Hantek®

Bluetooth/USB Data Logger

USER'S MANUAL

Hantek 365A/B/C/D/E/F

V 1.0.3

www.hantek.com

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General Safety Summary

Review the following safety precautions carefully before operate the device to avoid any personal injuries or damages to the device and any products connected to it. To avoid potential hazards use the device as specified by this user's guide only.

- **To Avoid Fire or Personal Injury.**
- **Correctly Plug in and Pull out.** When the Data Logger probes are connecting to the voltage source, please do not plug in or pull out.
- **Check All Terminal Ratings.** To avoid fire or shock hazard, observe all ratings and markings on the product. Consult the product manual for further ratings information before making connections to the product.
- **Do Not Operate With Suspected Failures.** If suspected damage occurs with the device, have it inspected by qualified service personnel before further operations.
- **Provide Proper Ventilation.** Refer to the installation instructions for proper ventilation of the device.
- **Do not operate in Wet/Damp Conditions.**
- **Do not operate in an Explosive Atmosphere.**
- **Keep Product Surfaces Clean and Dry.**

Safety Information

In order to ensure the correct using and the best efficient service, please carefully read the user's manual.

System Symbols

These symbols may appear in this manual or on the Data Logger.



Warning: "Warning" identifies conditions and actions that pose hazards to the users.



Caution: "Caution" identifies conditions and actions that may damage the product or other properties.



DANGER:
High Voltage



Refer to
the manual



Protective
Condutor Terminal



Chassis grand



Earth(grand)
Terminal

System Terms

The following terms may appear on the Data Logger:

Danger: The term "Danger" is used in the manual to indicate that when you read this mark, personal injury may be caused to immediately.

Warning: The term "Warning" is used in the manual to indicate that when you read this mark, personal injury may not be caused to you immediately, but you need to be cautionary.

Notice: The term "Notice" is used in this manual to indicate that damages may be caused on this product or other properties.

Chapter 1 Getting Start

- **General Check**
- **The User interface**
- **Install Software**
- **Install Driver**

1.1 General Check

When you have got a new Hantek365 series Data Logger, it is suggested that you should perform a general inspection on the instrument according to the following steps:

- **Check the shipping container for damage:**

Keep the damaged shipping container or cushioning material until the contents of the shipment have been checked for completeness and the instrument has been checked mechanically and electrically.

- **Check the accessories:**

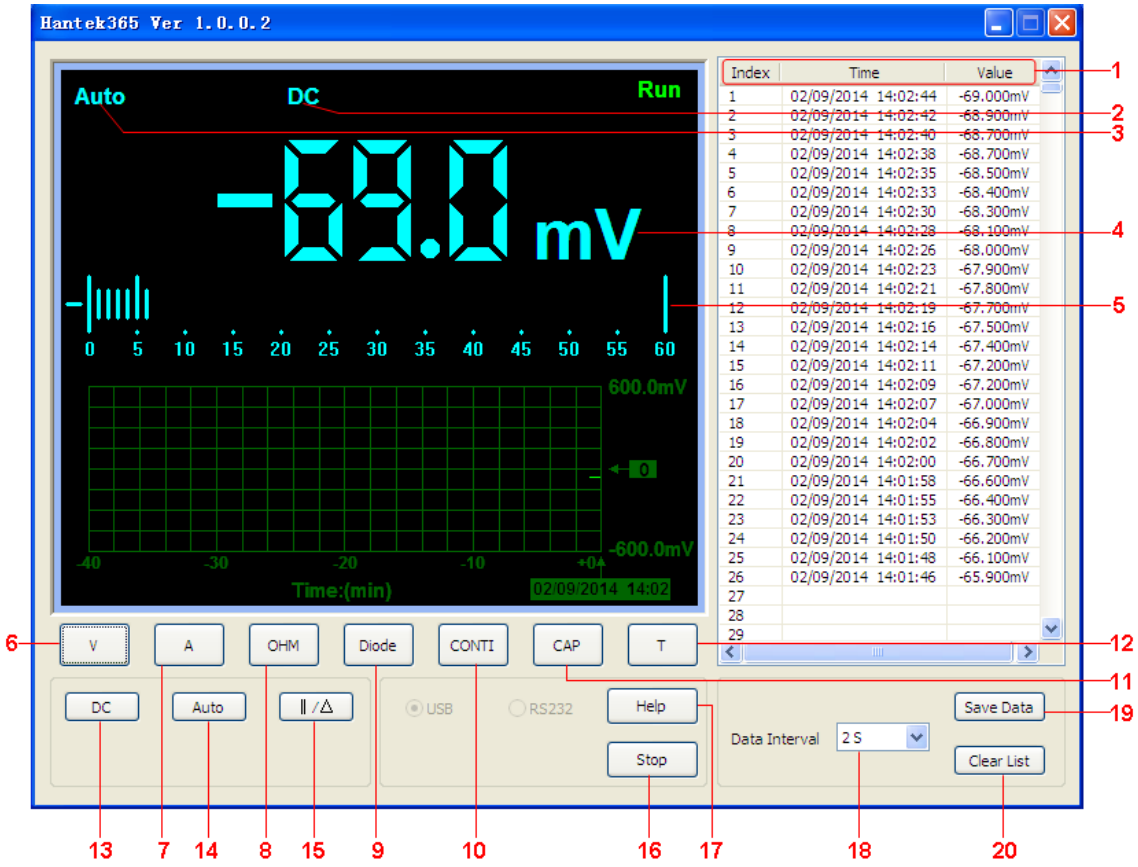
Accessories supplied with the instrument are listed in “Accessories” in this manual. If the contents are incomplete or damaged, please notify our distributor at your local area or the sales department.

- **Check the instrument:**

In case there is any mechanical damage or defect, or the instrument does not operate properly or fails performance tests, please notify our distributor at your local area or the sales department.

1.2 The User interface

Click the software icon on the desk after you finished the software setting and equipment connecting. Then a user interface will be showed as follows:



Description:

1. Data List
2. Description

   DC: DC voltage/DC current measurement

   AC: AC voltage/AC current measurement

   : Diode measurement

   : On-Off test

   : Capacitance measurement
3. Manual/Auto: Select manual or auto measurement type.
4. Measured value
5. Trend chart
6. Voltage button
7. Current button
8. Resistance button
9. Diode button

10. On-Off test
11. Capacitance button
12. Temperature measurement
13. DC: click DC to switch to AC.
14. Auto: Click Auto to switch to Manual mode
15. Relative Measurement
16. Stop/Run: Stop or start acquire data
17. Help menu
18. Data Interval: 1s~100s
19. Save data
20. Clear data list

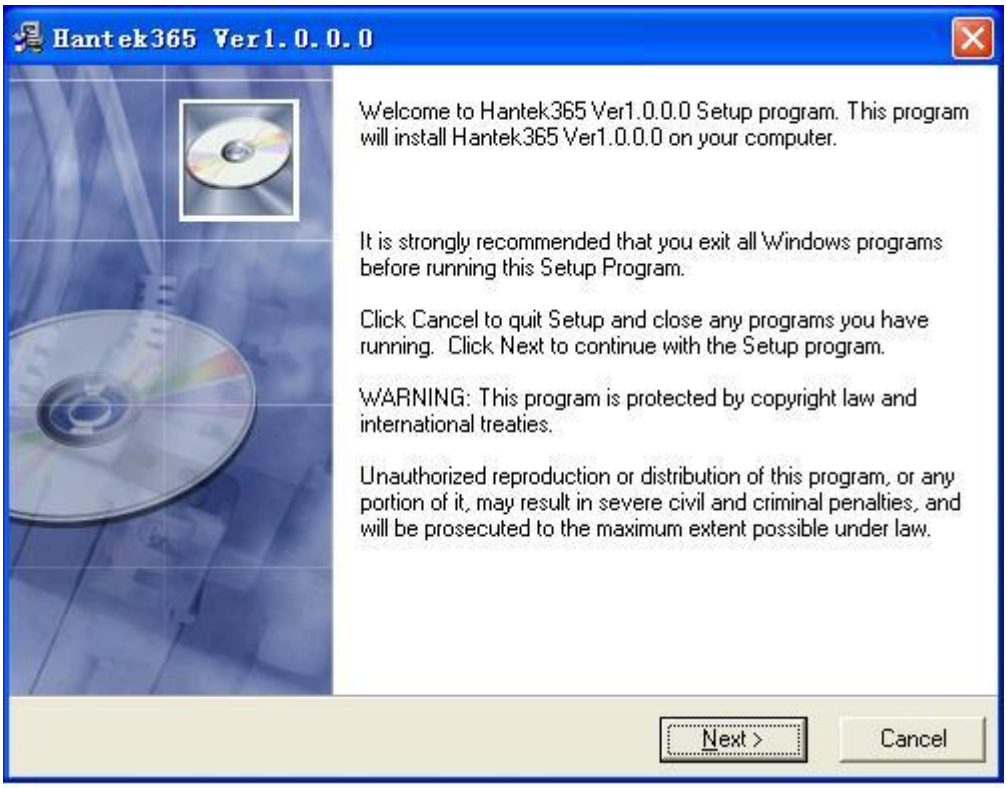
1.3 Install Software

Caution: You must install the software before using the Data Logger.

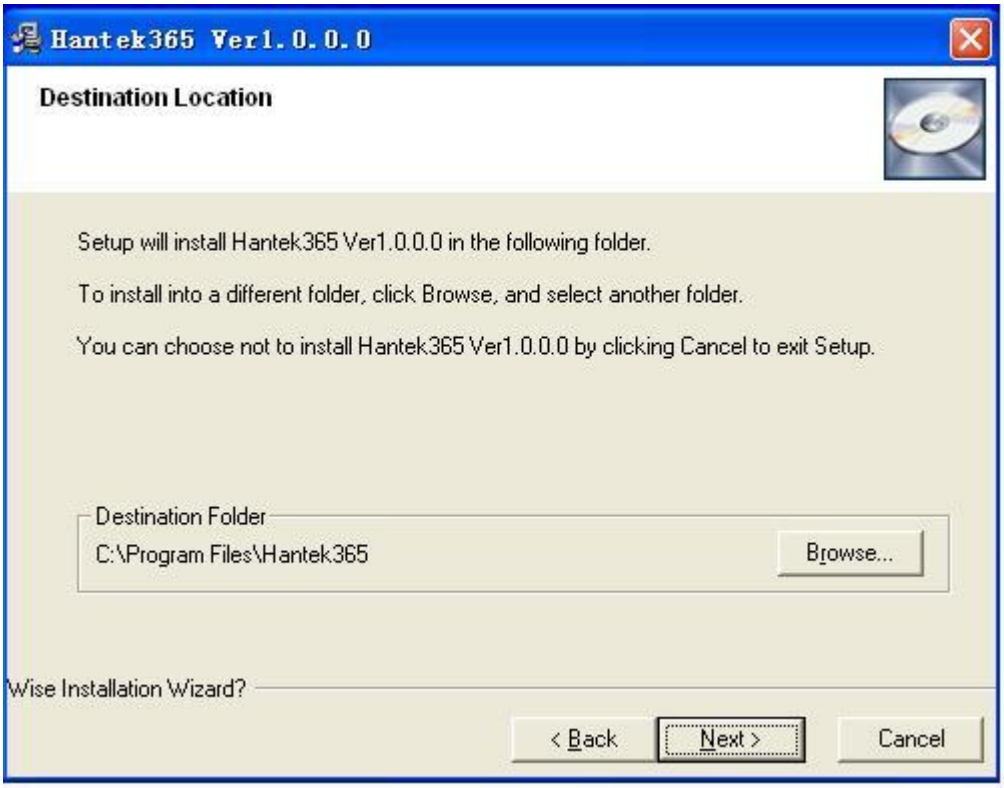
1. While in Windows, insert the installation CD into the CD-ROM drive.
2. The installation should start up automatically. Otherwise in Windows Explorer, switch to the CD-ROM drive and run Setup.exe.

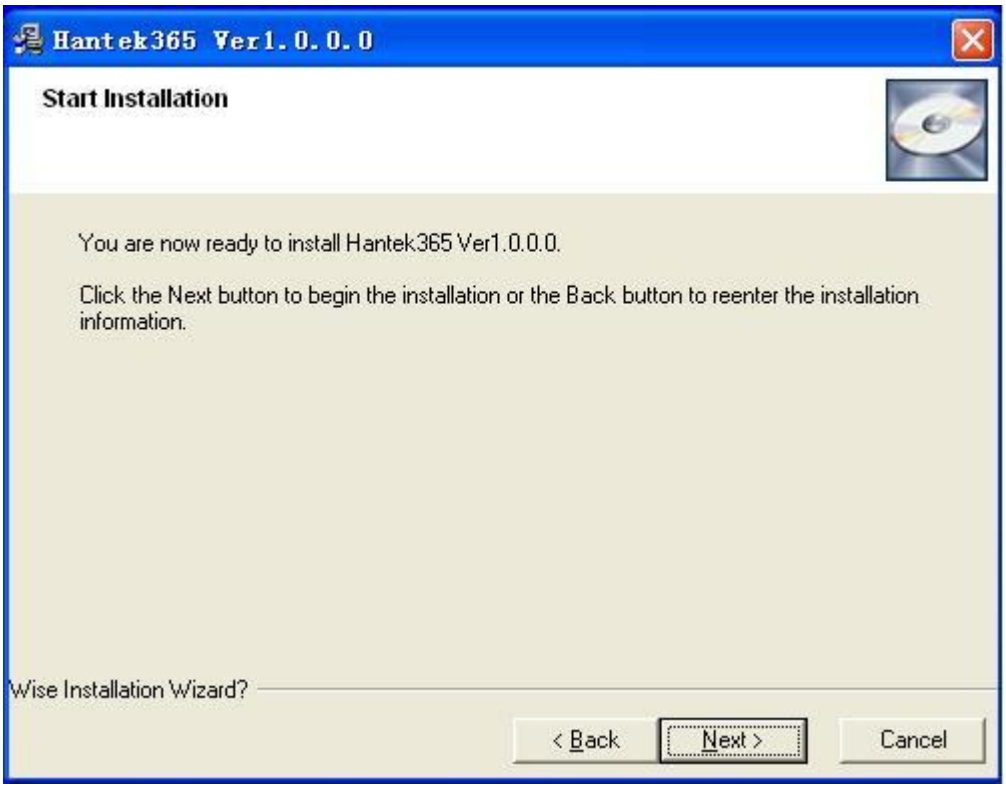


3. The software Installation is started. Click 'Next' to continue.

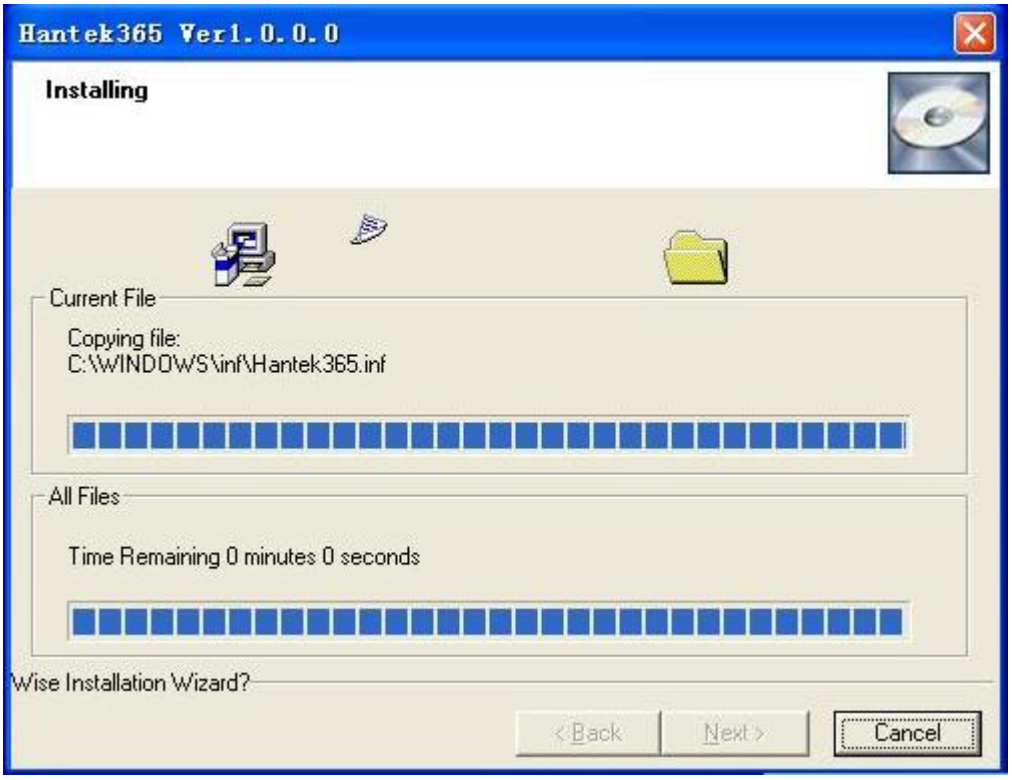


4. Choose a Setup Type directory. Click 'Next' to continue.

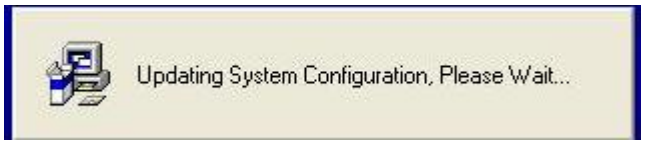




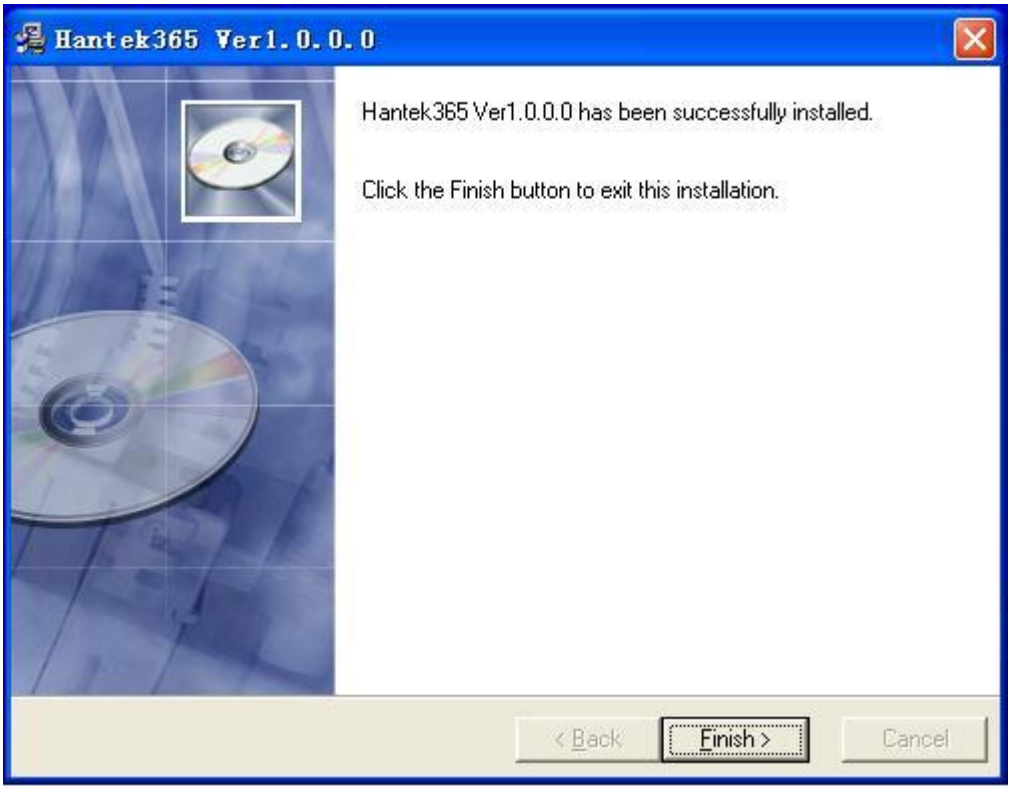
5. Check the setup information. Click Next to start copying of Files.



6. Updating System Configuration.



7. The installation is complete.



1.4 Install Driver

1. Connect the A-Type Plug of USB cable to your PC'S USB port.



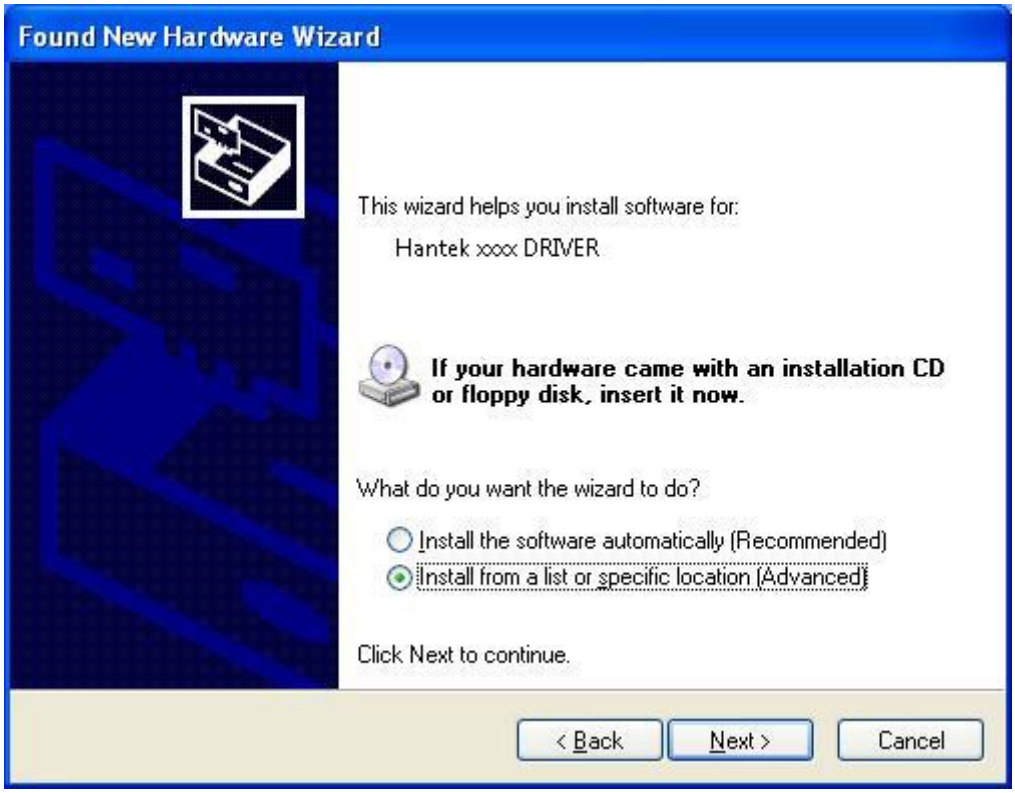
2. Connect the B-Type Plug of USB cable to Hantek365's USB port.



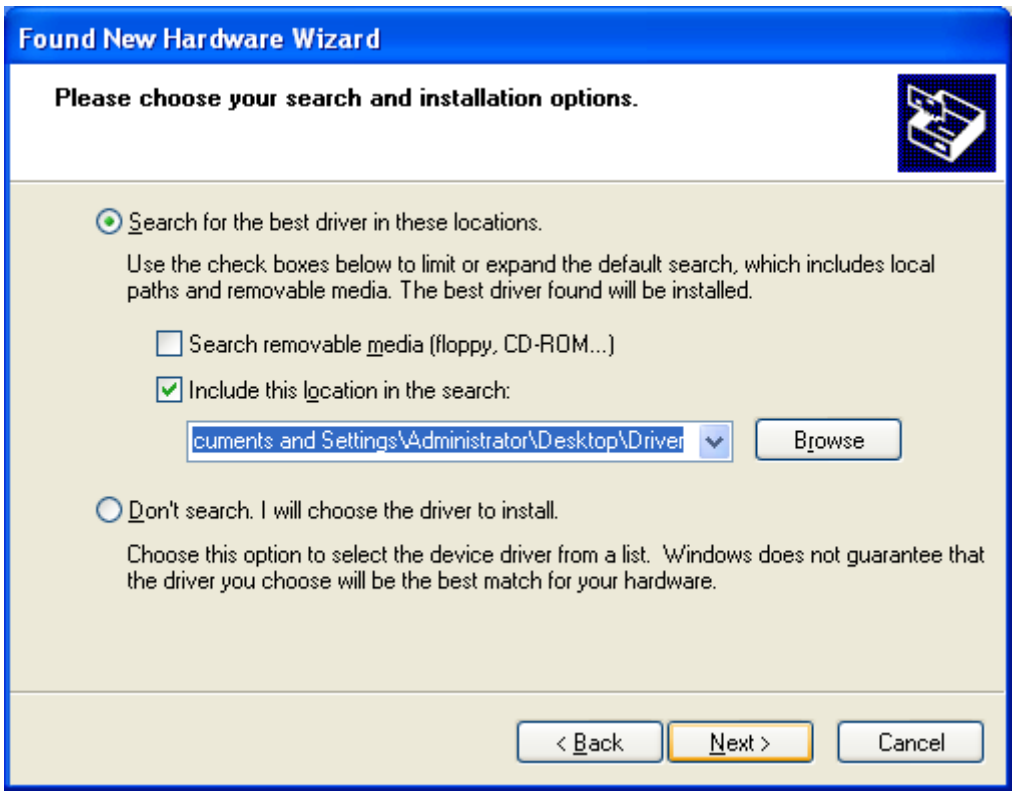
3. New hardware is found.

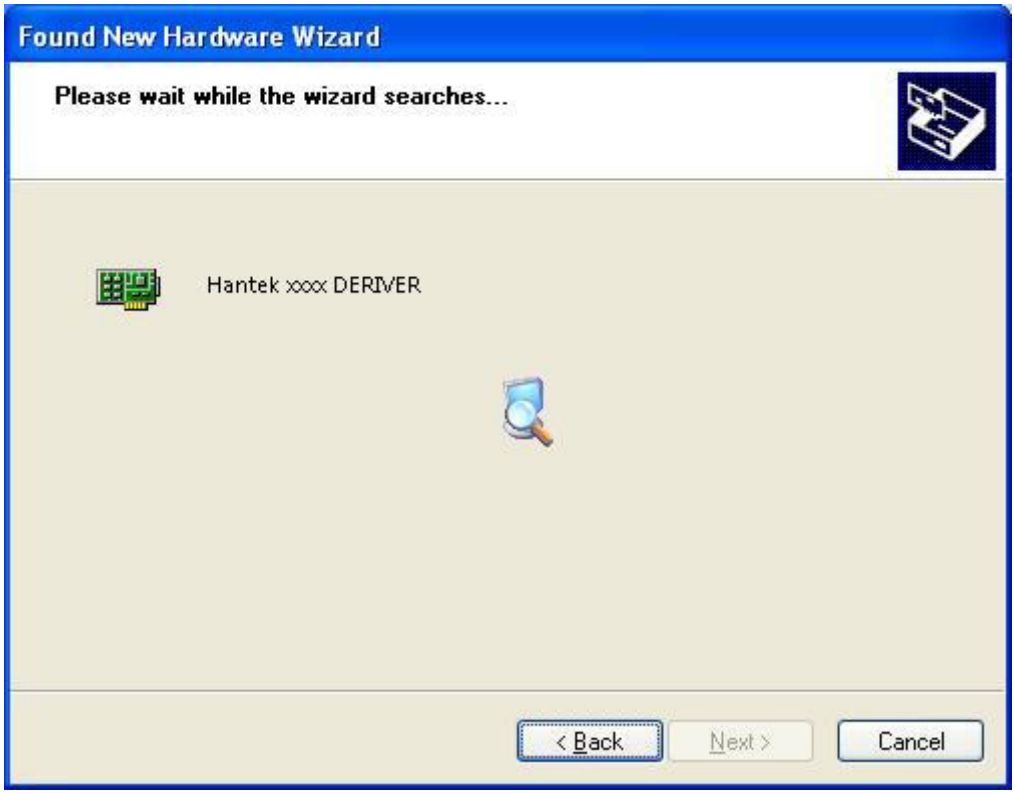


4. New hardware search wizard starts.



5. New hardware search wizard starts to search the driver.


Found New Hardware Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
cuments and Settings\Administrator\Desktop\Driver
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel


Found New Hardware Wizard
Please wait while the wizard searches...
Hantek xxxx DERIVER
< Back
Next >
Cancel

6. New hardware wizard installs “DRIVER”.



7. The wizard has finished installing for “DRIVER”.

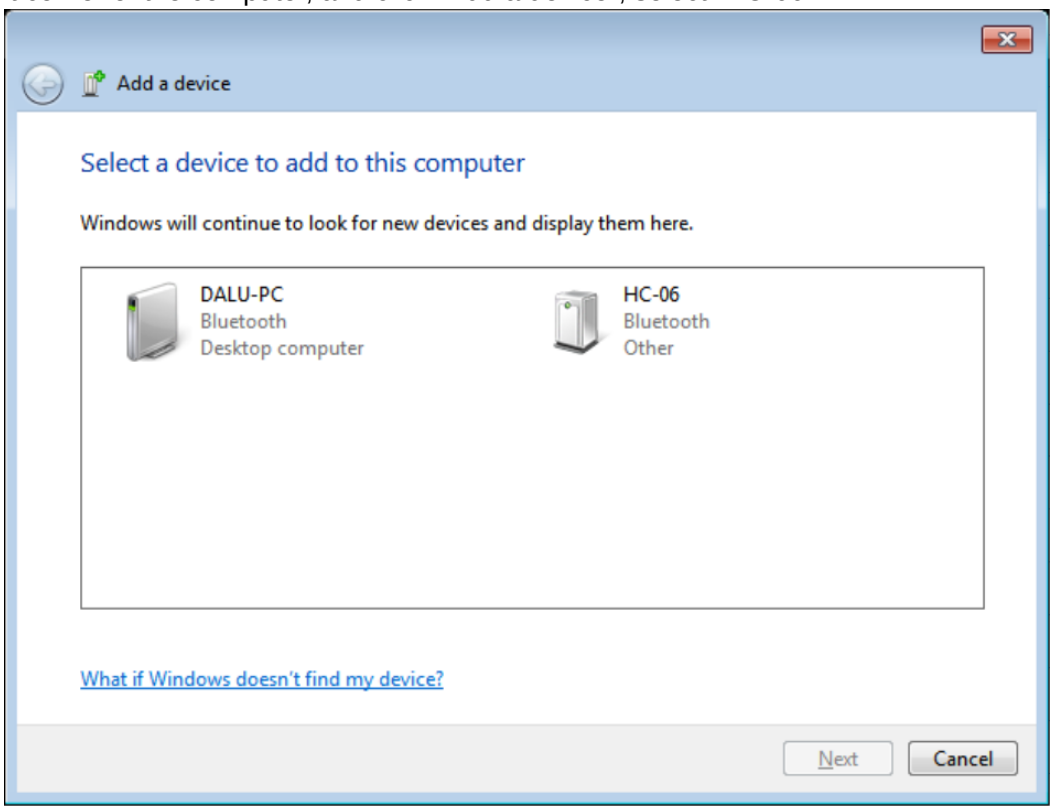


1.5 Communication with Bluetooth（Hantek365C/D）

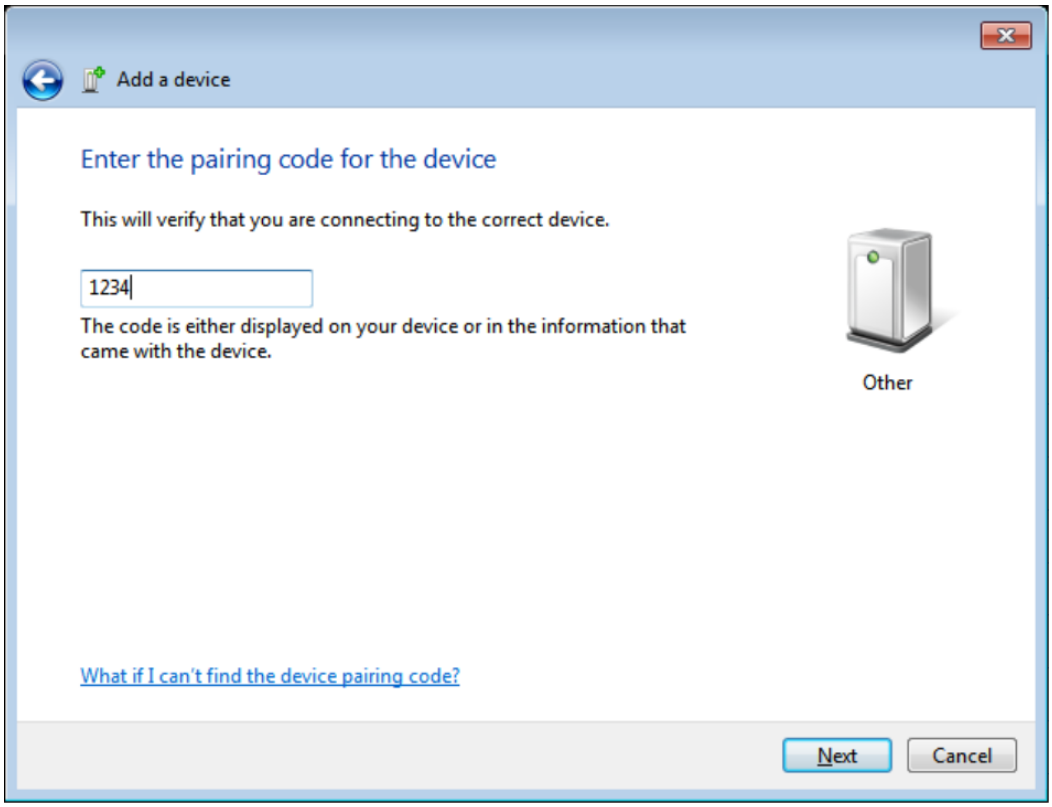
1. Inset the Bluetooth adapter to PC USB port. After waiting for several seconds, install the bluetooth driver automatically. Open the computer control panel; you will see the bluetooth icon on the lower right corner of the computer.

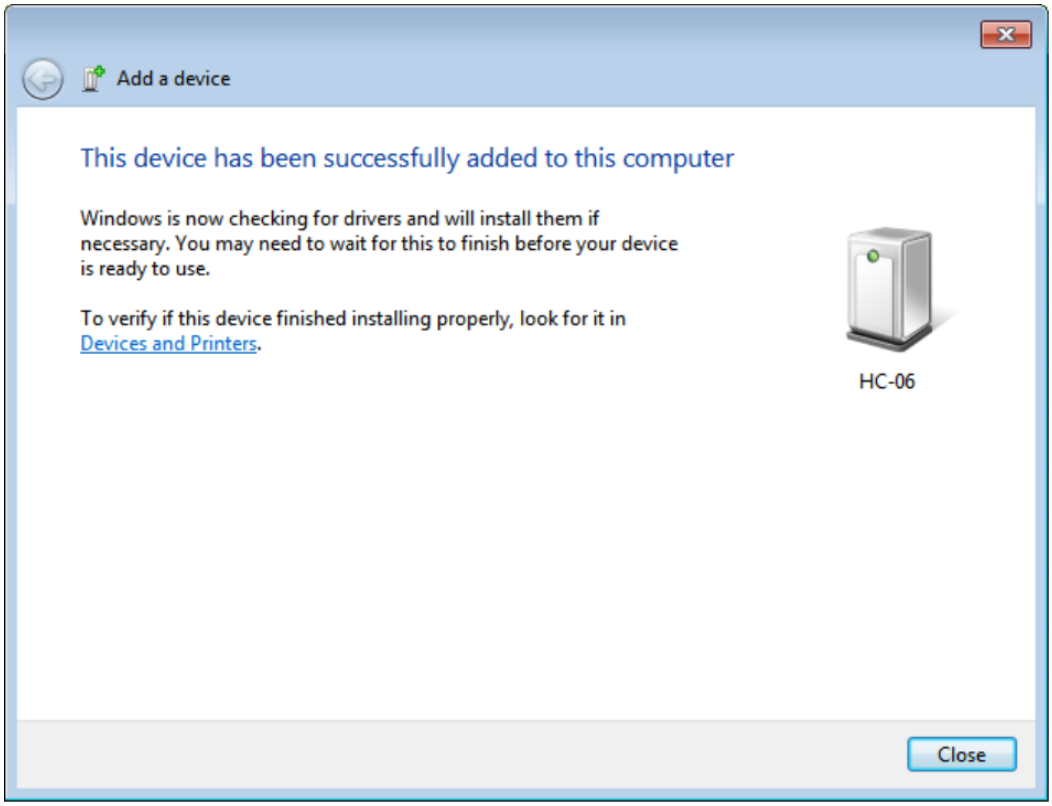


2. Press the switch, and the red light will be on. Double-click the bluetooth icon on the lower right corner of the computer, and click “Add a device”, select “HC-06”.

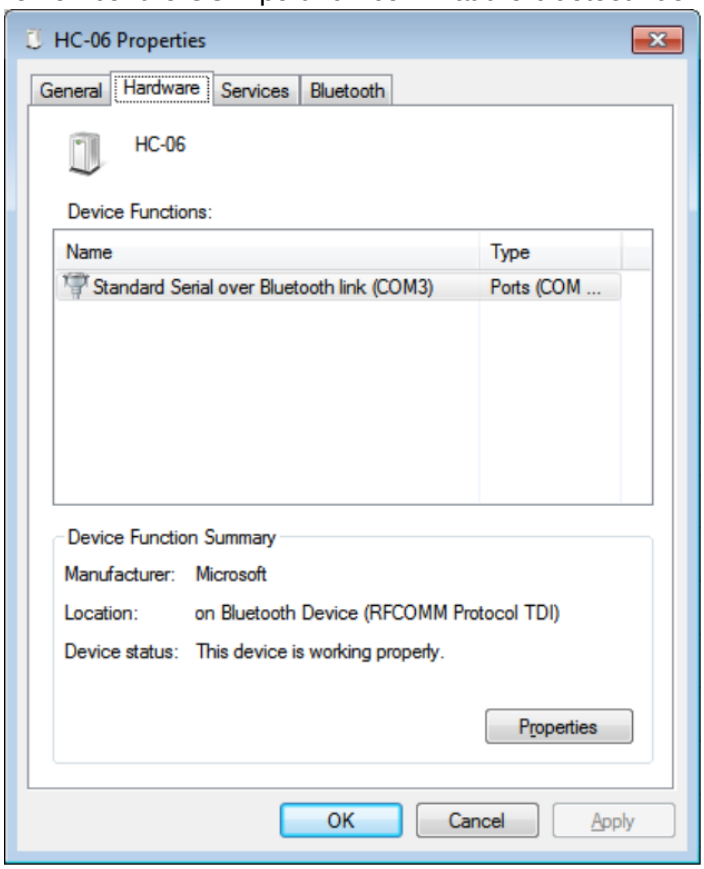


3. Next, and input the pairing code “1234”, the device will be successfully added to the computer.

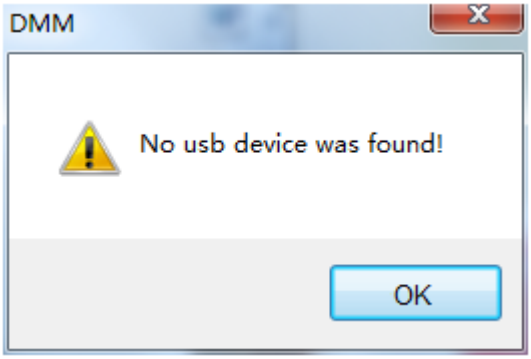


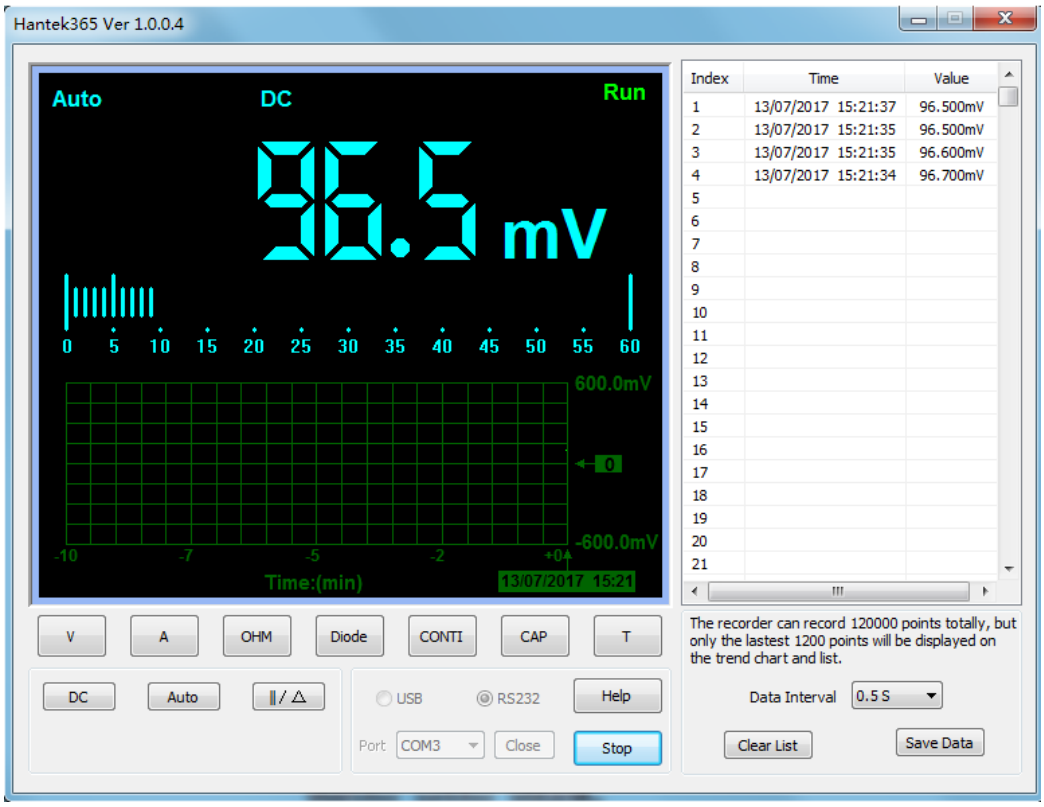


4. Right click “HC-06” icon to look up HC-06 Properties. On the Hardware bar you will check and remember the COM port number what the bluetooth device uses.



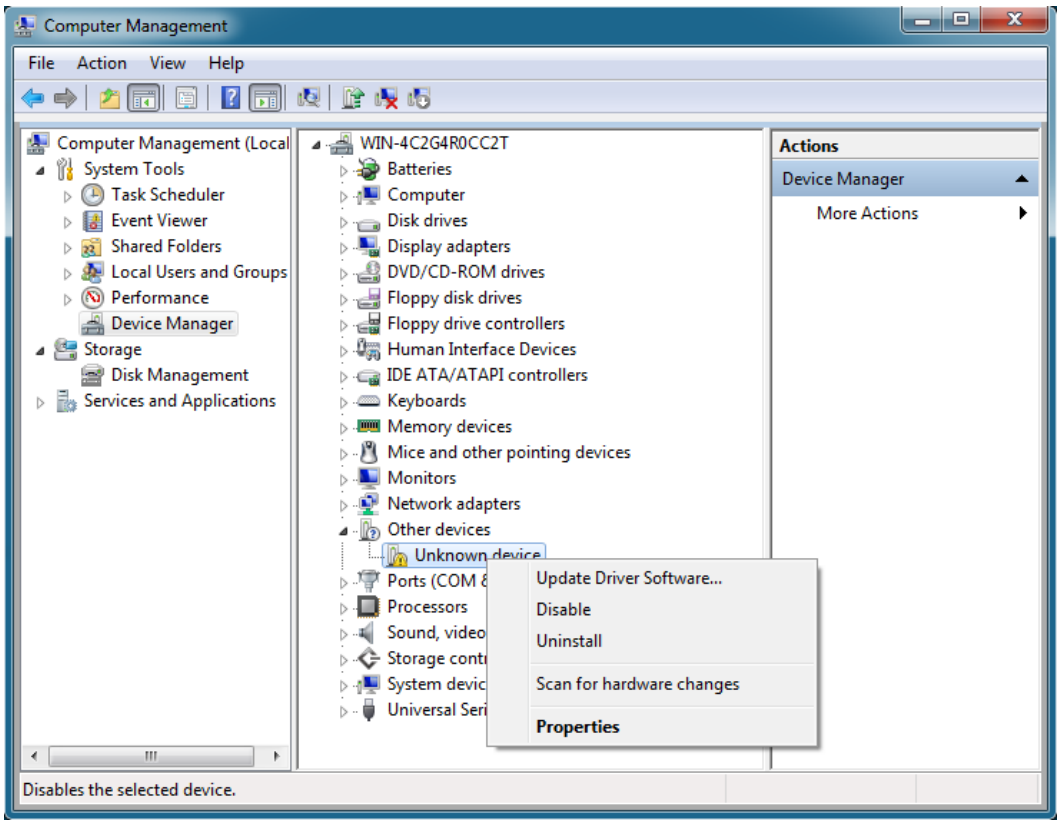
5. Run “Hantek365 USB”, there will have a prompt “No usb device was found”, and please click “OK”. Now please click “Stop”, and select connection mode to “RS232”. Set Port to the COM port number. Then click “open”, the software will work normally.

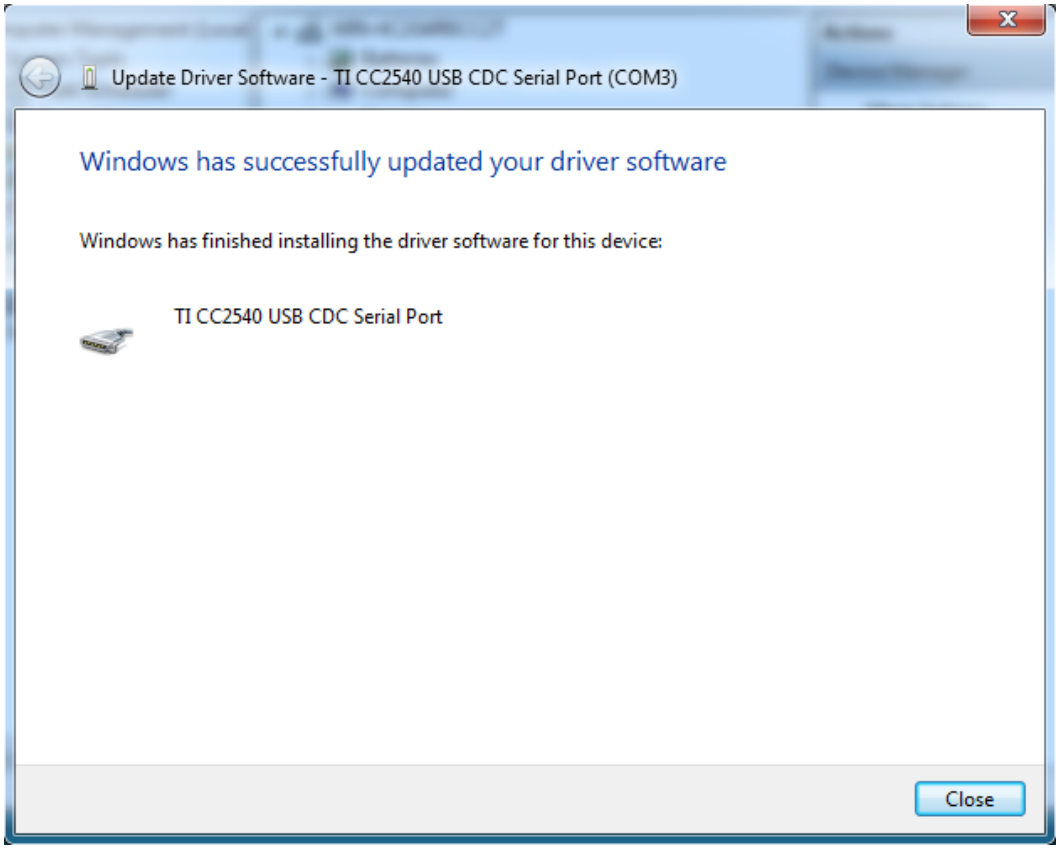


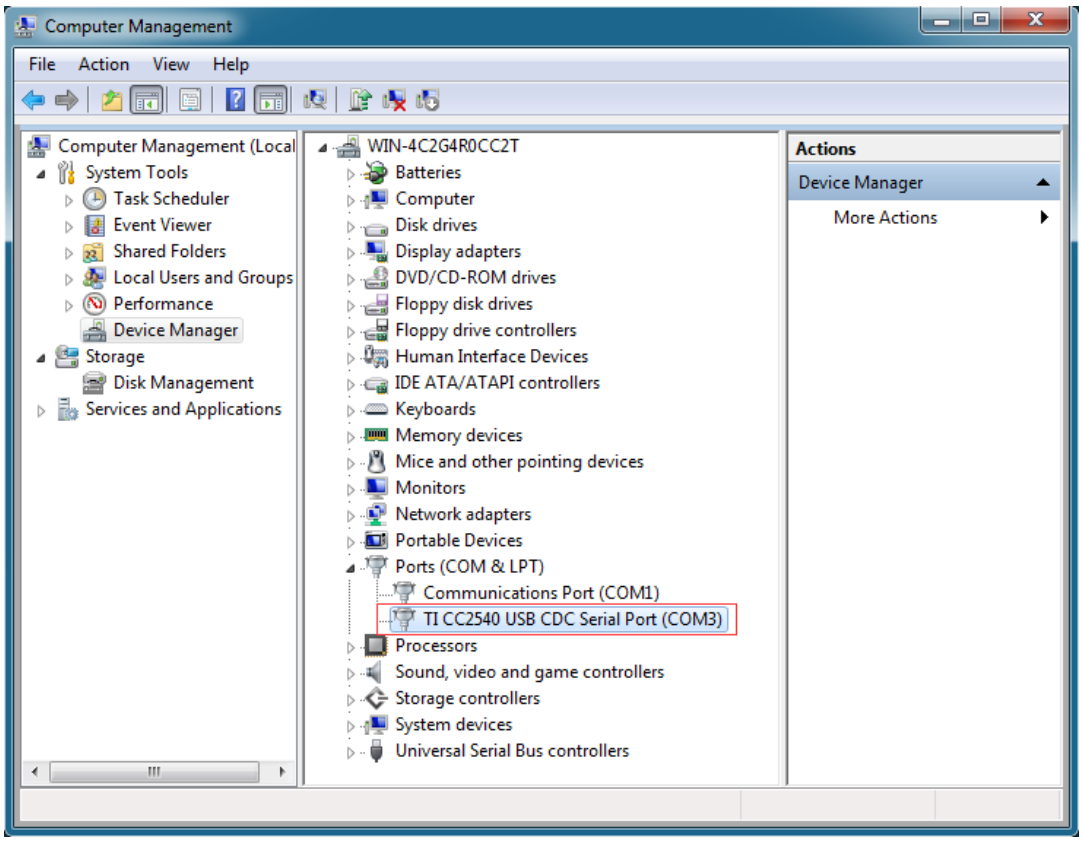


1.6 Communication with Bluetooth（Hantek365E/F）

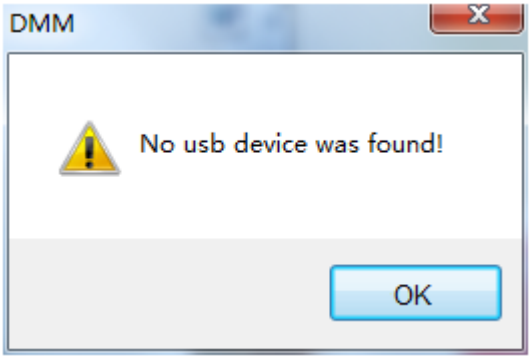
1. Inset the Bluetooth adapter to PC USB port. After waiting for several seconds, right click the unknown device in the device manager to install the Bluetooth driver manually.
   Download the Bluetooth driver on our website:
   http://hantek.com/en/ProductDetail_9_156.html


Computer Management
File Action View Help
Computer Management (Local
System Tools
Task Scheduler
Event Viewer
Shared Folders
Local Users and Groups
Performance
Device Manager
Storage
Disk Management
Services and Applications
WIN-4C2G4R0CC2T
Batteries
Computer
Disk drives
Display adapters
DVD/CD-ROM drives
Floppy disk drives
Floppy drive controllers
Human Interface Devices
IDE ATA/ATAPI controllers
Keyboards
Memory devices
Mice and other pointing devices
Monitors
Network adapters
Other devices
Unknown device
Ports (COM &
Processors
Sound, video
Storage contr
System devic
Universal Seri
Actions
Device Manager
More Actions
Update Driver Software...
Disable
Uninstall
Scan for hardware changes
Properties
Disables the selected device.

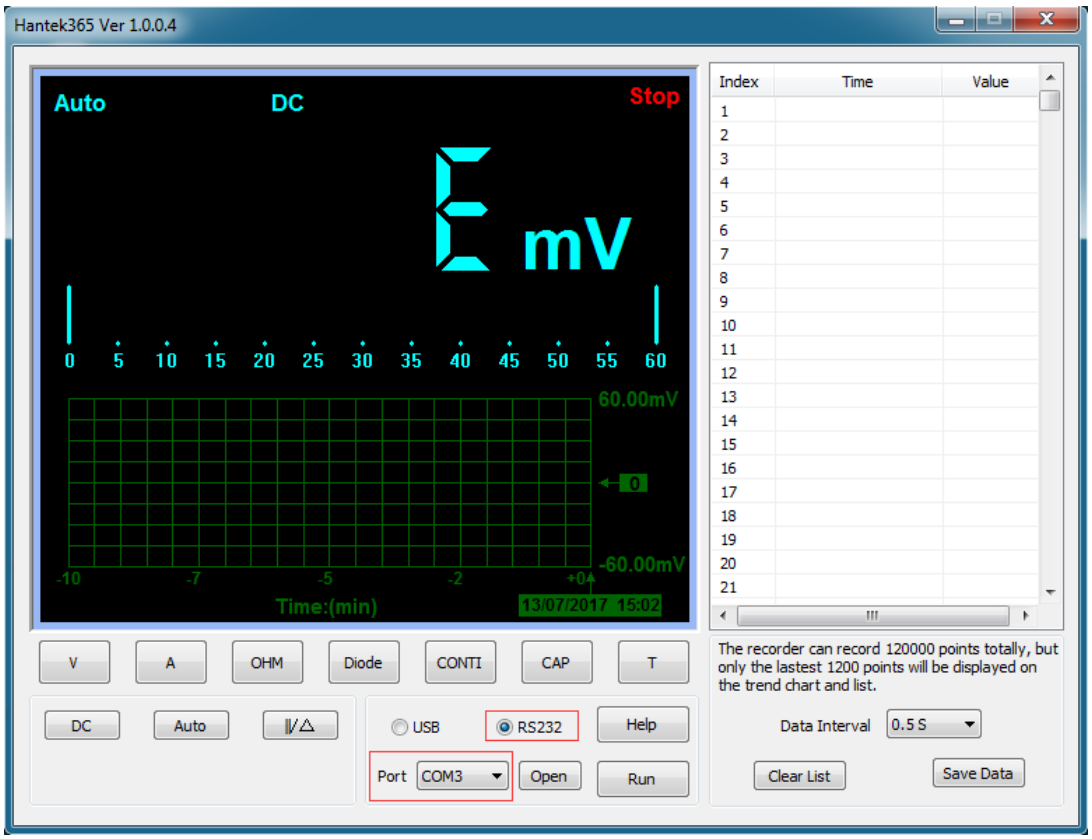

Update Driver Software - TI CC2540 USB CDC Serial Port (COM3)
Windows has successfully updated your driver software
Windows has finished installing the driver software for this device:
TI CC2540 USB CDC Serial Port
Close



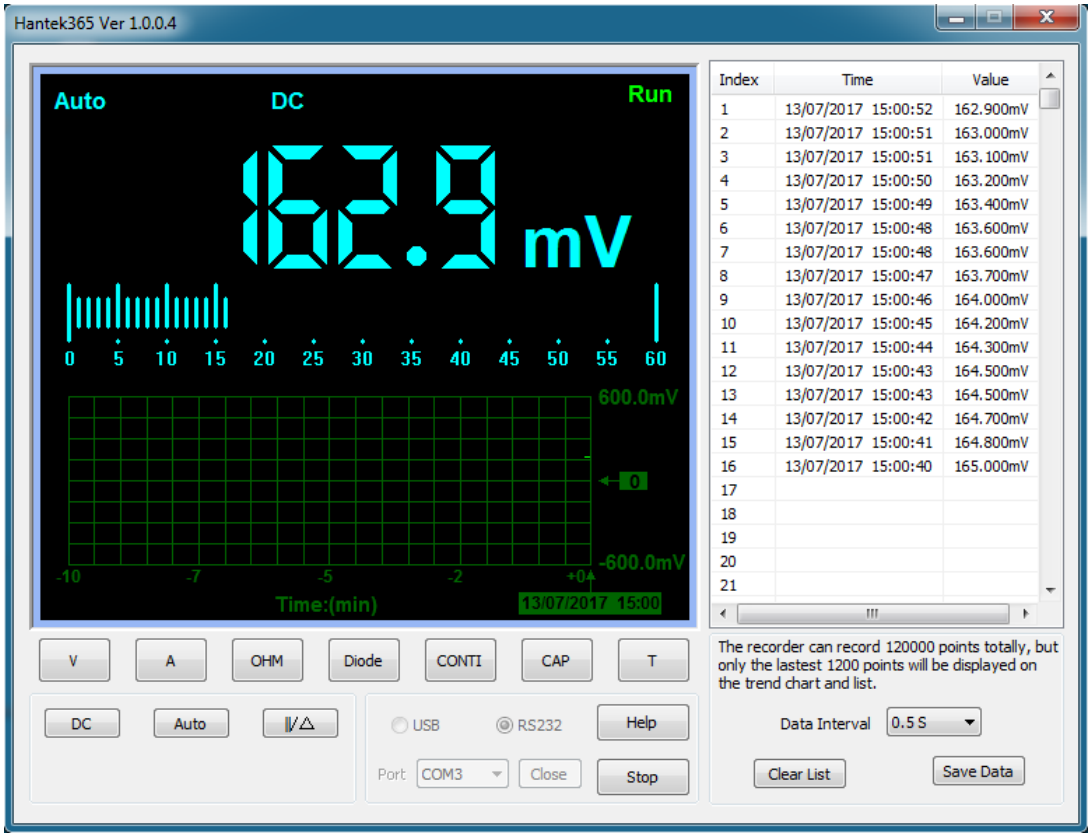
2. Press the power button of the Hantek365 to open. Now, view the indicator of the Bluetooth, when the indicator stops flashing, the connection between Hantek365 and Bluetooth adapter is successful.
3. Open the Hantek365 software, there will have a prompt “No usb device was found”, and please click “OK”.



4. Now click “Stop”, and select connection mode to “RS232”. Set the port to the COM port number of the Bluetooth.



5. Then click “open”, the communication is successful.



Attention:

1. Make sure that the battery has enough power, otherwise the communication is unstable.
2. Computer built-in Bluetooth can not communicate with Hantek365E/F. And the Bluetooth adapter must be purchased from us to use. Bluetooth adapter purchased by users from other sources can not be able to connect.

Chapter 2: Operating Data Logger

The user should know how to determine the system setup from the status bar of a Data Logger. This chapter will give guides to show how to use the menus and perform basic measurements.

- **Making Voltage Measurement**
- **Making Current Measurement**
- **Measuring Resistance Values**
- **Making a Diode Measurement**
- **Making a Capacitance Measurement**
- **Selecting Automatic/Manual Range Adjustment**
- **Taking a Relative Measurement**
- **Temperature Measurement**

2.1 Making Voltage Measurement

1. Making a DC Voltage Measurement

To measure a DC voltage, follow these steps:

1. Click the “V” key and DC appears at the top of the screen.
2. Connect the black lead into the COM banana jack input and the red lead into the V/Ω/C banana jack input.
3. Connect the red and black leads to the measured points and the voltage value of measured points is displayed on the screen.

Connect Data Logger probes(HT325) with Hantek365 as illustrated in the following figure:



Figure 2-1

Then, the following figure will be displayed:

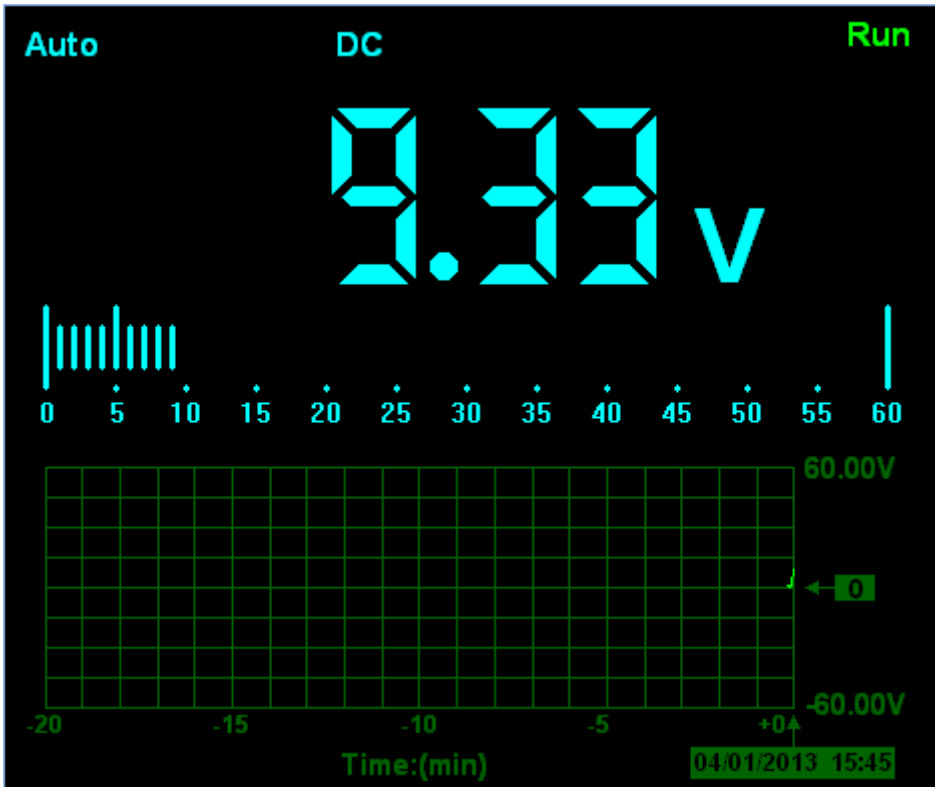
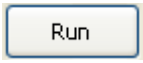


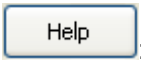
Figure 2-2 DC Voltage Measurement

Save Data: Save data as .txt.

Clear List: Clear the right data list.



: Start to acquire data.



: Get users' help.



: Set data interval 1s, 2s, 5s, 10s.

2. Making an AC Voltage Measurement

To measure the AC voltage, follow these steps:

1) Click the "V" key and DC appears on the screen.

2) Click "DC" key and AC appears on the screen.

3) Connect the black lead into the COM banana jack input and the red lead into the V/Ω/C banana jack input.

4) Connect the red and black leads to the measured points and the AC voltage value of measured points will be displayed on the screen.

Connect Data Logger probes(HT325) with Hantek365 as illustrated in the following figure:



Figure 2-3

Then, the following figure will be displayed:

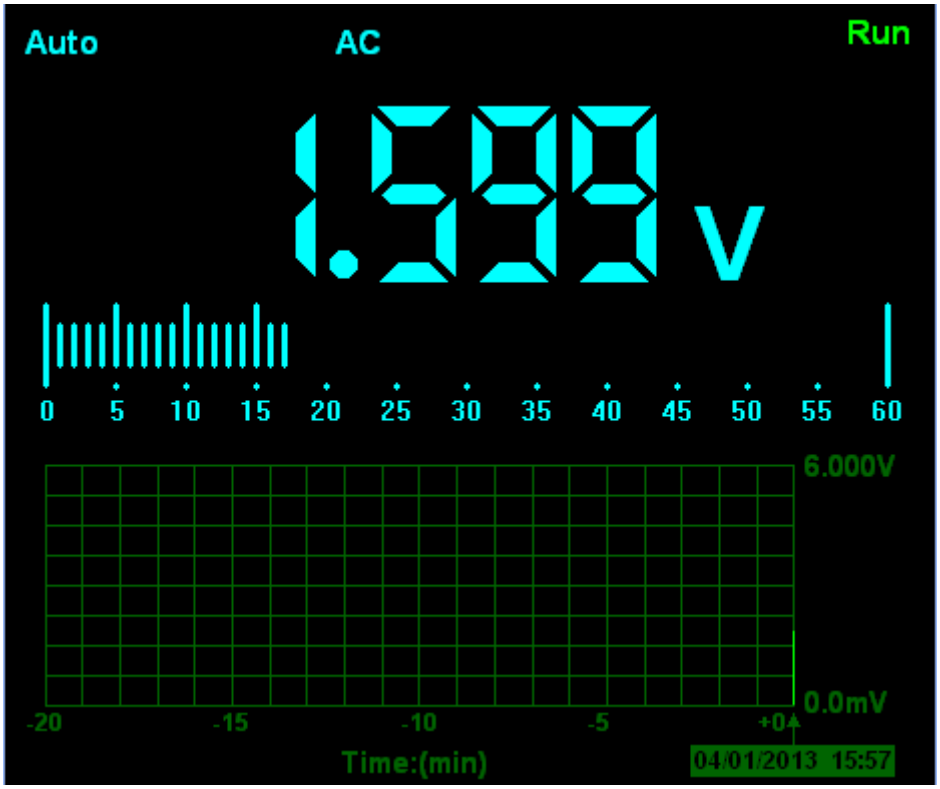


Figure 2-4 AC Voltage Measurement

The user can select Auto measure and Manual measure. Voltage range can be set 60.00mV, 600.0mV, 6.000V, 60.00V, 600.0V.

2.2 Making Current Measurement

1. Making a DC Current Measurement

To measure a DC current which is less than 600mA, follow these steps:

1) Click the “A” key and then “DC” appears on the screen. The unit on the main reading screen is “mA”. Click “A” key to switch the measurement between mA and A. The default is 600mA. Click “Auto” key to switch the measurement range from 60mA to 600mA.

2) Connect the black lead into the COM banana jack input and the red lead into the mA banana jack input.

3) Connect the red and black leads to the measured points and the DC current value of measured points will be displayed on the screen.

Connect Data Logger probes(HT325) with Hantek365 as illustrated in the following figure:

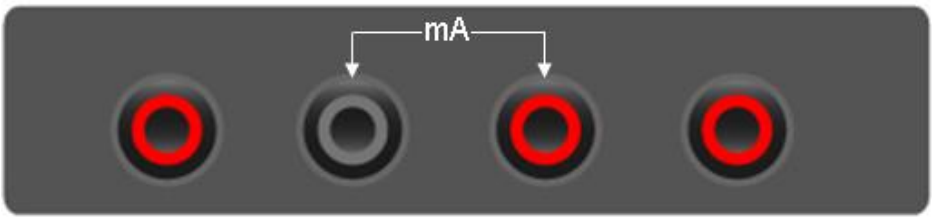


Figure 2-5

Then, the following figure will be displayed on the screen:

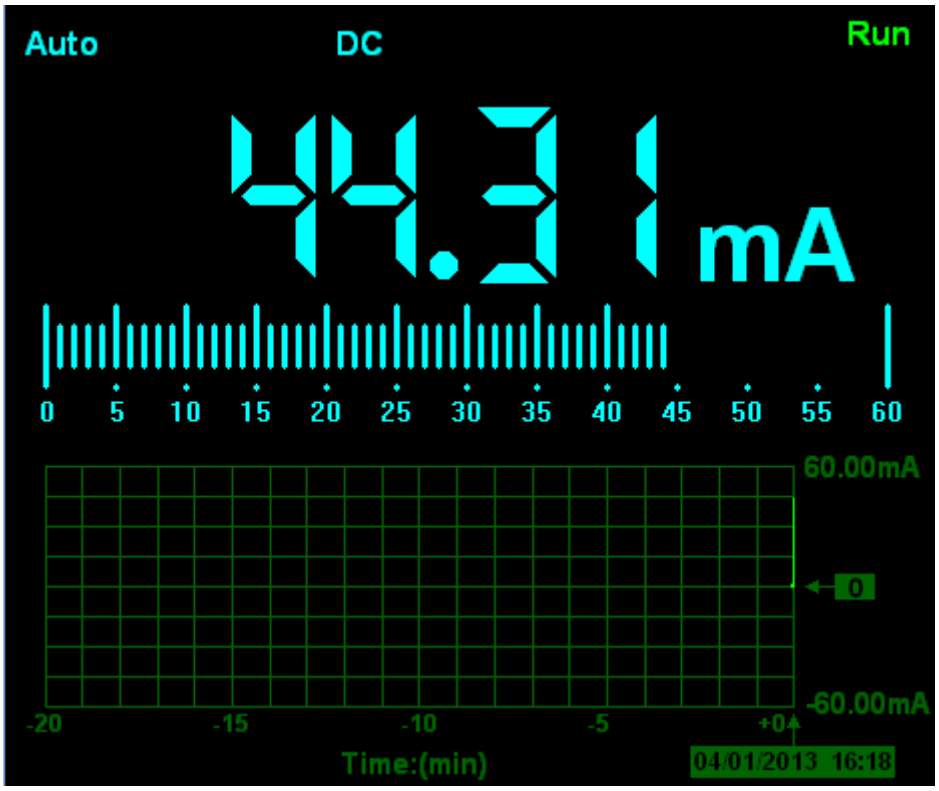


Figure 2-6 DC current Measurement for 600mA

To measure a DC current which is larger than 600mA, follow these steps:

1) Click the “A” key and then “DC” appears on the screen. The unit on the main reading screen is mA.

2) Click “A” key to switch to 10A measurement, the unit on the main reading screen is A.

3) Connect the black lead into the COM banana jack input and the red lead into the 10A banana jack input.

4) Connect the red and black leads to the measured points and the DC current value of the measured points will be displayed on the screen.

5) Click “A” to return to 600mA measurement.

Connect Data Logger probes(HT325) with Hantek365 as illustrated in the following figure:

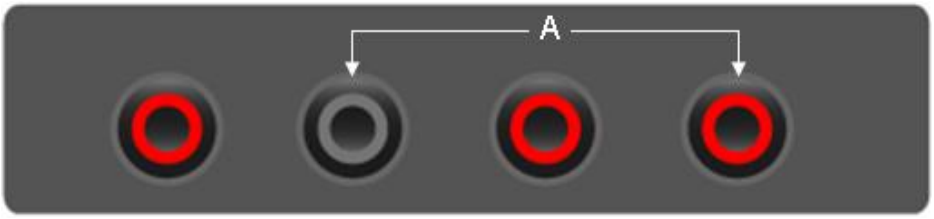


Figure 2-7

Then, the following figure will be displayed on the screen:

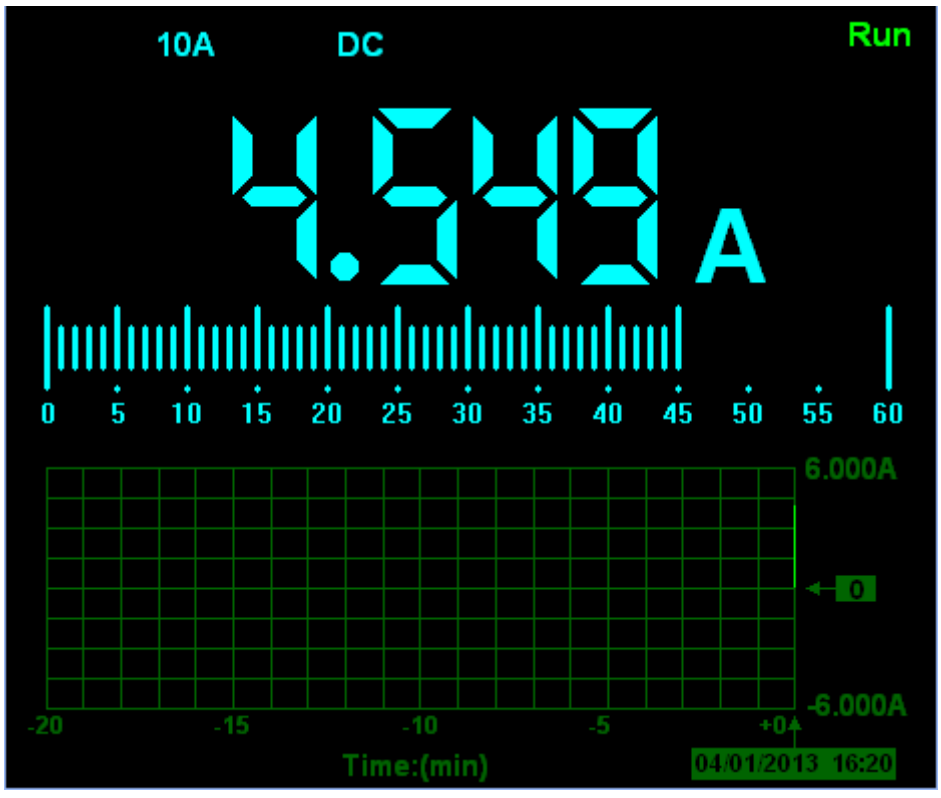


Figure 2-8 DC current Measurement for 10A

2. Making an AC Current Measurement

To measure an AC current which is less than 600mA, follow these steps:

1) Click the “A” key and then “DC” appears on the screen. The unit on the main reading screen is “mA”, and “mA” will display on the screen, Click “mA” to switch the measurement between mA and

10A. The default is 600mA.

2) Click “DC” key and AC will display on the screen.

3) Connect the black lead into the COM banana jack input and the red lead into the mA banana jack input.

4) Connect the red and black leads to the measured points and the AC current value of measured points will be displayed on the screen.

Connect Data Logger probes(HT325) with Hantek365 as illustrated in the following figure:

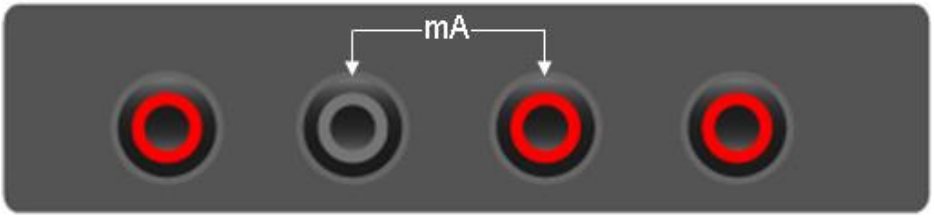


Figure 2-9

Then, the following figure will be displayed on the screen:

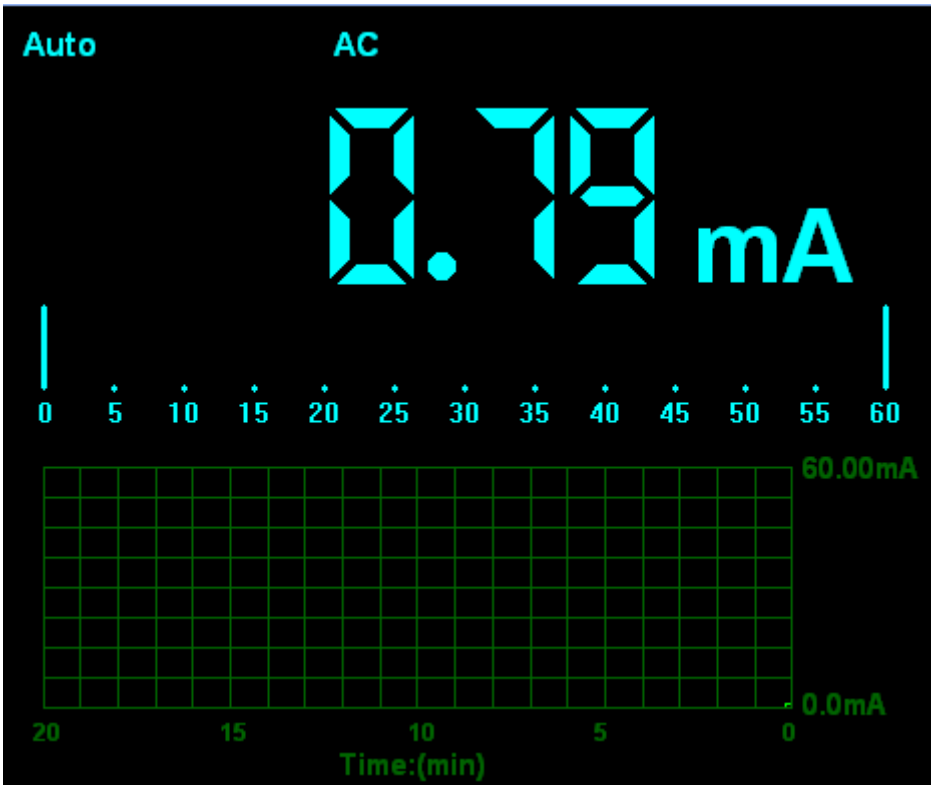


Figure 2-10 AC current Measurement for 600mA

To measure an AC current which is larger than 600mA, follow these steps:

1) Click the “A” key and then “DC” appears on the screen. The unit on the main reading screen is mA.

2) Click the “DC” key and then “AC” appears on the screen.

3) Click “mA” key to switch to10A measurement, the unit on the main reading screen is A.

4) Insert the black lead into the COM banana jack input and the red lead into the 10A banana jack input.

5) Connect the red and black leads to the measured points and the AC current value of the

measure points will be displayed on the screen.

6) Click “A” to return to 600mA measurement.

Connect Data Logger probes(HT325) with Hantek365 as illustrated in the following figure:

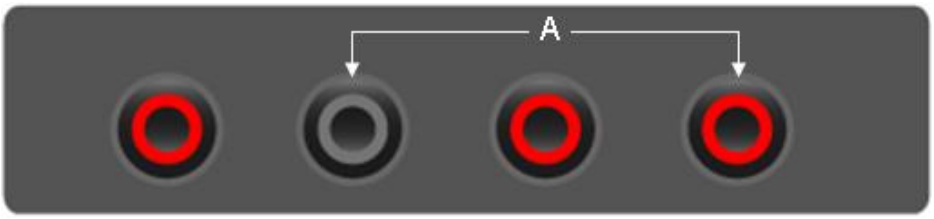


Figure 2-11

Then, the following figure will be displayed on the screen:

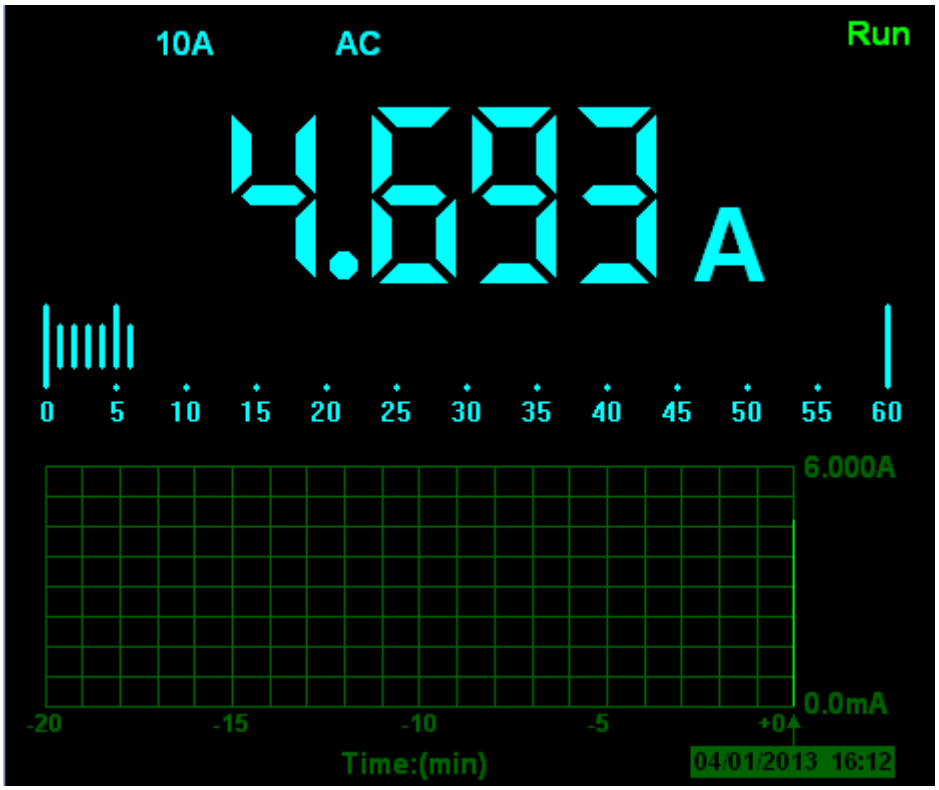


Figure 2-12 AC current Measurement for 10A

2.3 Measuring Resistance Values

To measure a resistance, follow these steps:

1) Click the “OHM” key and then resistance measurement window appears on the screen.

2) Connect the black lead into the COM banana jack input and the red lead into the V/Ω/C banana jack input.

3) Connect the red and black test leads to the resistor. The resistance value is shown on the screen in Ohm.

Connect Data Logger probes(HT325) with Hantek365 as illustrated in the following figure:



Figure 2-13

Then, the following figure will be displayed on the screen:

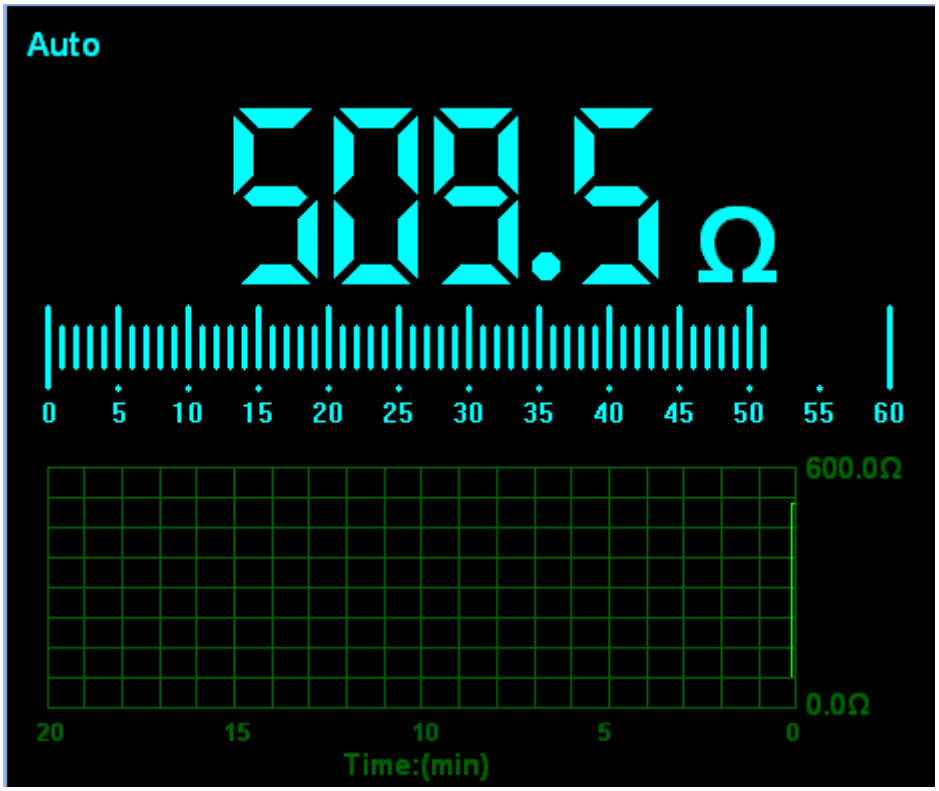


Figure 2-14 Resistance Measurement

2.4 Making a Diode Measurement

To make a measurement on the diode, follow these steps:

1) Click the “Diode” key and a diode symbol appears at the top of the screen.

2) Connect the black lead into the COM banana jack input and the red lead into the V/Ω/C banana jack input.

3) Connect the red and black leads to the diode and the voltage value of the diode is displayed on the screen in volt.

Connect Data Logger probes(HT325) with Hantek365 as illustrated in the following figure:



Figure 2-15

Then, the following figure will be displayed on the screen:

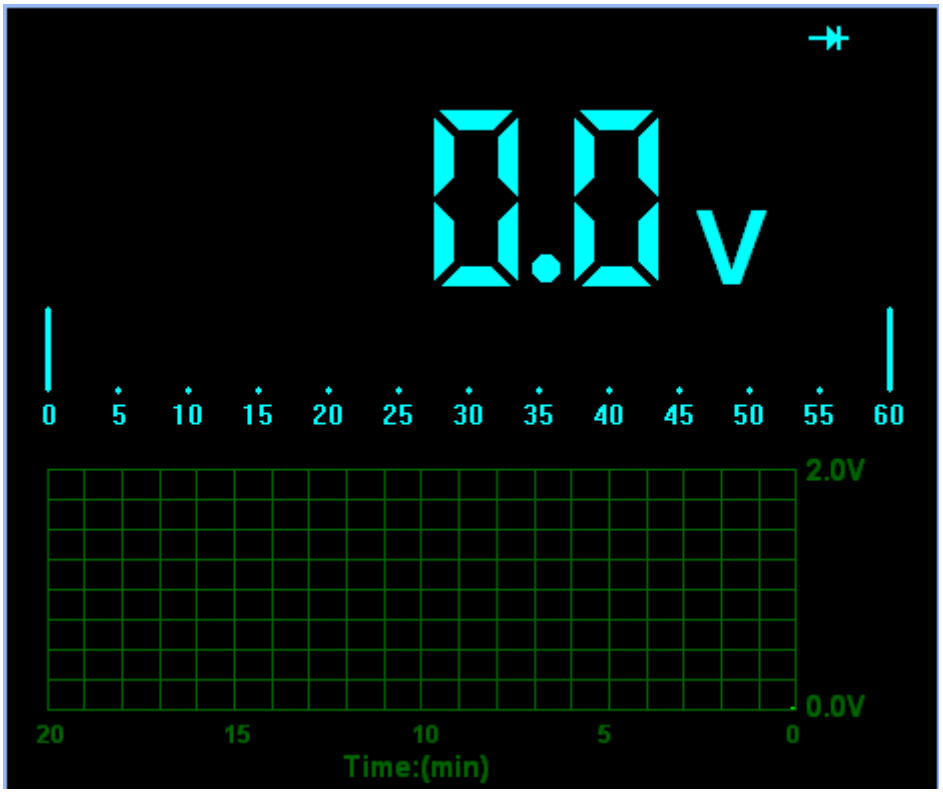


Figure 2-16 Diode Measurement

To perform an On-Off test, follow these steps:

1) Click the “CONTI” key and then On-Off indictor appears on the top of the screen.

2) Connect the black lead into the COM banana jack input and the red lead into the V/Ω/C banana jack input.

3) Connect the red and black leads to the tested points. If the resistance value of the test points is less than 10 Ω, you will hear beep sound from the test tool.

Connect Data Logger probes(HT325) with Hantek365 as illustrated in the following figure:



Figure 2-17

Then, the following figure will be displayed on the screen.

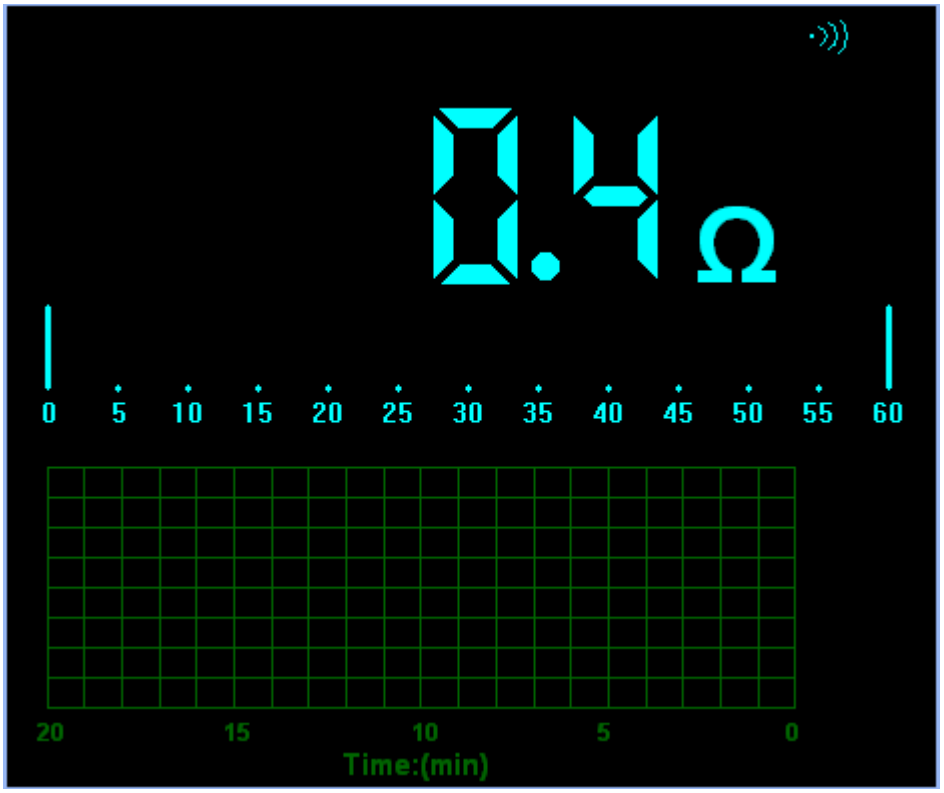


Figure 2-18 On-Off Measurement

2.5 Making a Capacitance Measurement

To measure a capacitance, follow these steps:

1) Click the “CAP” key and a capacitor symbol appears on the top of the screen.

2) Connect the black lead into the COM banana jack input and the red lead into the V/Ω/C banana jack input.

3) Connect the red and black leads to the capacitor and the capacitance value is displayed on the screen in μF or nF.

Connect Data Logger probes(HT325) with Hantek365 as illustrated in the following figure:



Figure 2-19

Then, the following figure will be displayed on the screen.

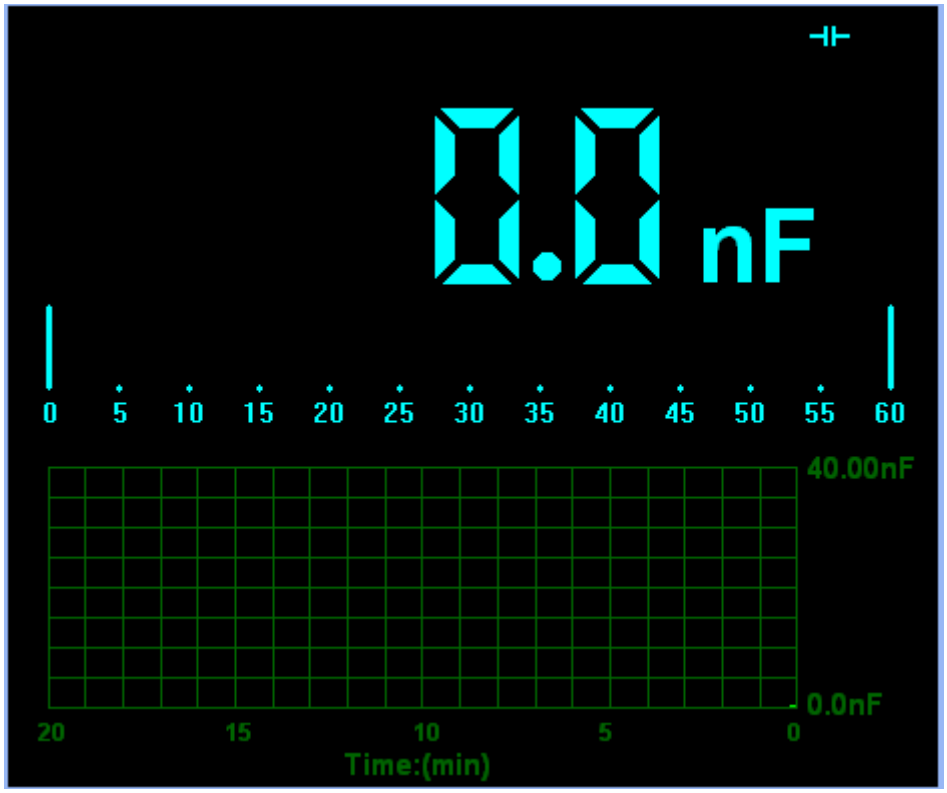


Figure 2-20 Capacitance Measurement

2.6 Selecting Automatic/Manual Range Adjustment

The default range mode of the instrument is automatic range. If you are using the DC/AC mode, to switch to the manual range, do these steps:

1) Click “Auto” key to enter the manual range mode and then Manual is displayed on the top of the screen.

2) Under the manual range mode, the measuring range is increased by a stage, Click “Auto” to switch manual.

3) Click “Manual” key to switch back to the automatic range mode and then Auto is displayed on the top of the screen.

Attention: capacitance measurement without manual range mode.

2.7 Taking a Relative Measurement

A currently measured result relative to the defined reference value is displayed in a relative measurement.

The following example shows how to take a relative measurement. At first, it is required to acquire a reference value.

1) Click the V/A/OHM/CAP key.

2) Connect the black lead into the COM banana jack input and the red lead into the V//Ω/C banana jack input.

3) Connect the red and black test leads to the tested device. The value is shown on the screen.

4) Click  key then  is displayed on the top of the screen. The saved reference value is displayed beside.

Then, the following figure will be displayed on the screen.

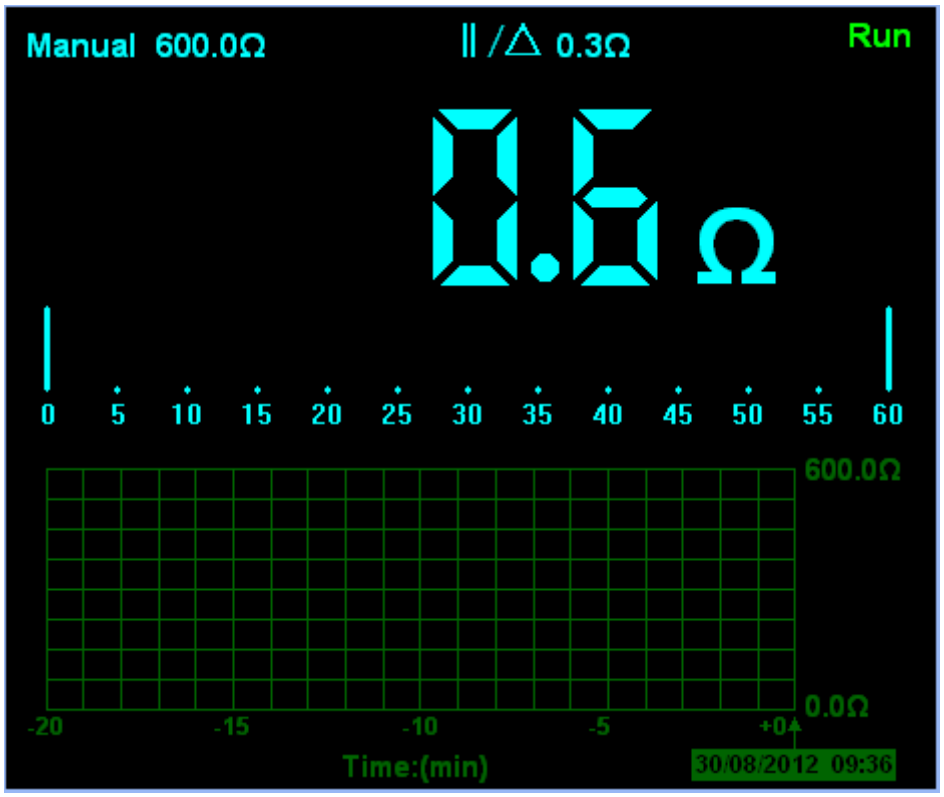


Figure 2-21 Relative Measurement

2.8 Temperature Measurement

The series of Bluetooth/USB Data Logger can measure temperature.

1) Click the T key.

2) Connect the black lead into the mA banana jack input and the red lead into the V//Ω/C banana jack input.

3) Connect the red and black test leads to the tested device. The value is shown on the screen.

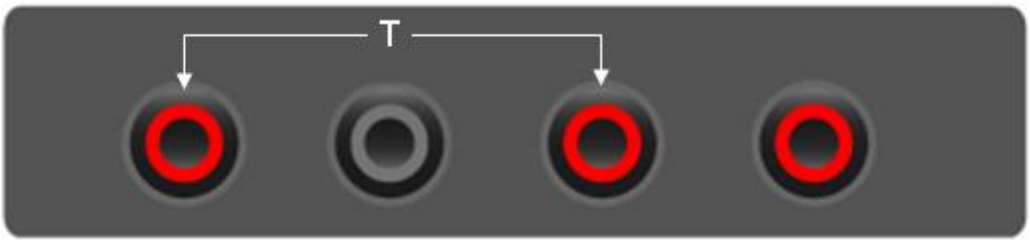


Figure 2-22

Connect the thermocouple sensor of the metal parts with the tested device. Then, the following figure will be displayed on the screen.

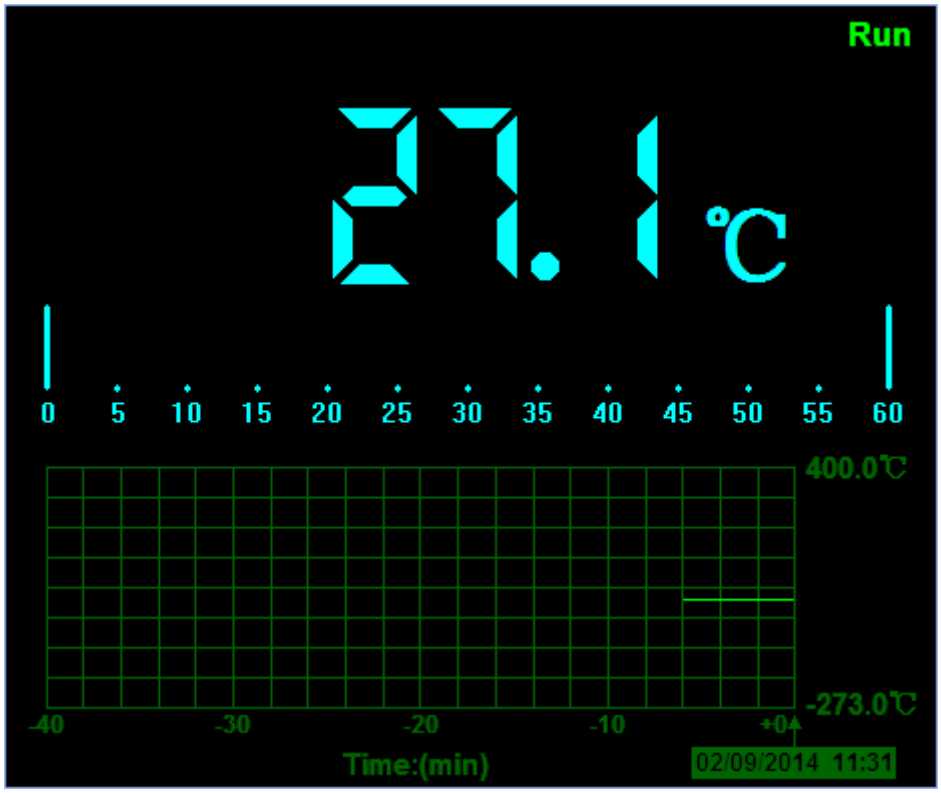


Figure 2-23 Temperature Measurement

Click C key to switch to Fahrenheit. And Click F key to switch to Celsius.

Chapter 3: Appendix

- **Appendix A: Specifications**
- **Appendix B: Accessories**
- **Appendix C: General maintenance**

Appendix A Specifications

Specification:

Data Logger Mode	
Maximum Resolution	6000 Counts
DMM Testing Modes	Voltage, Current, Resistance, Capacitance, Diode & Continuity
Maximum Input Voltage	AC: 600V DC: 800V
Maximum Input Current	AC: 10A DC: 10A
Input Impedance	10MΩ

Data Logger Specification			
Function	Range	Accuracy	Resolution
DC Voltage	60.00mV	±1%±1 digit	10uV
	600.00mV		100uV
	6.000V		1mV
	60.00V		10mV
	600.0V		100mV
	800V		1V
AC Voltage	60.00mV	±1%±3 digit	10uV
	600.0mV		100uV
	6.000V		1mV
	60.00V		10mV
	600.0V		100mV
DC Current	60.00mA	±1.5%±1 digit	10uA
	600.0mA	±1%±1 digit	100uA
	6.000A	±1.5%±3digit	1mA
	10.00A		10mA
AC Current	60.00mA	±1.5%±3digit	10uA
	600.0mA	±1%±1 digit	100uA
	6.000A	±1.5%±3digit	1mA
	10.00A		10mA
Resistance	600.0Ω	±1%±3digit	0.1Ω
	6.000KΩ	±1%±1digit	1Ω
	60.00KΩ		10Ω
	600.0KΩ		100Ω
	6.000MΩ		1KΩ
	60.00MΩ	±1.5%±3digit	10KΩ
Capacitance	40.00nF	±1%±1digit	10pF
	400.0nF		100pF
	4.000uF		1nF
	40.00uF		10nF
	400.0uF		100nF
	Attention: The smallest capacitance value that can be measured is 5nF.		
Temperature	100℃~1000℃	±2%±3digit	1℃
	0~100℃		0.1℃

	-200℃~0		1℃
Diode	0V~2.0V		
On-Off Test	<10Ω		

Difference:

Type	Bluetooth	Lithium battery	RMS	Optional Accessory
Hantek365A	-	-	-	-
Hantek365B	-	-	Yes	-
Hantek365C	Yes①	Yes	-	-
Hantek365D	Yes①	Yes	Yes	-
Hantek365E	Yes②	Yes	-	USB Bluetooth Adapter
Hantek365F	Yes②	Yes	Yes	

① Connect the device with windows PC via Bluetooth with Bluetooth adapter.

② Connect with iPad via Bluetooth directly. Support the third generation or higher versions, and all series of iPad mini.

Connect the device with windows PC via Bluetooth with Bluetooth adapter.

Appendix B: Accessories

Standard accessories

- Data Logger Probes x 2
- A USB Cable
- A PC software CD of the Data Logger
- A Thermocouple Sensor

Optional accessory

- Bluetooth adapter(Optional accessory for Hantek365E and Hantek365F)

Appendix C: General Maintenance

General Care

Do not store or leave the Data Logger where the device will be exposed to direct sunlight for long periods of time.

Caution

To avoid damages to the device or probes, do not expose them to sprays, liquids or solvents.
To avoid damages to the surface of the device or probes not use any abrasive or chemical cleaning agents.

Cleaning

Inspect the device and probes as often as operating conditions require. Make sure the device disconnect form all power sources.
To clean the exterior surface, perform the following steps:
1. Remove loose dust on the outside of the Data Logger and probes with a lint-free cloth to avoid scratching the clear glass display filter.
2. Use a soft cloth dampened with water to clean the device.