



Product Name	GAOTek Wireless Wifi Router
Product SKU	GAOTek-EWIFI-161
Product URL	<u>https://gaotek.com/product/gaotek-wireless-wifi-router/</u>

1. System introduction

1.1 System classification

- High-power series: large-capacity battery, power battery, and supercapacitor test, 5V20A-100A range can be customized.
- Conventional series: The battery test range of 5V5A-10A in the conventional range can be customized.
- Small power series: small-capacity battery and button battery test, 5V1mA-1000mA range can be customized.

1.2 Scope of application

The EBC-X battery capacity test system is suitable for testing batteries such as iron lithium, lithium polymer, lithium-ion, and lead acid.

1.3 Hardware Features

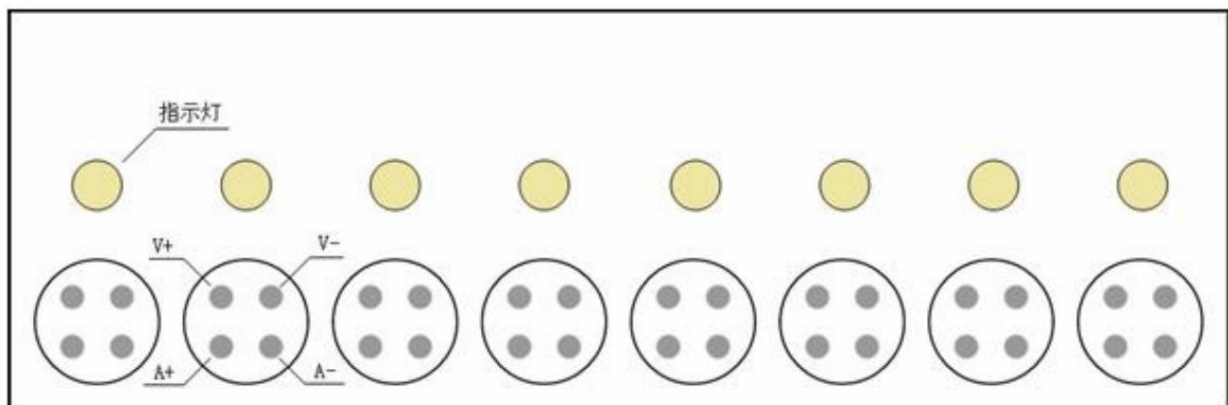
- The upper computer and the lower computer structure are adopted to effectively ensure the reliability of the test.
- The hardware performance of the system is stable, and each channel is controlled by independent charging and discharging.
- Modular hardware design, strong scalability, and easy maintenance.
- The fixture adopts a separate design, which is easy to replace according to different battery models.
- Equipped with power indicator light and channel indicator light, which can intuitively display the current equipment working status for the user.
- Complete equipment models, can provide customized services according to user needs.

1.4 Software Features

- ²Real -time display of data, including charging/discharging/shelving status, voltage, current, capacity, energy, cycle times, and other information.
- ² Parameter setting is flexible, supporting 10 working steps and more than 1000 cycle tests.
- ² Channel control is convenient, single channel, single device, and multiple channels can be selected for operation.
- ² Curve report function, charge and discharge data at a glance, support subsequent data processing.
- ² Automatic data storage function, real-time data can be selected to be automatically stored according to time.
- ² Support benchmark calibration, can re-calibrate voltage and current by itself, easy to operate

2.Specifications

设备型号	X0501 (1A充放)		X0510 (5A充10A放)
电压量程	0-4.500V		
电压精度	0.1%±0.003V		
电流量程	0.001-1.000A		0.1-10.00A
电流精度	0.2%±0.0005A		0.2%±0.005A
充电电流	0.001-1.000A		0.1-5.000A
充电模式	CC-CV恒流恒压充电		
充电终止	时间/电流低于设定下限/手动		
放电电流	0.001-1.000A		0.1-10.00A
放电模式	CC恒流放电		
放电终止	时间/电压低于设定下限/手动		
测试通道	8通道独立控制		
散热方式	风扇主动散热		
设备供电	200-240V AC		
机箱尺寸	350*260*110		350*260*110
包装重量	4.5Kg		5.5Kg



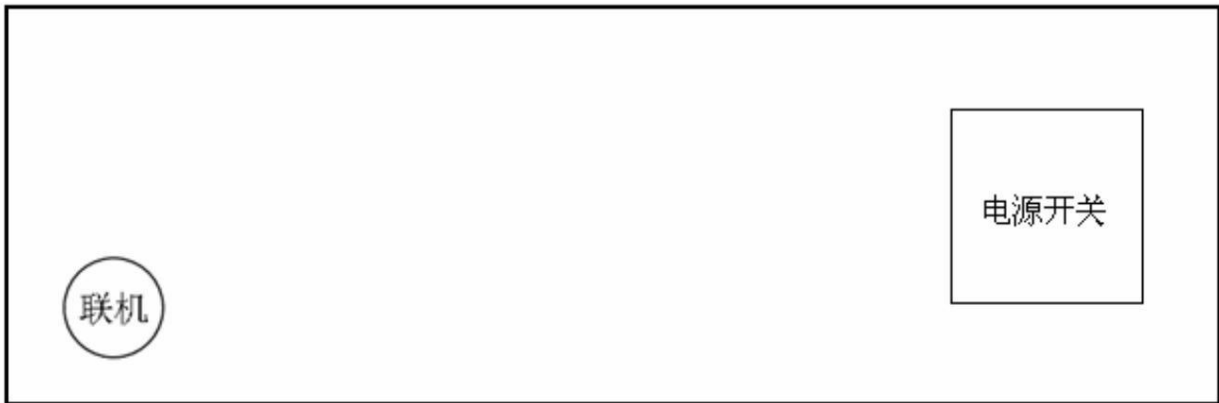
Note: There are other customized specifications, which are subject to the purchased product

3.Instrument interface

1) Front panel

Each channel has a yellow LED indicator light and a 4- pin aviation socket. The indicator light is on when discharging or charging, and the indicator light is off in other states. V+V- on the aviation socket is the voltage measurement port, and A+A- is the current test circuit.

2) Rear panel



One side of the rear panel is the power switch, and the other side is the online port.

4. Software installation

1) Configuration requirements

² The main frequency of the computer processor required to be used is above 2G Hz.

² The memory configuration must be more than 2G , and it is recommended to configure higher.

² More than 1G free hard disk space.

² It has one of the WINDOWS XP/Win7/Win8/Win10 operating platforms.

² Display settings: 1280×900 resolution or higher.



ebx_setup_v1.6.exe

2) Software installation

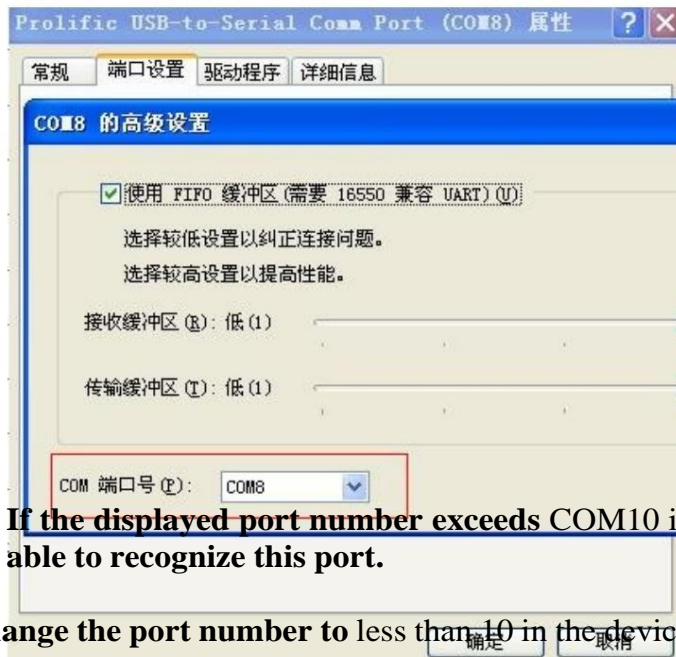
Install the tester software, double-click to run the installation.



PL2303_Prolific_D...

Install the online driver, double-click to run the installation.

After the installation is complete, plug in the online cable, and you can see the corresponding port number in the "Device Manager" of the computer:



If the displayed port number exceeds COM10 in some systems, the EB software may not be able to recognize this port.

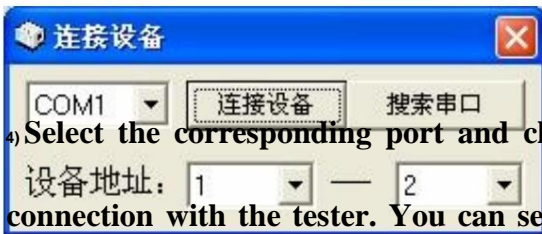
Change the port number to less than 10 in the device properties before using:

5. Software use

1) Turn on the power of the tester.

2) Connect the connection line.

3) Open the EBX volumetric test system software, and click Connect Device in the Tools menu.



4) Select the corresponding port and click the "Connect Device" button to establish a connection with the tester. You can select the device address range to be scanned (1-1

means the tester that scans ID1 , 1-6 means the tester that scans ID1 to ID6)



4) After the connection is successful, the software displays the device information.

5) Connect the battery through the test clip, and the software will display the battery voltage of each channel



6) Right-click the channel to set parameters.



7) Set the required test parameters.

-
- 2 "Clear" button: Clear the set test items
 - 2 "Setting" button: set the test items of the current working step
 - 2 "Open" button: open the saved parameter setting file
 - 2 "Save" button: save the current setting parameters to a local file
 - 2 "Copy" button: copy the working steps of other channels to the current setting
 - 2 "Start step": select the step to start the test
 - 2 "Set Channel": Select the current test parameters for a single channel or for all channels of the current device.



- 2 "OK" button: Apply the set test parameters to the selected channel
- 2 "Cancel" button: cancel the setting
- 2 "Working step": the working step corresponding to the currently set parameters, if you want to modify the set working step parameters, you can click the drop-down box

Select the desired working step in the menu, and click "Set" after modification.

2 "Mode":

Ø Constant current discharge: You can set constant current, termination voltage and discharge time. After the test is started, when it is detected that the battery voltage is lower than the set end voltage, the test will be automatically stopped. At the same time, if the discharge time is longer than the set time, it will also stop. If the time is set to 0, this judgment condition will not work.

Ø Constant voltage charging: constant current first and then constant voltage,

you can set constant current, constant voltage current, termination current and charging time. After the battery charging enters the constant voltage stage, the current will gradually decrease, and it will stop automatically when it is lower than the set termination current. At the same time, if the charging time is longer than the set time, it will also stop. If the time is set to 0, this judgment condition will not work.

Ø Hold: Pause the test, you can set the hold time. This mode is mainly added between charge and discharge steps, with

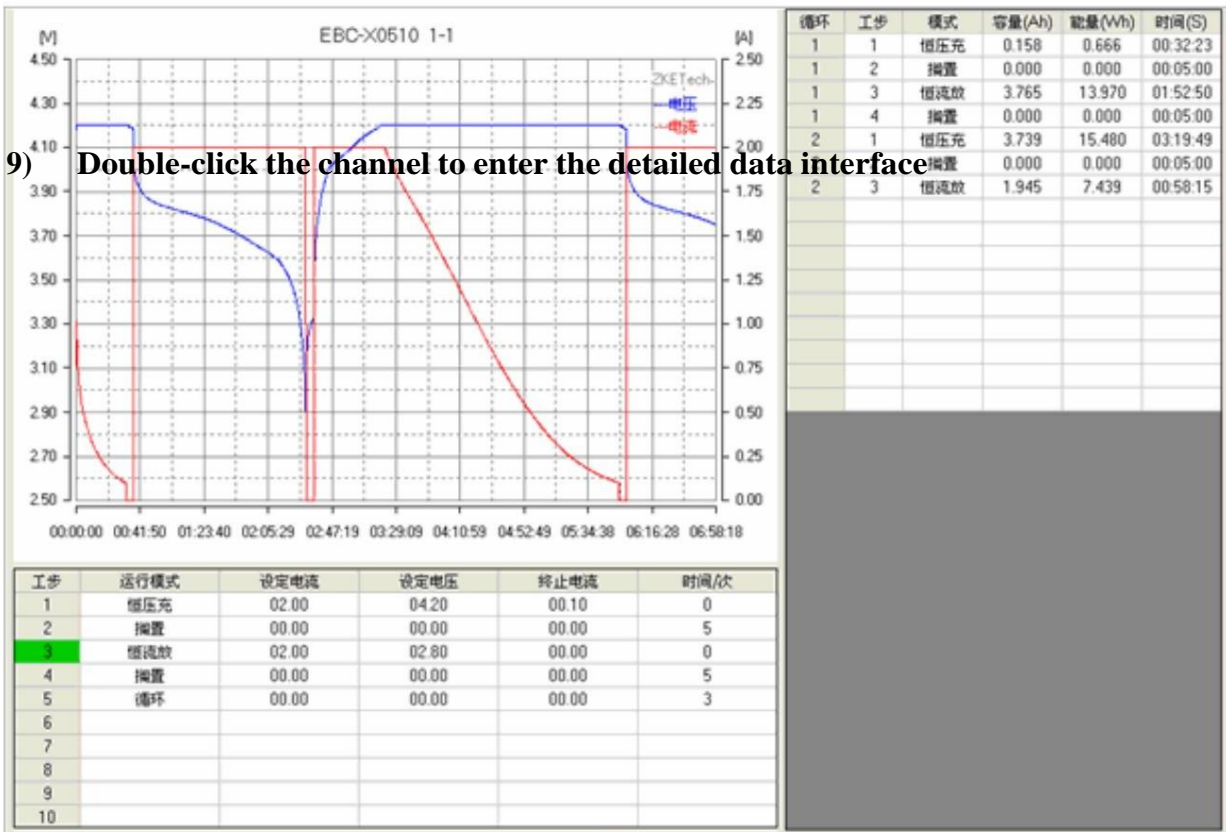
In order to cool down or recover the battery, it will automatically enter the next step when the time is up.

Ø Cycle: This mode is generally used in the last step, and the number of cycles can be set. When running to this step, if the set number is greater than 1, it will jump to the first step and run again until the set number is met.

8) Right-click a channel, and select "Channel Start" in the pop-up menu to start the current channel test, and select "Device Start" to start the test of all channels of the current device.



9) Double-click the channel to enter the detailed data interface



Double-click the curve display area to return to the main interface.

² Green: Discharging Red: Charging Yellow: Shelving Gray: Stopped

The data font color can be modified by clicking the corresponding text below:



10) The display mode can be switched by pressing the "graphic display" and "list display" buttons



11) After the test is completed, the channel with qualified capacity can be marked in the main interface through the "capacity screening" function



After setting the query conditions, click "OK" to mark the matching channels, and click "Clear" to restore the original display.

12) The test data that needs to be viewed can be listed through the "data report" function

通道	工步	容量(Ah)	工步	容量(Ah)	工步	容量(Ah)	工步	容量(Ah)	工步	容量(Ah)
1-1	1-1 恒流放	1.643	2-1 恒流放	1.056						
1-2	1-1 恒流放	1.531	2-1 恒流放	1.409						
1-3	1-1 恒流放	1.508	2-1 恒流放	1.722						
1-4	1-1 恒流放	1.374	2-1 恒流放	1.259						
1-5	1-1 恒流放	1.699	2-1 恒流放	1.309						
1-6	1-1 恒流放	1.699	2-1 恒流放	1.309						
1-7	1-1 恒流放	1.463	2-1 恒流放	1.306						
1-8	1-1 恒流放	1.598	2-1 恒流放	1.523						
2-1	1-1 恒流放	1.43	2-1 恒流放	1.463						
2-2	1-1 恒流放	1.45	2-1 恒流放	1.35						
2-3	1-1 恒流放	1.451	2-1 恒流放	1.371						
2-4	1-1 恒流放	1.357	2-1 恒流放	1.522						
2-5	1-1 恒流放	1.456	2-1 恒流放	1.796						
2-6	1-1 恒流放	1.621	2-1 恒流放	1.451						
2-7	1-1 恒流放	1.676	2-1 恒流放	1.7						
2-8	1-1 恒流放	1.677	2-1 恒流放	1.655						

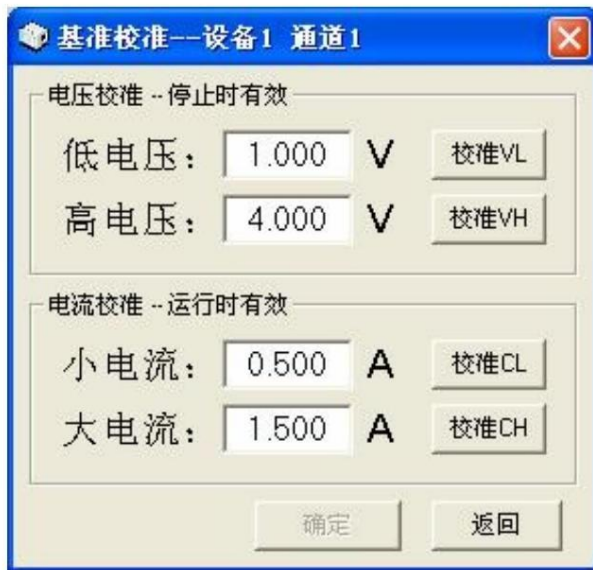
设备: 1 — 2 循环: 1 — 2 类型: 放电 确定 保存 清除

13) Select "Channel Save" or "Device Save" in the menu to save the data to the local hard disk



14) Related options

- 2 "Channel start": start the test of the current channel (clear the previous data, start a new test)
- 2 "Channel stop": stop the test of the current channel
- 2 "Channel Continue": Continue the last test of the current channel (the previous data is retained)
- 2 "Channel Save": save the current channel test data
- 2 "Device start": start the test of all channels
- 2 "Device stop": stop the test of all channels
- 2 "Device Continue": continue the last test of all channels of the current device
- 2 "Device Save": Save the test data of all channels of the current device
- 2 "Multiple start": start the test of the selected channel
- 2 "Multiple stop": stop the test of the selected channel
- 2 "Multiple continuation": continue the last test of the selected channel
- 2 "Baseline Calibration": Calibrate the voltage and current values of the current channel



When calibrating the voltage, you need a high-precision multimeter and an adjustable voltage source (you can also use 2 batteries with different voltages instead):

First connect the current channel to a low voltage, measure the actual value (such as 1V) with a multimeter, fill in the "low voltage" and click the "Calibrate VL" button.

Next, connect the current channel to a high voltage, measure the actual value (such as 4V) with a multimeter, fill in the "high voltage" and click the "Calibrate VH" button.

Click the "OK" button to save the voltage calibration parameters. The above two voltage values are relative and only need a certain difference.

A high-accuracy multimeter and a battery are required to calibrate the current:

First connect the current channel to the battery, set a small current and start discharging, measure the actual value with a multimeter (such as

0.5A) into the "small current" and click the "Calibrate CL" button.

Then set a large current and start the discharge, measure the actual value (such as 2.5A) with a multimeter and fill it in the "high current" and click the "Calibrate CH" button.

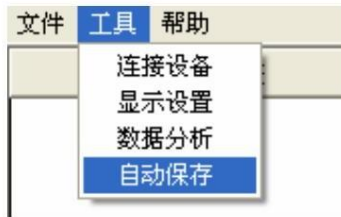
Click the "OK" button to save the current calibration parameters. The above two current values are relative and only need a certain difference.

The charging current is also calibrated according to the same steps. After the calibration is completed, click the "Back" button to return to the main interface.

The values filled in for calibration are the actual measured values, and other values cannot be filled in at will. Once the calibration data is saved, it cannot be restored.

6. Other functions

1) Auto save



Select Auto Save, and the data files will be automatically saved in the Data folder of the installation directory after the test is completed.

2)



Items such as the color and line of the curve display area can be set.

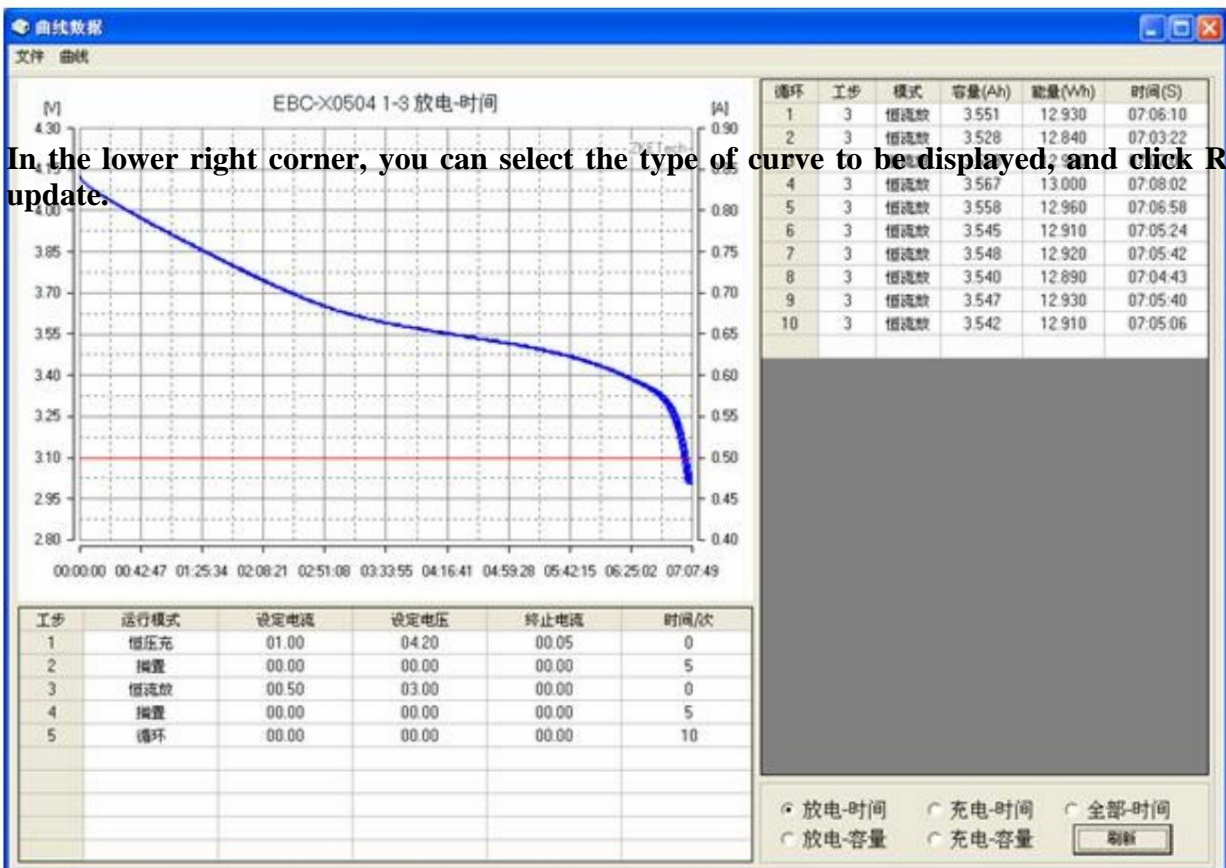
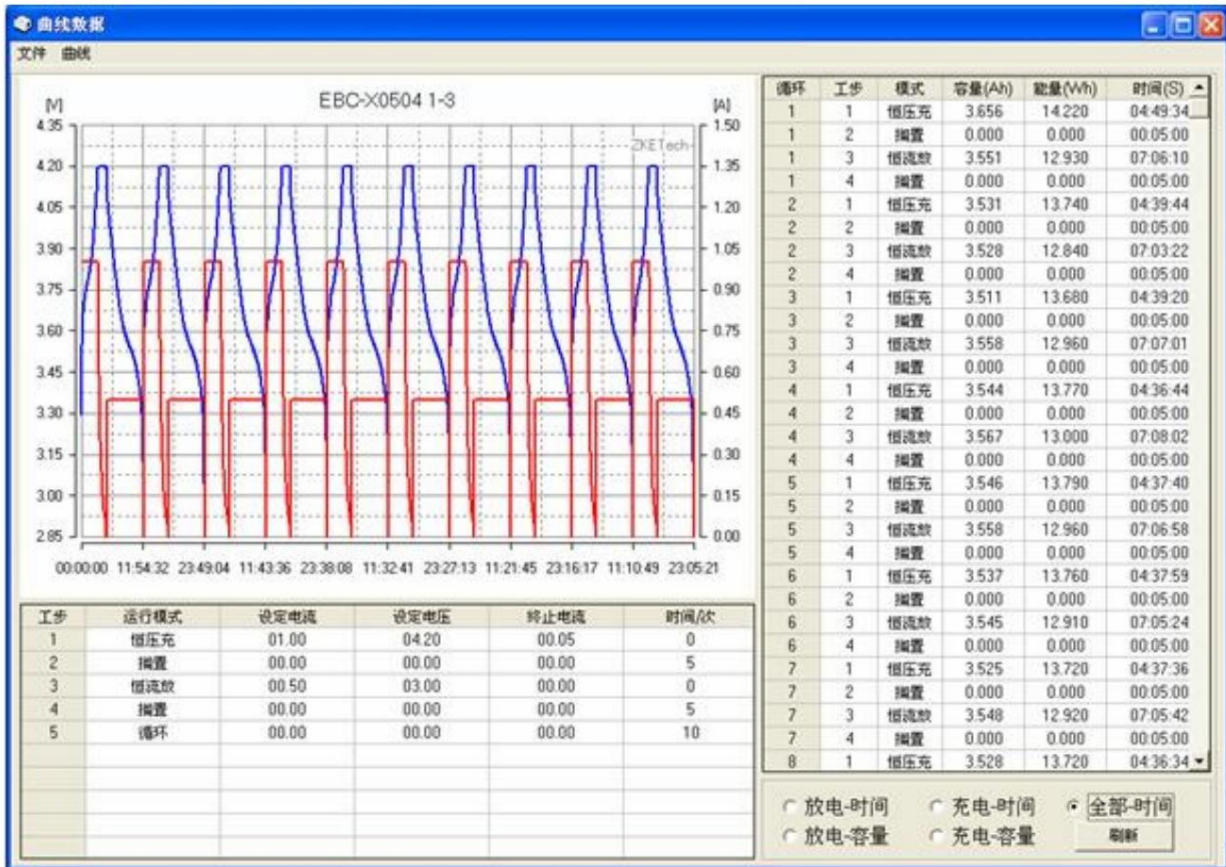
3)

Data analysis

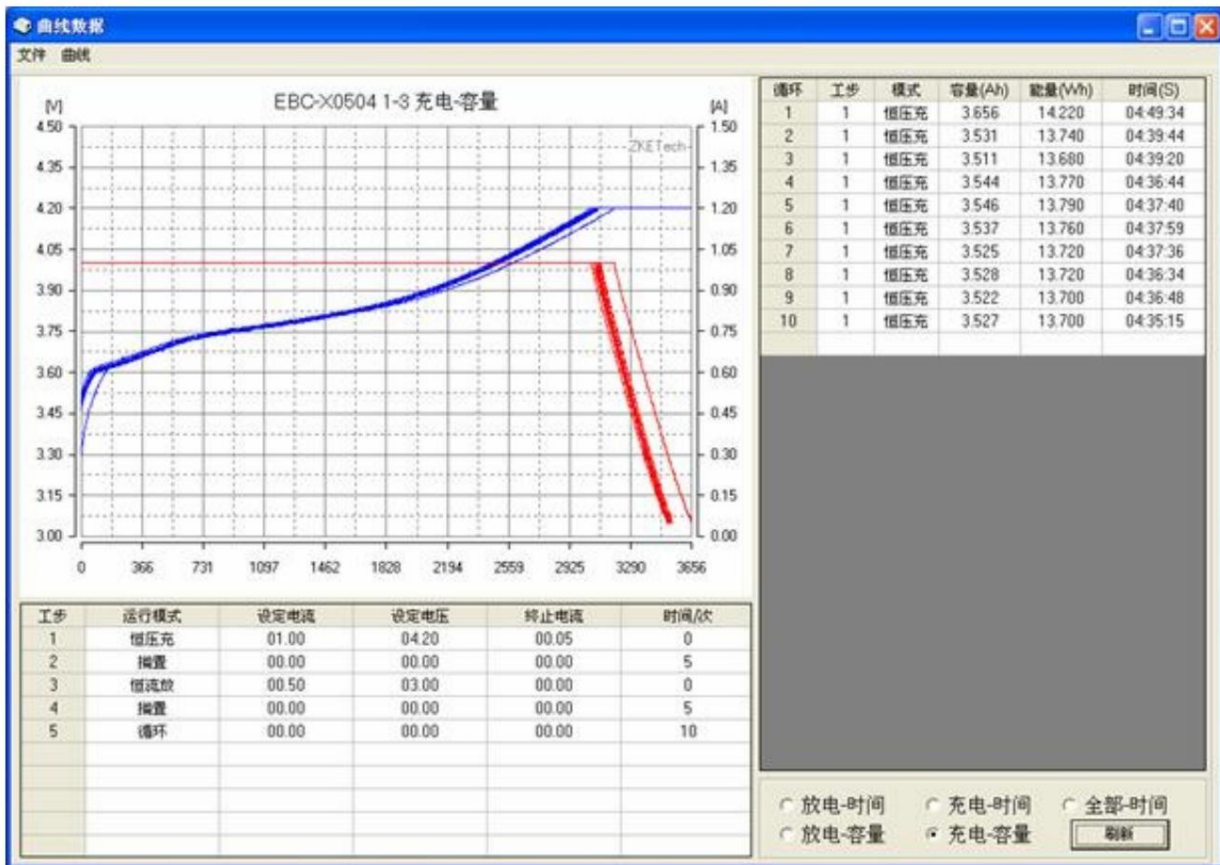
Data files saved locally can be opened and test data and curves can be displayed as selected.

Click the "Data Analysis" menu, and open the data file in the pop-up "Curve Data" interface.

Test data and curves for all steps are displayed by default.



In the lower right corner, you can select the type of curve to be displayed, and click Refresh to update.



7. Precautions

- 1) Turn on the power of the tester first and then go online.
- 2) After the test is completed, remove the battery first and then turn off the power.
- 3) Cannot be used to test batteries in series.
- 4) It is forbidden to use the tester beyond the range of the tester.
- 5) If you want to calibrate by yourself, please read the instructions carefully first, as calibration errors will affect the measurement accuracy.

Our company will adhere to the tenet of "keep improving, keep innovating" and continuously upgrade the software.

If the actual operation is inconsistent with the manual, we will not notify you one by one. For specific changes, please contact sales!

Contact us: sales@gaotek.com

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