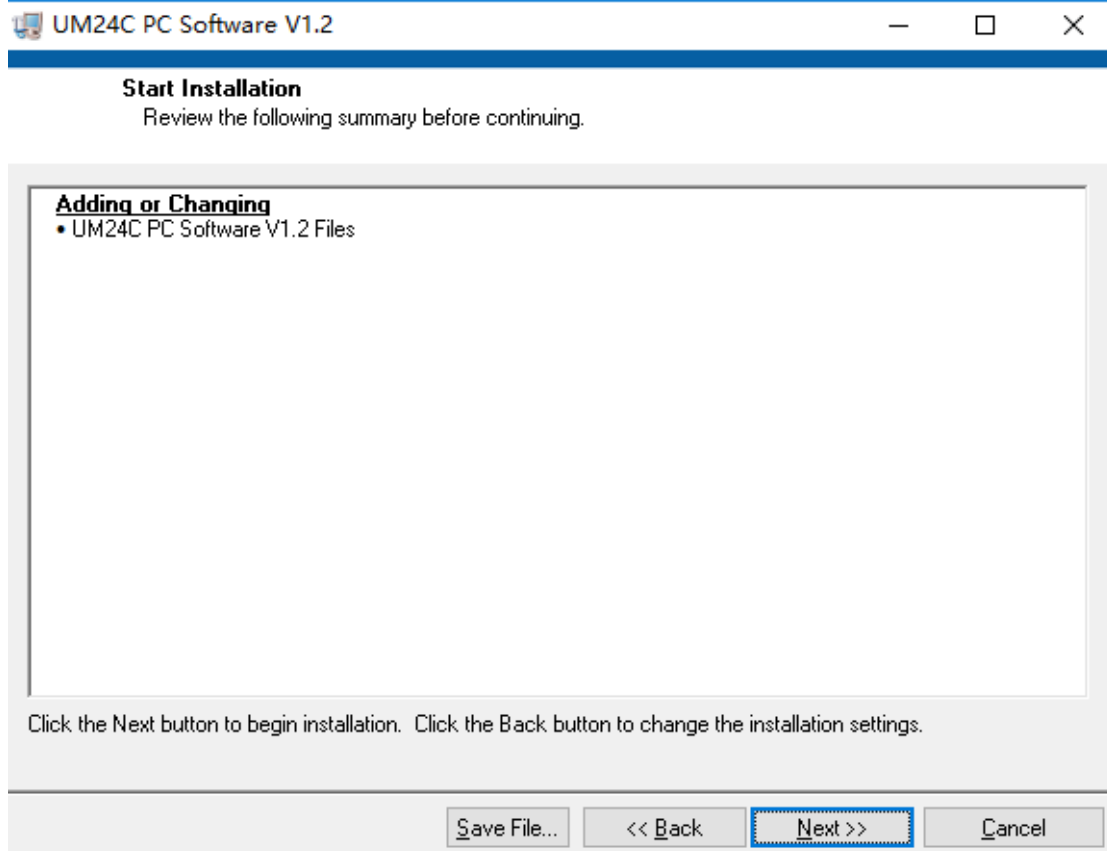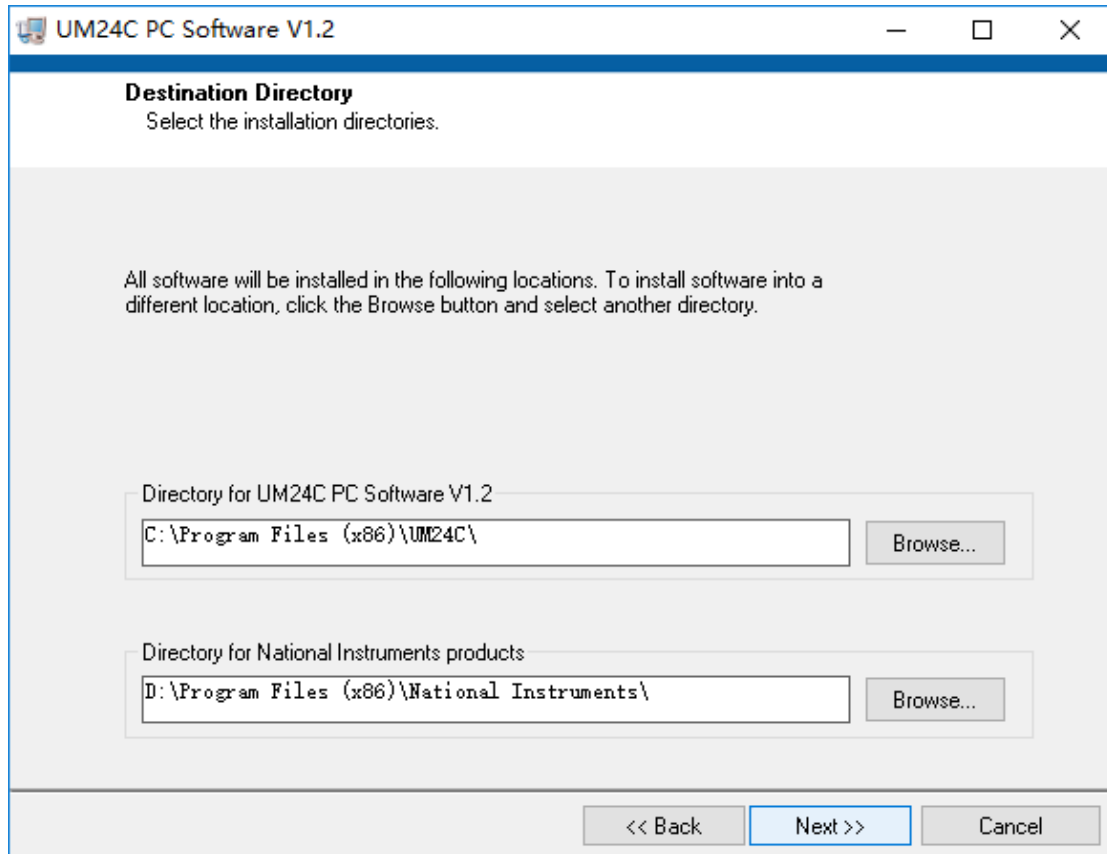
Unicode MS.ttf ".

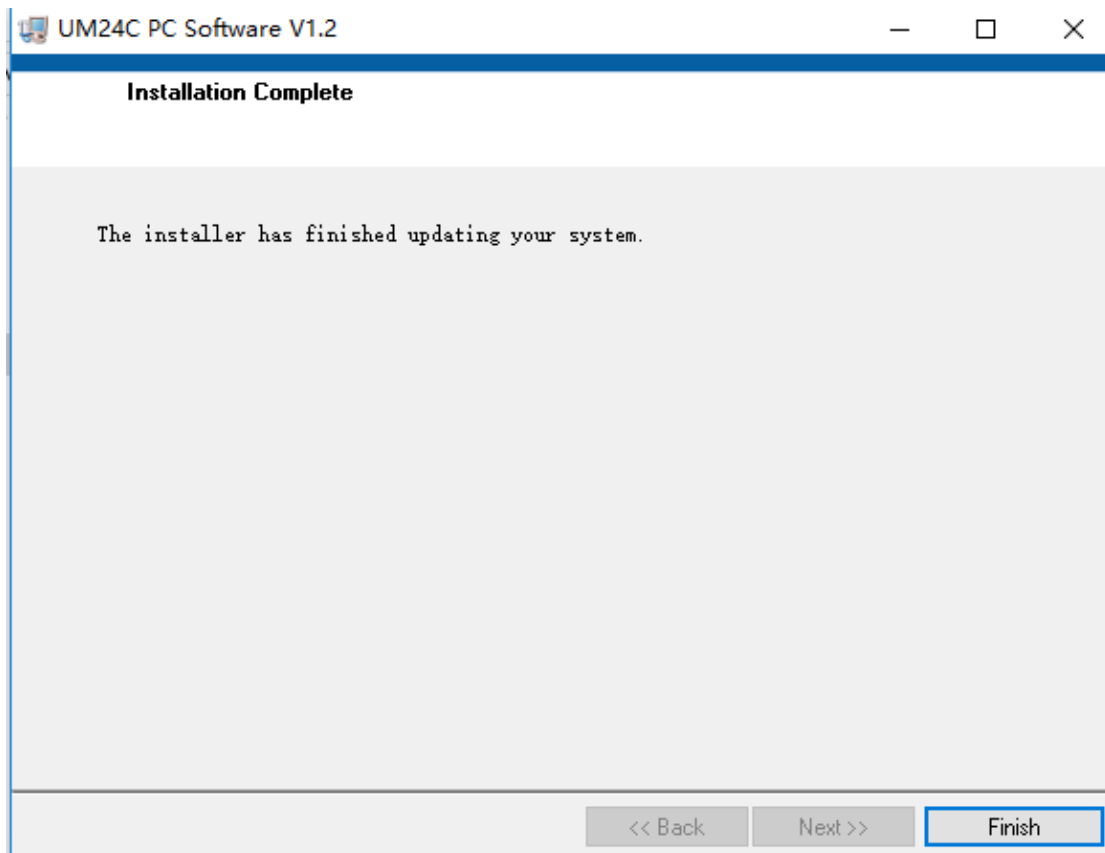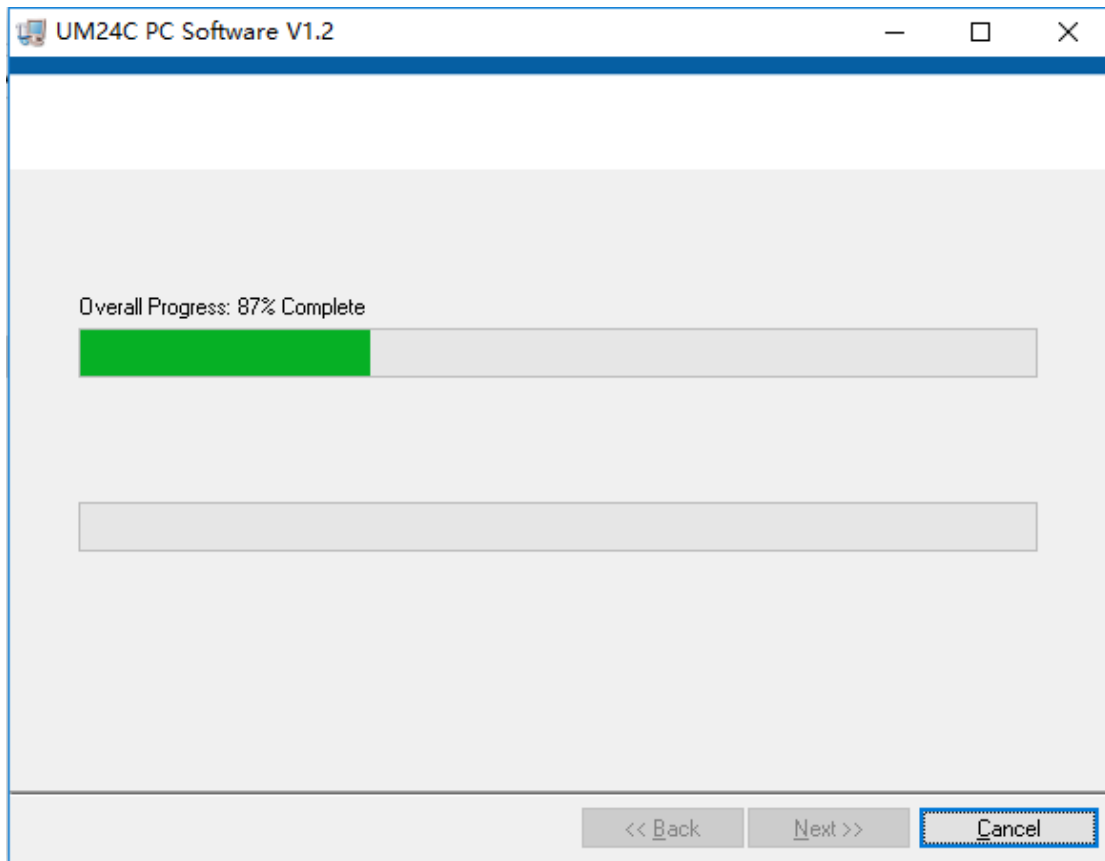|				
Arial Unicode MS.ttf	2017/11/4 16:41	TrueType 字体文件	23,566 KB	

2 Click setup to install

电脑 > 新加卷 (E:) > UM24C PC Software V1.2

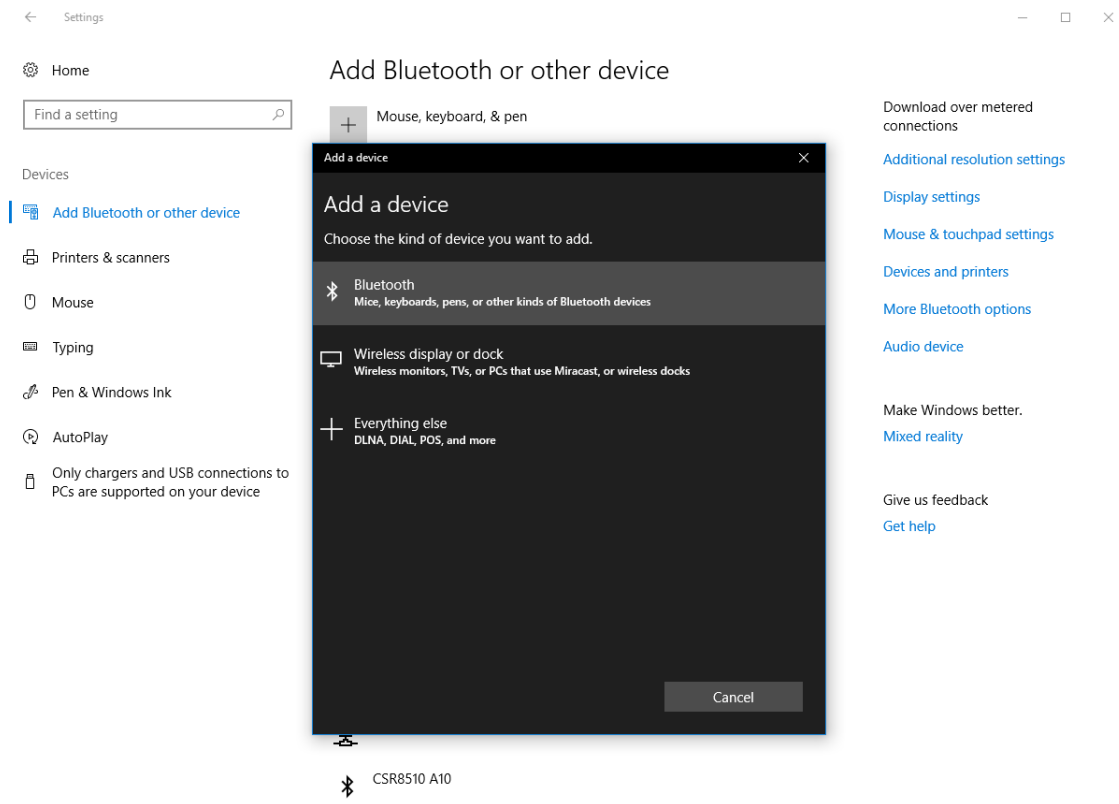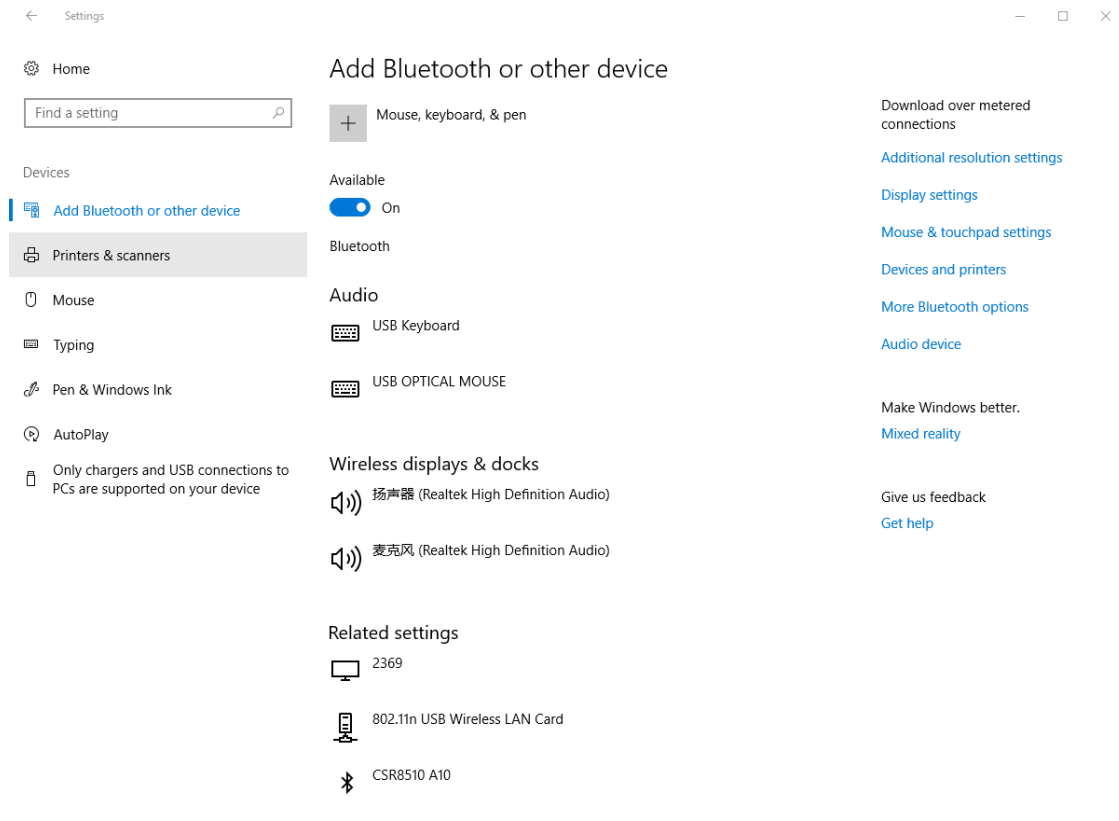| 名称	修改日期	类型	大小
bin	12/12/2017 2:05...	文件夹	
license	12/12/2017 2:05...	文件夹	
supportfiles	12/12/2017 2:05...	文件夹	
nidist.id	12/12/2017 2:04...	ID 文件	1 KB
setup	6/7/2016 5:08 PM	应用程序	1,430 KB
setup	12/12/2017 2:04...	配置设置	24 KB

UM24C PC Software V1.2

It is strongly recommended that you exit all programs before running this installer. Applications that run in the background, such as virus-scanning utilities, might cause the installer to take longer than average to complete.

Please wait while the installer initializes.

Cancel

UM24C PC Software V1.2 — □ ✕

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 UM24C PC Software V1.2

C:\Program Files (x86)\UM24C\   Browse...

Directory for National Instruments products

D:\Program Files (x86)\National Instruments\   Browse...

<< Back   Next >>   Cancel

UM24C PC Software V1.2 — □ ✕

Start Installation
    Review the following summary before continuing.

Adding or Changing
• UM24C PC Software V1.2 Files

Click the Next button to begin installation. Click the Back button to change the installation settings.

Save File...   << Back   Next >>   Cancel

UM24C PC Software V1.2 — □ ✕

Overall Progress: 87% Complete

UM24C PC Software V1.2 — □ ✕

Installation Complete

The installer has finished updating your system.
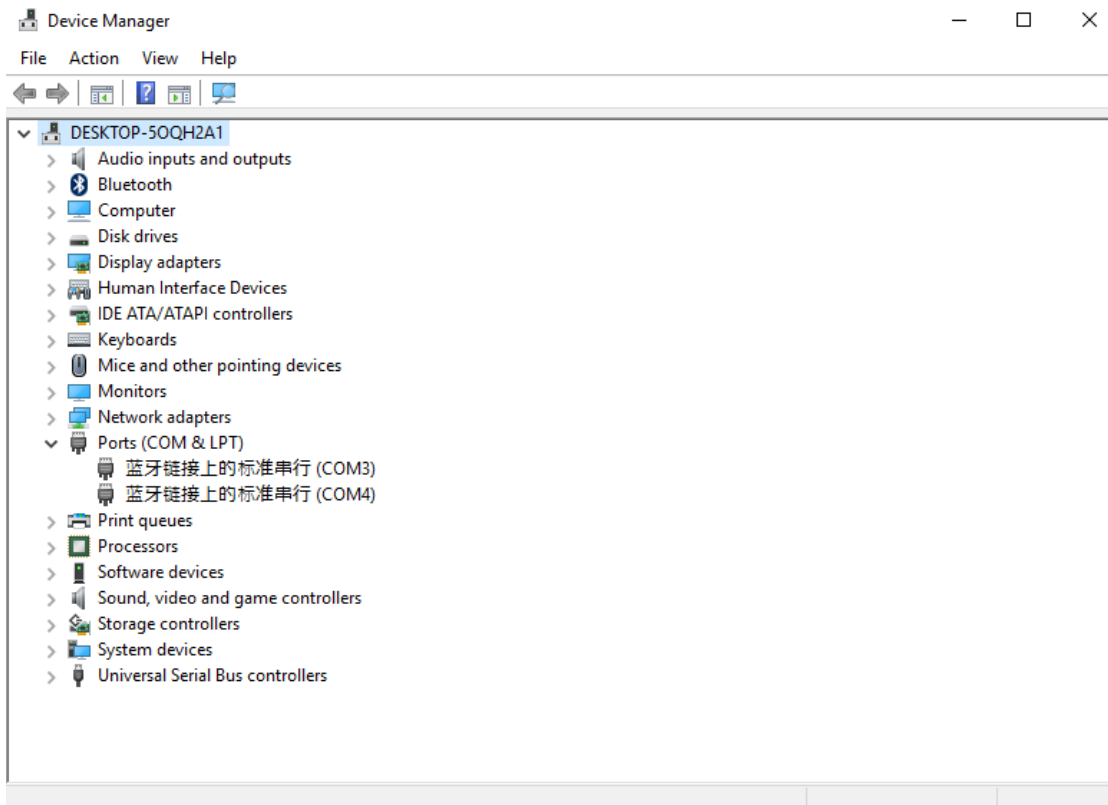
<< Back   Next >>   Finish

## 3 Bluetooth connection

3.1 View device Manager

3.2 Connect bluetooth:

3.2.1 Bluetooth connection is successful; there will be two serial ports. Select the lower value port. Example, if the ports configured for Bluetooth are COM3 and COM4, then select COM3 for the connection. Or you right click bluetooth device to see the the attribute, there show the corresponding port number. You can select it.
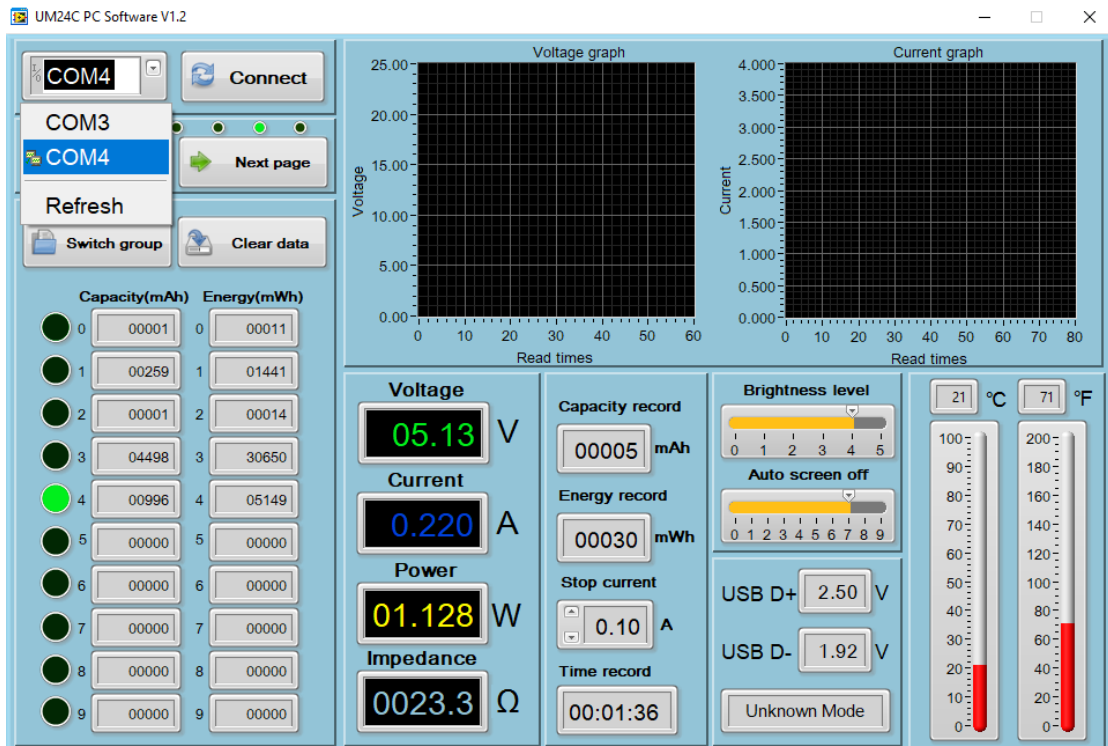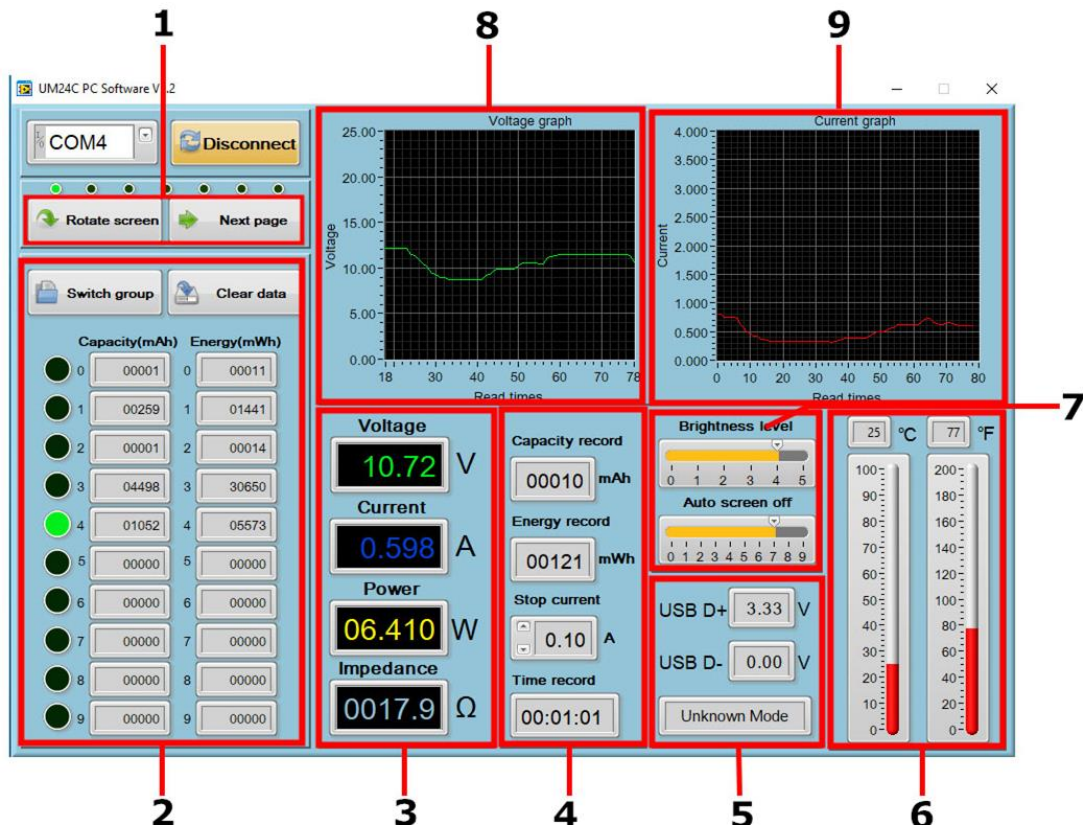
3.2.2 When the Bluetooth indicator changes from blinking to static, click "Connect"
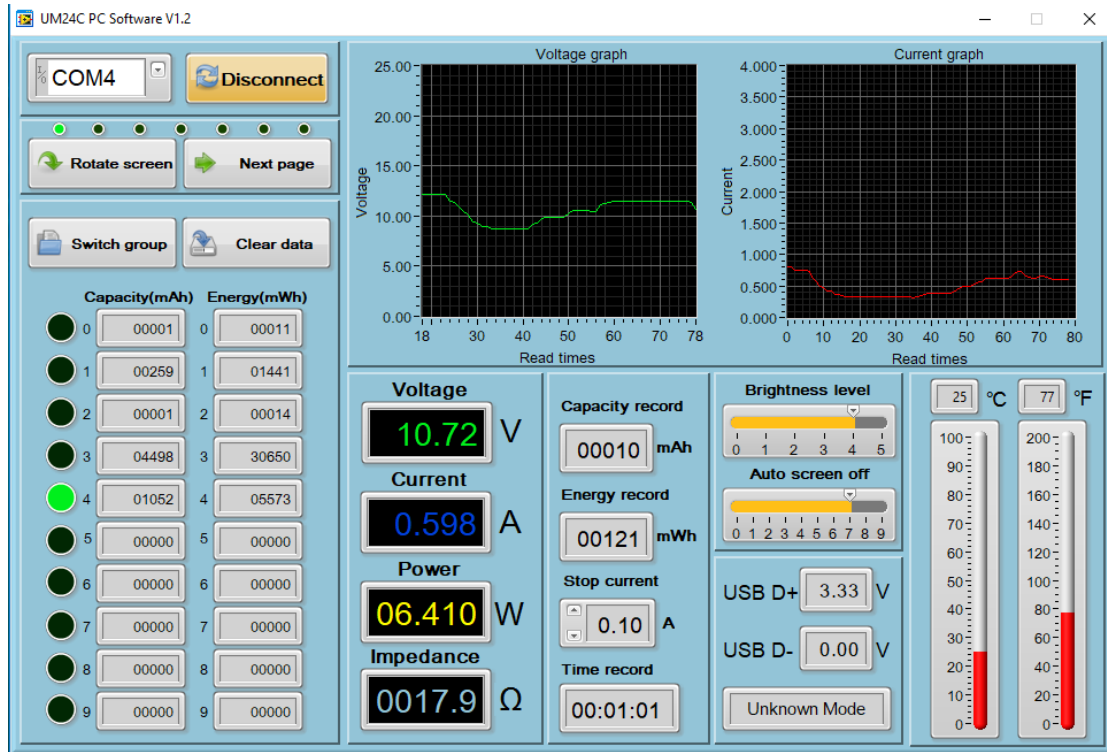
## 4. Function Introduction

4.1 Program interface overview:

1: Basic functions: Rotate screen, Next pages

2: Corresponding data group: data group switch, 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 7: Settings interface, dual format temperature display

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

8: Corresponding the main display interface 6: Current Graphing Interface.

9: Corresponding the main display interface 5: Voltage Graphing Interface.
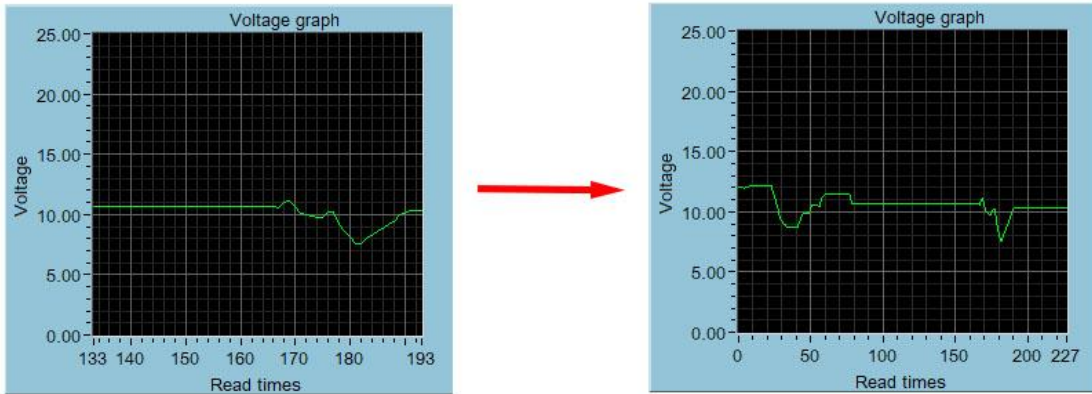
4.2 Graphing and Data Export:

Move mouse over the Voltage / Time measurement graph then right-click and select the following options:
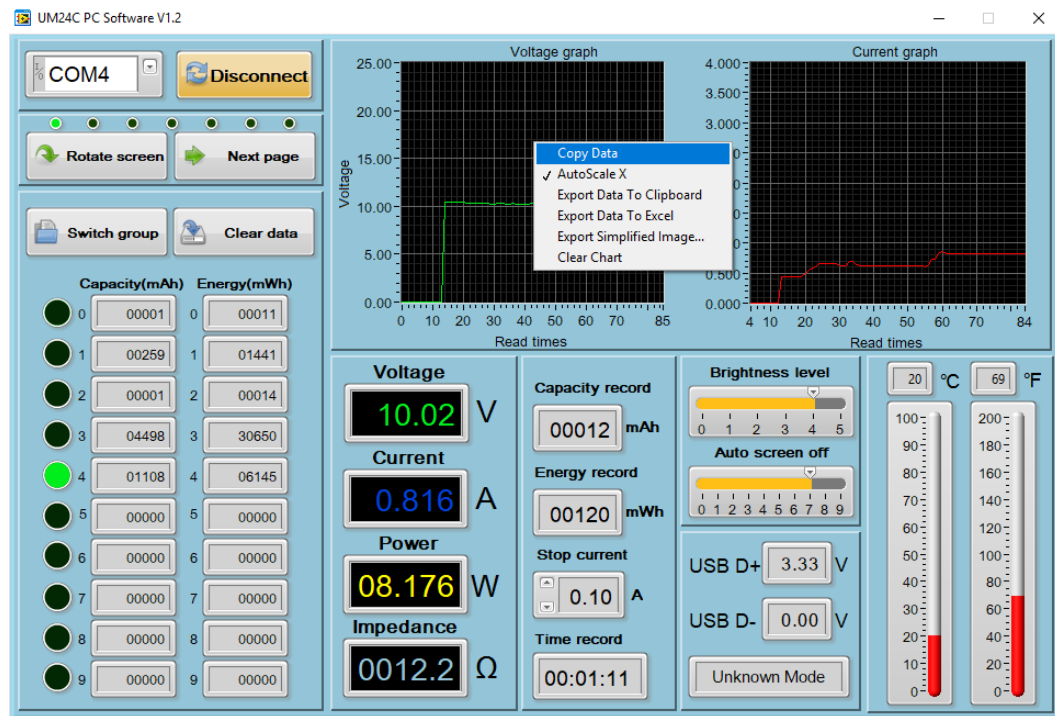
4.2.1: Copy data to the clipboard:
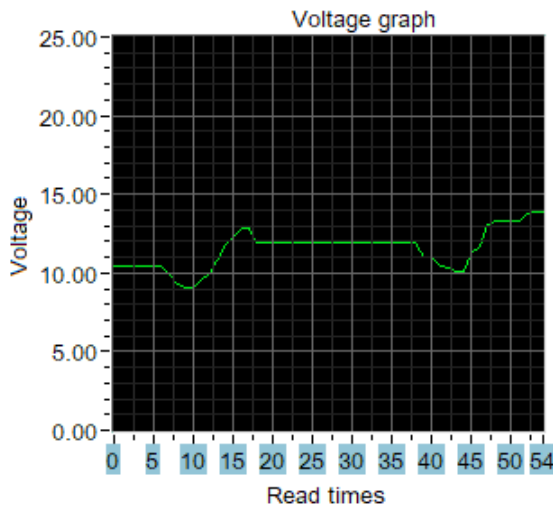
4.2.2: Automatically adjust the X axis:

4.2.3: Export data to the clipboard:

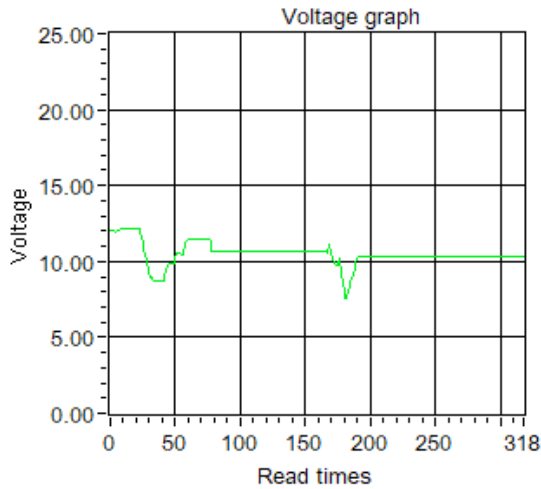Format : Reference point number on X Axis,   Voltage value at that reference point.

Read times - Voltage graph   Voltage(V) - Voltage graph
0 12.03
1 12.02
2 12.03
3 12.03
4 11.97
5 12.00
6 12.00
7 12.08
8 12.10
9 12.13
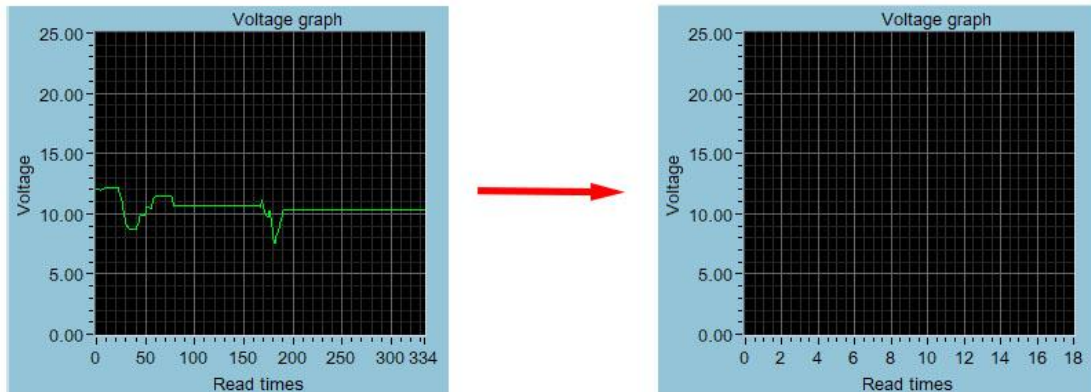…

4.2.4: Export data to Excel:

   Export data to Excel. If you want export all data, remember to click auto scale X. otherwise only the current record data group is exported. Please note, the exported data is only for Microsoft Office Excel.

4.2.5: Export simplified images:

4.2.6: 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, please use windows official version, simple version may lose some part.

4, when 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.

UM24C Android APP Instruction
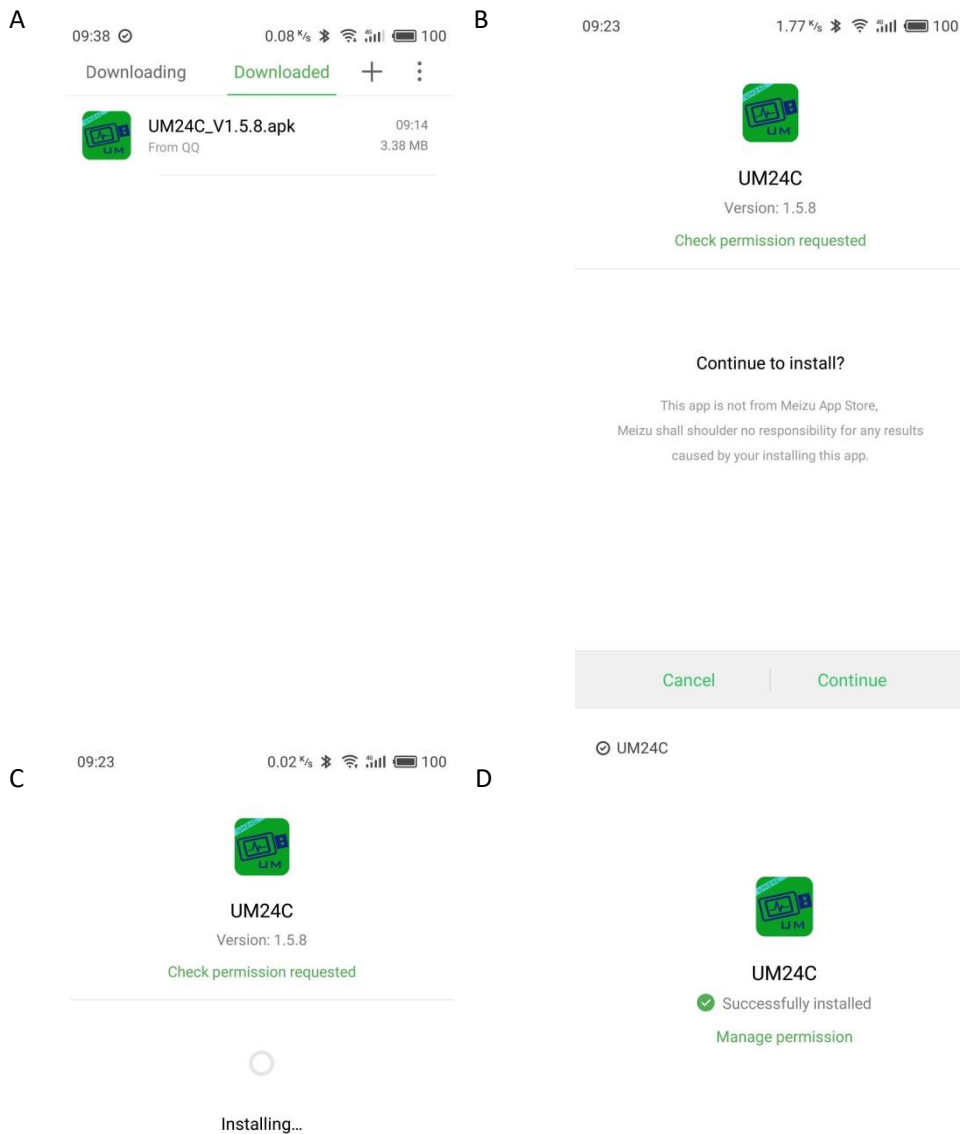
1, APP Installation:

NOTE：The APP only support Android 5.0 and above.

UM24C Android APP download link:

http://www.mediafire.com/folder/0jt6xx2cyn7jt/UM24

1.1 APP download link : http://www.mediafire.com/folder/0jt6xx2cyn7jt/UM24 , choose UM24C android APP file to download, you can use the computer to download , then sent the phone, or use the phone download directly.
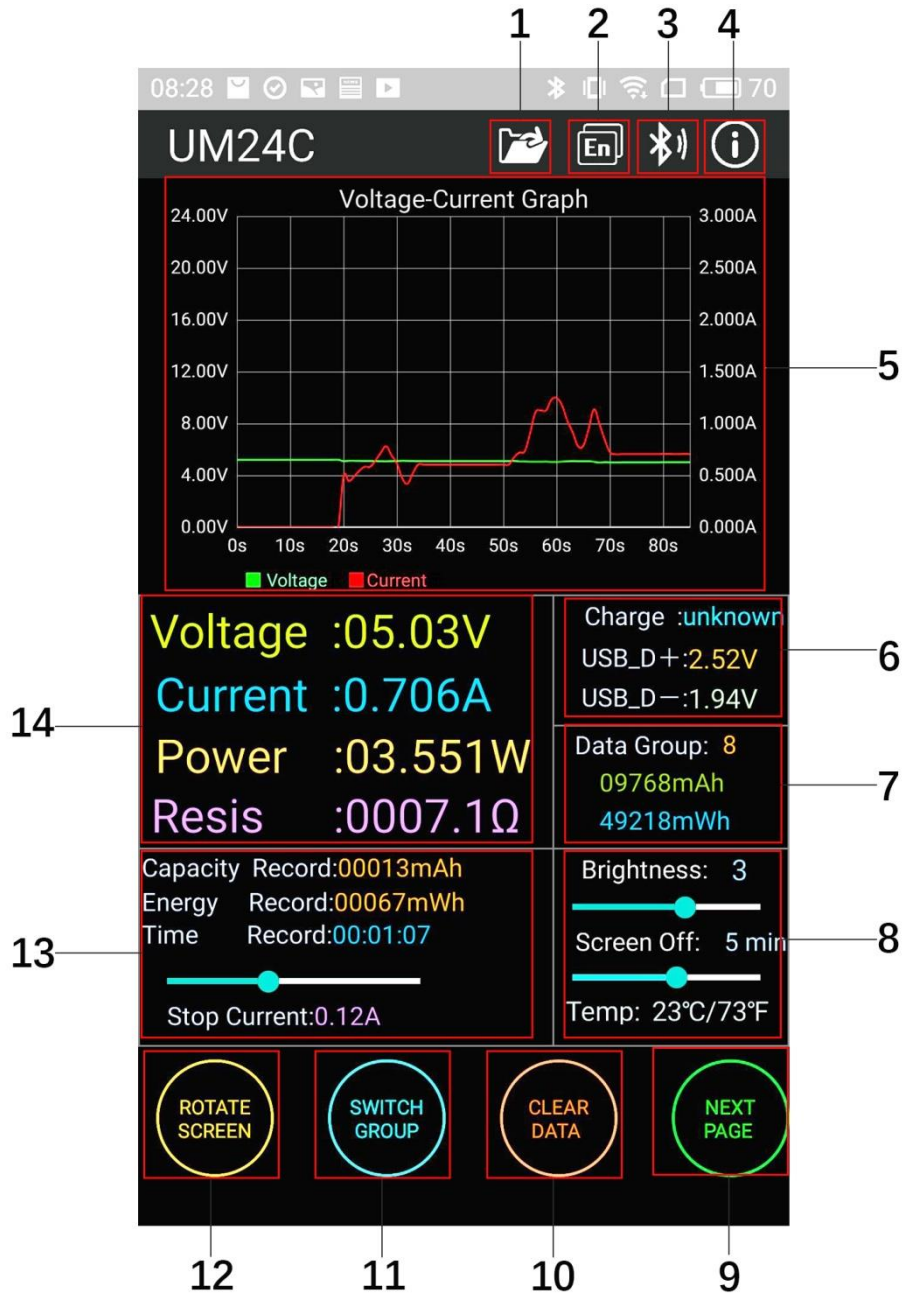
1.2 Open the installation package

A

| 09:38 ⊘ | 0.08 ᴷ/s ∗ 🖻 📶 ▭ 100 |
| Downloading | Downloaded ＋ ⋮ |

UM24C_V1.5.8.apk   09:14
From QQ   3.38 MB

B

09:23   1.77 ᴷ/s ∗ 🖻 📶 ▭ 100

UM24C
Version: 1.5.8
Check permission requested

Continue to install?

This app is not from Meizu App Store,
Meizu shall shoulder no responsibility for any results
caused by your installing this app.

Cancel | Continue

⊘ UM24C

C

09:23   0.02 ᴷ/s ∗ 🖻 📶 ▭ 100

UM24C
Version: 1.5.8
Check permission requested

○

Installing…

D

UM24C
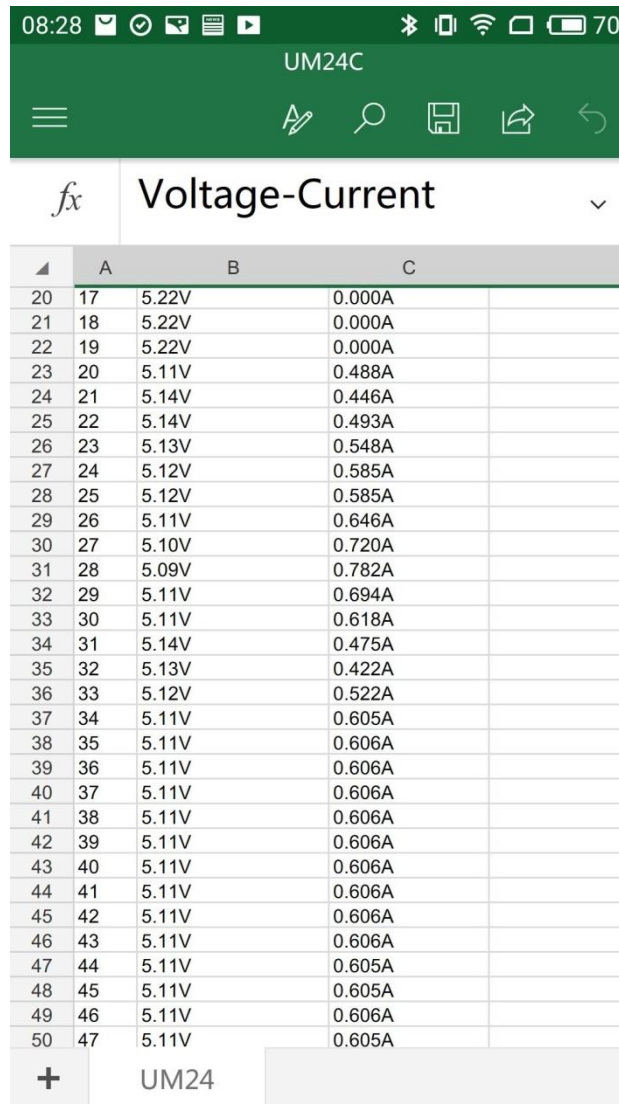✔ Successfully installed
Manage permission

Done | Open

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

□□□□□　□□□　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 3: 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 7:

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：Switch data group: click data group to choose one of 0-9 total 10 gourps

12：Rotation button: control USB tester display to rotate

13：Corresponding the main display interface 4, 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.