

Electronic load Software user manual

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1 introduction

1.1 software introduction

Electronic load is a simple and practical control software designed for users. Applicable to the electronic load produced by the company. This software allows the user to operate the computer to achieve all the operations on the front panel of the load, in the remote operation of the user provides great convenience. This software supports RS232, USB serial port communication.

2 basic operation

2.1 system configuration



- ✓ **Communication Settings**

Port number and baud rate Settings.

- ✓ **Language Settings**

Select software language version, support Chinese and English.

- ✓ **Channel Settings**

Double channel electronic load can choose single channel or double channel. Only the first channel can be used when single channel is selected, and both channels can be used when double channel is selected. Single channel electronic load select single channel.

- ✓ **Other Settings**

Can be CC, CV, CP, CR mode, keyboard direction key, page turning key, mouse scroll change the size of the value.

✓ **confirm**

After configuring the system Settings, confirm to return to the main interface.

✓ **Parameter initialization**

After setting the communication Settings, click the parameter initialization to read the parameters of the lower computer. Single channel model parameter reading takes 3~4 seconds, double channel parameter initialization takes 7 seconds. The same electronic load device can be initialized only once after the software is opened.

2.2 load setting

✓ **Protection Settings**

The over current value, over voltage value and over power value of each channel can be set. A single channel only needs to set the set of parameters above the divider.

✓ **Voltage range**

The voltage range of each channel can be set for two channels. A single channel only needs to set the set of parameters above the divider.

✓ **Current range**

The current range of each channel can be set. A single channel only needs to set the set of parameters above the divider.

✓ **triggered**

The trigger mode can be set for each channel of double channel. A single channel only needs to set the set of parameters above the divider.

✓ **Other Settings**

The startup voltage and turn-off voltage of each channel can be set. A single channel only needs to set the set of parameters above the divider.

✓ **Delay shut off**

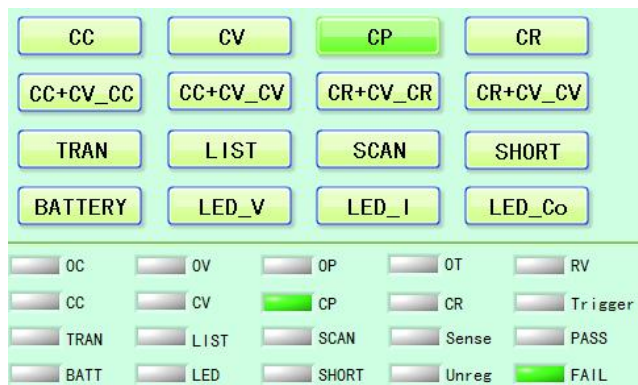
The delay shutdown time of each channel can be set. A single channel only needs to set the set of parameters above the divider.

✓ **Shut down**

After the load parameter setting, close and return to the main interface.

2.3 qualified setting

The qualified test compares the current value, voltage value and power value of parameters under CC, CV, CP and CR modes. And give an indication of the PASS or FAIL of the current operation channel.





✓ **Parameter Settings**

The upper and lower limits of current, voltage and power of each channel can be set. A single channel only needs to set the set of parameters above the divider.

✓ **Qualification testing**

Can open or close the Settings for each channel qualification test of dual channel. A single channel can be opened or closed simply by selecting above the divider.

✓ **determine**

After qualified test parameters are set, confirm to return to the main interface.

2.4 save

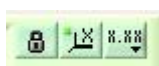
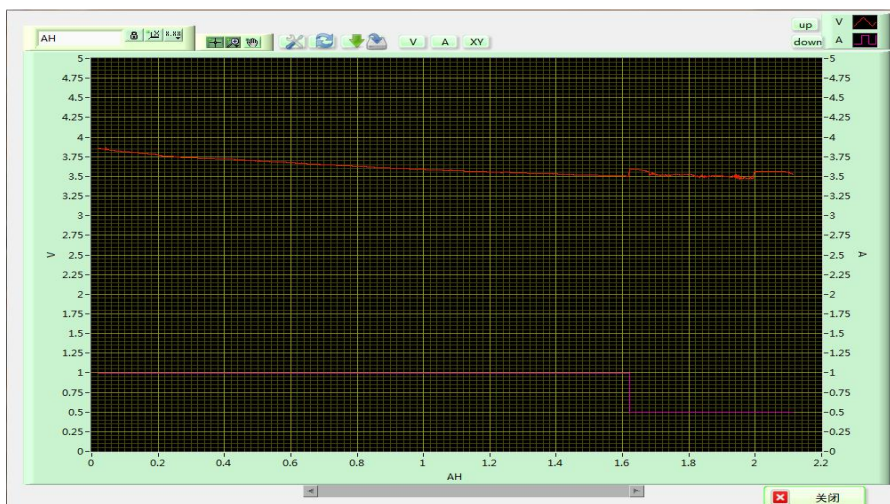
Mainly used to save the current system configuration parameters. Click will pop up after the selection of the path dialog box, select the saved path and name.

2.5 open

Mainly used to open previously saved system configuration. After clicking, a dialog box will pop up to select the path and select the file to open.

Chart 2.6

Click the chart to select the file to display discharge capacity curve.



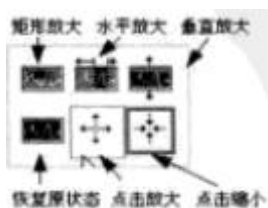
Middle button: click to restore the X-axis ruler.

Right button: click in the pop-up list to modify ruler format, precision, display and other attributes



Left button: mode state transition, click to convert to normal state.

Middle button: zoom in mode, click to appear six ICONS as shown in the figure below, the above three are respectively: rectangular zoom in, horizontal zoom in, vertical zoom in. The following three are: restore the original state, click when big, click shrink.



Right button: pan mode.



Click to hide chart grid



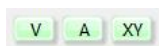
Click to update data



Click to save the chart as an image

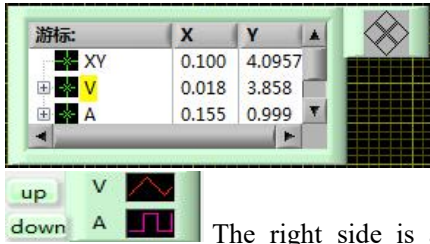


Click to save the curve as a BMP file. This feature can also be implemented by right-clicking on the diagram and selecting export to simplify the graph.



Click to display voltage cursor, current cursor, free cursor and their values

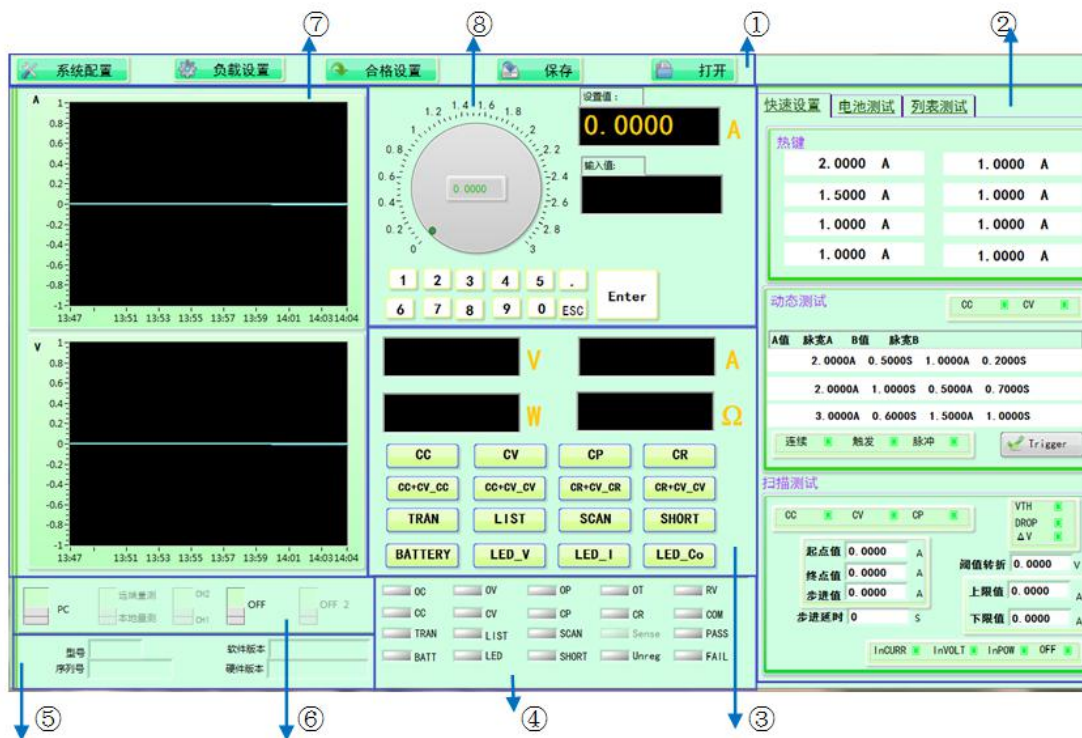
respectively. Right-click on the chart and select whether to display the cursor legend in the display item, as shown in the figure below. Select the cursor and click the arrow key to move the cursor. The free cursor moves at will, the voltage cursor moves only on the voltage curve, and the current cursor moves only on the current curve.



The right side is a legend, click to modify the curve color and other attributes. The two keys on the left adjust the position of the current, up and down, so that the diagram shows the voltage and current in a proper proportion. If two current appears, the data can be refreshed.

Electronic load interface

3.1 introduction to the main interface



- 1.Menu, toolbar.
- 2.Quick setup, battery test, list test, save files.
- 3.Load working mode switch (CC, CV, CP, CR, CC+CV, CR+CV, dynamic test, list test, scan test, short circuit test, battery test, LED test), display the load voltage, current, power, resistance real time value.
- 4.Display the indicator light of working mode of corresponding load (CC+CV mode shows CC

and CV together, CR+CV is similar), load status (OC (overcurrent), OV (overvoltage), OP (overpower), OT (overtemperature), RV (polarity reverse connection), COM(abnormal communication), Sense, Unreg (actual value cannot reach the set value), FAIL, PASS).

5.On-line electronic load system information display.

6.Switch switch of channel input, switch of corresponding operation channel (channel for sending parameters set by the main interface), remote measurement (ET55 series electronic load is available), switch of panel control and PC online control.

7.Real-time display diagram of voltage and current.Right - click to display voltage current resistance power all real - time curve

8.Display the setting value of the corresponding mode switch and adjust the setting value of the numeral key of the knob.

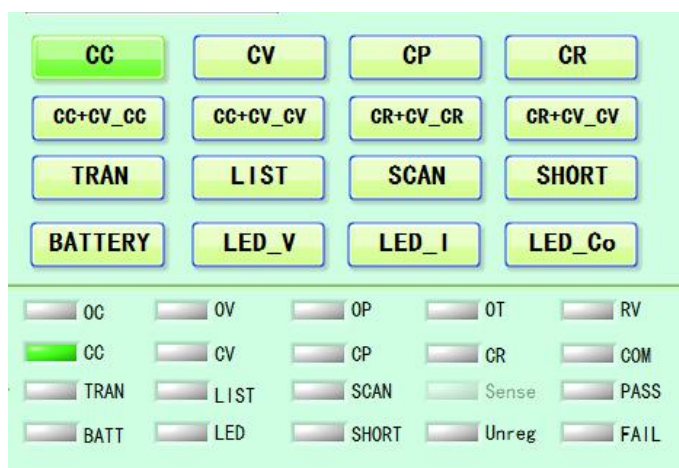
3.2 set the values of CC, CV, CP, CR, CC+CV, CR+CV and LED test parameters

CC, CV, CP, CR, CC+CV, CR+CV, LED test parameter values can be set by simulating the pulse knob, or by the number key.It can also be set by hotkeys.

The following is an example of setting CC value to illustrate the operation steps of setting parameters of CC, CV, CP and CR mode.

Setting the CC value

1. Click load working mode as CC.



2. Move the mouse to the knob, click and turn the knob to set the current value, and input the value to update the setting value in real time.

3. The parameter setting can be displayed in the input box by clicking the number key. After the setting is done, click the ok key to update the input value to the setting value.

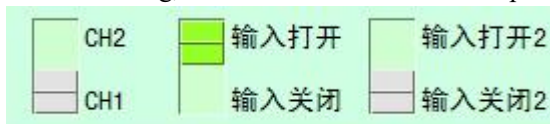


4. Parameter values can be set by hotkeys. Left-click to update the value to the setting value, and right-click to modify the hotkey key value.



5. The setting value can be modified by keyboard and mouse scroll, direction key and page turning key, and the step value can be set in the system configuration.

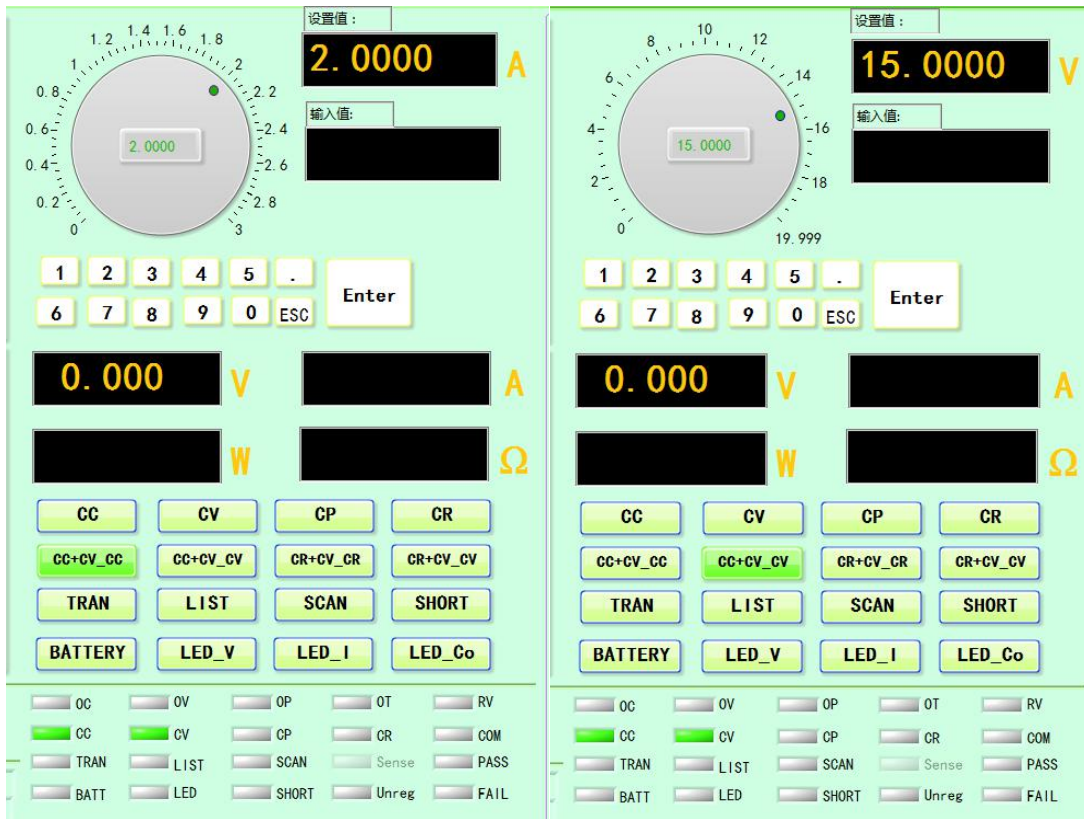
6. After setting, click the switch of the corresponding channel to run CC working mode.



Take setting CC+CV value as an example to illustrate the operation steps of setting parameters of CC+CV, CR+CV and LED mode.

Set the CC + CV value

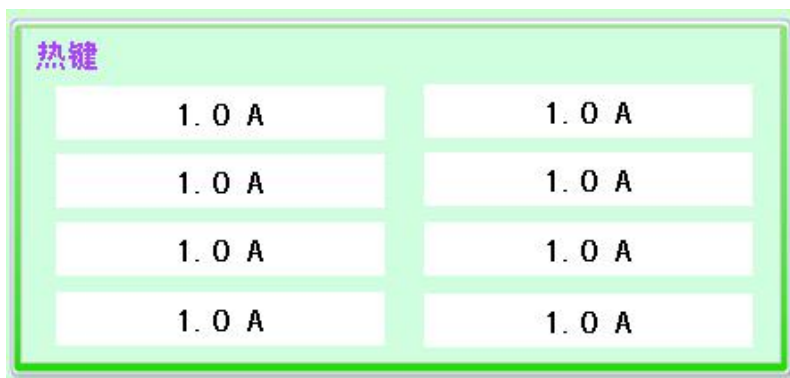
1. In CC+CV mode, click CC+CV_CC to set the current value, and click CC+CV_CV to set the voltage value



2. Move the mouse pointer to the knob, click and turn the knob to set the corresponding value, and input the value to update the setting value in real time.
3. The parameter setting can be displayed in the input box by clicking the number key. After the setting is done, click the ok key to update the input value to the setting value.
4. Parameter values can be set through hotkeys (except LED_Co).
5. After setting, click the switch of the corresponding channel to run CC+CV working mode.

3.3 quick Settings

Hot key (operate in the test mode of CC, CV, CP, CR, CC+CV, CR+CV, LED)



Hot keys:

This is a quick setting for the user to use, with 8 quick Settings for each mode. In different operation modes, you can simply set the desired value and click the mouse to perform the corresponding operation. When performing this operation,

the operation mode must be selected first.

Modify data: right click the area to modify data with the mouse, and the dialog box of setting parameters appears. Press ok to return to the main interface. The user can modify the quick Settings as needed.



3.4 dynamic test

Interface is introduced



From top to bottom:

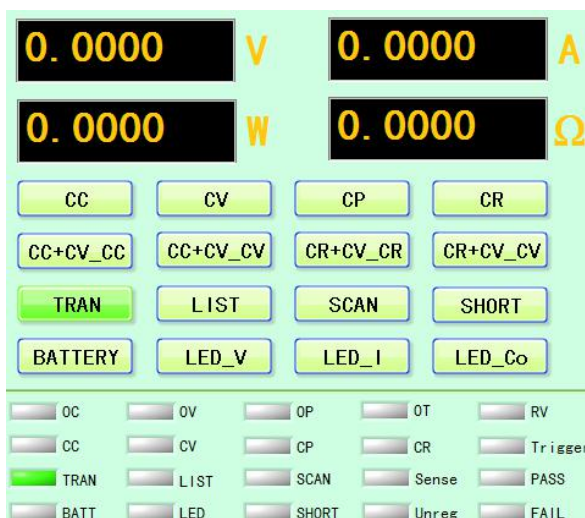
1. Dynamic test mode selection
2. Three sets of parameter keys. The values above the keys are in order: A value, pulse width A value, B value and pulse width B value. Right click to modify the corresponding value, modify the completion of the confirmation key return. Left-click to send this set of values to the online electronic load.



3. Set the AB value transformation mode. When the Trigger mode in the load setting is selected to Trigger the software, press the Trigger key to Trigger once.

Dynamic operations

1. Select the working mode and conduct the next operation under the dynamic test.



2. When conducting dynamic operation, the user must first select a dynamic loading state (CC or CV). The following example illustrates the dynamic operation steps with the CC pattern.



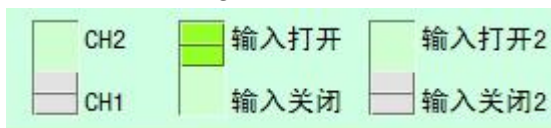
3. Mouse down to any of the three rows with A value, pulse width A, rising edge (ET55 series has), B value, pulse width B, falling edge (ET55 series has).

4. Right click with the mouse, the dialog box of setting parameters appears. Confirm after editing parameters.

5. Click the left mouse button to send the parameters to the electronic load.

6. AB value transformation mode (continuous, trigger, pulse).

7. After setting, click the switch of the corresponding channel to run.



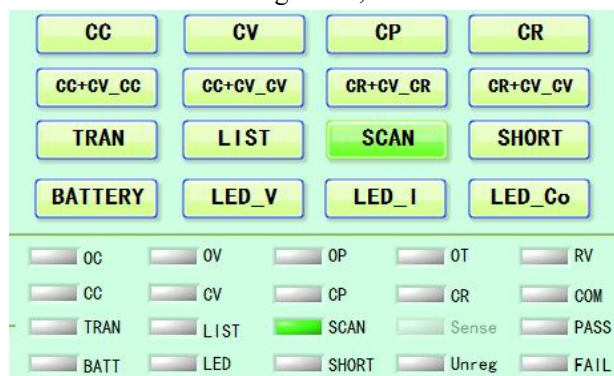
8. If the Trigger mode is selected as Trigger, and the corresponding Trigger source in the load setting is software (TRG), then pressing the Trigger key will realize A jump of A value of B (the pulse width value is invalid at this time).

9. If the Trigger mode is pulse, and the corresponding Trigger source in the load setting is software (TRG), pressing the Trigger key will realize A jump from A value to B value. Return A after pulse width B time.

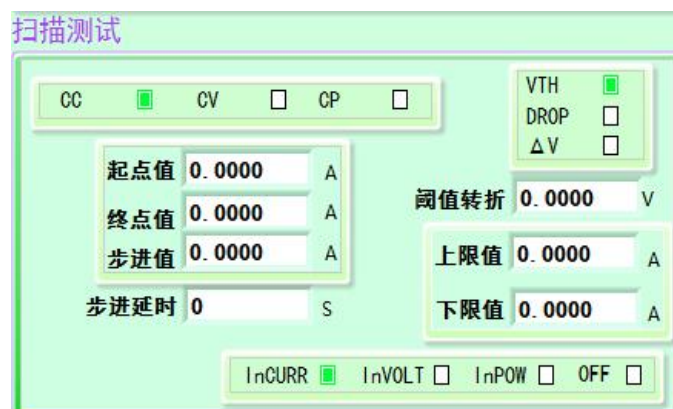
3.5 scanning test

Scanning operation

1. Select the working mode, scan the test and then proceed to the next operation.



2. The user must first select a scanning type (CC, CV, CP) when performing the scanning operation. The following example illustrates the dynamic operation steps with the CC pattern.



3. You can directly set the starting point value, end point value, step value and step delay.

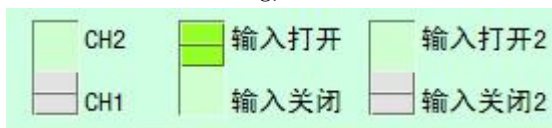
4. Optional comparison type to OFF (OFF), according to the current (InCURR), according to voltage (InVOLT), according to power (InPOW). Once selected, set the upper and lower limits.

5. Optional threshold types are voltage transition (VTH), DROP, minimum voltage (ΔV). Once selected, set the threshold.

6. You can choose to save the test data of the scan test, as shown in the figure, cut to save the file, select save on the corresponding channel, and enter the file name (the file name cannot be the same as the existing file name, the file is saved in the folder 'savefiles').



7. After setting, click the switch of the corresponding channel to run.



3.6 battery test

When the test object is a battery, the electronic load discharges the battery in the mode of constant current (CC) or constant resistance (CR). The user can set the discharge condition, and the interface will also display the discharge time and discharge capacity, as shown in the figure below. The capacitor discharge function is not opened.

停止条件 启用

停止容量 0 AH

停止时间 0 Day 0 H 0 M 0 S

放电显示

时间 0 00:00:00

容量 A

电容放电 启用

起始电压 0.0000 V 放电时间 0.0 S

截止电压 0.0000 V 电容量 0.0000 AH

放电条件 CC CR

2.0000A	4.0000V	1.0000A	3.0000V	0.5000A	2.0000V
0.0000A	0.0000V	0.0000A	0.0000V	0.0000A	0.0000V
0.0000A	0.0000V	0.0000A	0.0000V	0.0000A	0.0000V
700.00Ω		16.000V			
500.00Ω		15.000V			

Battery test interface introduction

Stop condition. When enabled, the PC side controls the battery test stop and closes the input.

停止容量：电池容量到达设定值时停止。

停止时间：运行到设定时间时停止。

Discharge display

Discharge time: displays the time consumed by battery discharge.

Discharge capacity: displays the discharge capacity of the battery.

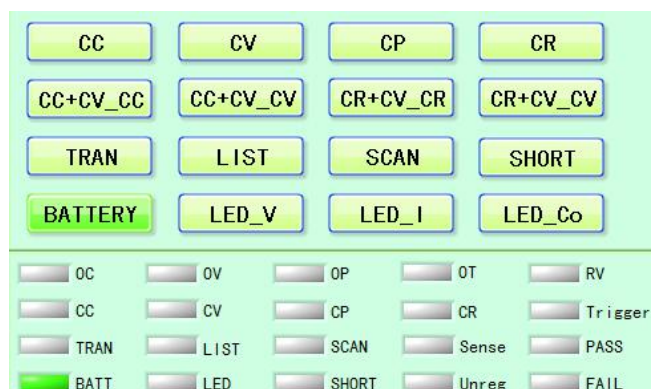
Discharge conditions

Discharge mode: select CC or CR discharge mode.

Set parameters: right click to set parameters, left click to modify the next computer data. The first three keys are used for setting CC mode, and the last two keys are used for setting CR mode.

The test operation

Operating mode select battery test and then proceed to the next step.



The user must select a discharge mode (CC or CR) in the discharge condition when conducting the battery test operation. The following is an example of CC mode to illustrate the operation steps of battery test.

1. Slide the mouse pointer to any one of the above three lines of discharge condition parameters (CR discharge mode parameters of the following two lines).

2. Right click with the mouse, the dialog box of setting parameters appears. Confirm after editing parameters.

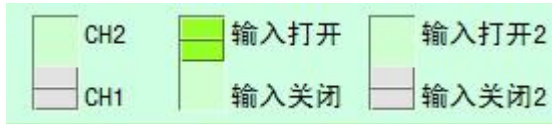


3. Click the left mouse button to send the electronic load.

4. You can choose to save the test data of the scan test, as shown in the figure, cut to the saved file, select save on the corresponding channel, and enter the file name (the file name cannot be the same as the existing file name, the file is saved in the 'savefiles' folder).



5. After setting, click the switch of the corresponding channel to run.



6. If the stop condition is reached, turn off the electronic load input; if the cut-off voltage is reached, switch to cut-off voltage 2 or turn off (cut-off voltage 2 is greater than cut-off voltage 1 or there is no cut-off voltage 2 in CR mode).

3.7 list test



List test interface introduction

The table shows steps, load type, setting value, delay time, comparison switch, upper limit, lower limit, result (comparison open and show PASS or FAIL after the comparison is executed), internal editable parameter entries.

Start step, stop step, step mode (triggered, continuous), loop on (loop on or off).

Setup will send the parameters set in the table to the electronic load

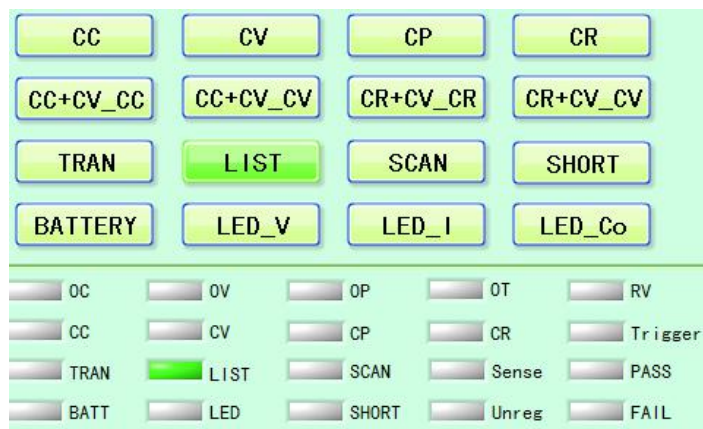
Purge cleans up all the data in the table. Clear the result, and clear the data in the column of the result after execution.

The import opens the previously saved table parameters

The export will save the table parameters

The test operation

Select list to test working mode before operation.

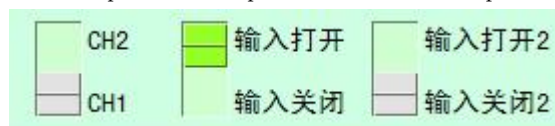


1. Set the table parameters, which can be entered manually or imported from the outside.

2. Set the start and end steps of running steps.

3. Select the step mode (continue to carry out the next step automatically when the delay time arrives, Trigger in the software Trigger mode, click the Trigger key to enter the next step and open the cycle (start again from the initial step after the sequence ends).

5. Open the input of the corresponding channel.



6. If the execution is finished, enter close, or close the channel input and the execution is finished.

V1.02 version

1 introduction

1.1 software introduction

Electronic load is a simple and practical control software designed for users. Applicable to the electronic load produced by the company. This software allows the user to operate the computer to achieve all the operations on the front panel of the load, in the remote operation of the user provides great convenience. This software supports 485 serial port communication.

2 basic operation

2.1 system configuration



- ✓ **Communication Settings**

Address, port number, and baud rate Settings.

- ✓ **Language Settings**

Select software language version, support Chinese and English.

- ✓ **Channel Settings**

Double channel electronic load can choose single channel or double channel. Only the first channel can be used when single channel is selected, and both channels can be used when double channel is selected. Single channel electronic load select single channel.

- ✓ **Other Settings**

Can be CC, CV, CP, CR mode, keyboard direction key, page turning key, mouse scroll change the size of the value.

- ✓ **confirm**

After configuring the system Settings, confirm to return to the main interface.

- ✓ **Parameter initialization**

After setting the communication Settings, click the parameter initialization to read the parameters of the lower computer. Single channel model parameter reading takes 3~4 seconds, double channel parameter initialization takes 7 seconds. The same electronic load device can be initialized only once after the software is opened.

2.2 load setting

✓ Protection Settings

The over current value, over voltage value and over power value of each channel can be set. A single channel only needs to set the set of parameters above the divider.

✓ Voltage range

The voltage range of each channel can be set for two channels. A single channel only needs to set the set of parameters above the divider.

✓ Current range

The current range of each channel can be set. A single channel only needs to set the set of parameters above the divider.

✓ triggered

The trigger mode can be set for each channel of double channel. A single channel only needs to set the set of parameters above the divider.

✓ Other Settings

The startup voltage and turn-off voltage of each channel can be set. A single channel only needs to set the set of parameters above the divider.

✓ Delay shut off

The delay shutdown time of each channel can be set. A single channel only needs to set the set of parameters above the divider.

✓ **Shut down**

After the load parameter setting, close and return to the main interface.

2.3 qualified setting

The qualified test compares the current value, voltage value and power value of parameters under CC, CV, CP and CR modes. And give an indication of the PASS or FAIL of the current operation channel.



✓ **Parameter Settings**

The upper and lower limits of current, voltage and power of each channel can be set. A single channel only needs to set the set of parameters above the divider.

✓ **Qualification testing**

Can open or close the Settings for each channel qualification test of dual channel. A single channel can be opened or closed simply by selecting above the divider.

✓ **determine**

After qualified test parameters are set, confirm to return to the main interface.

2.4 save

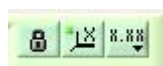
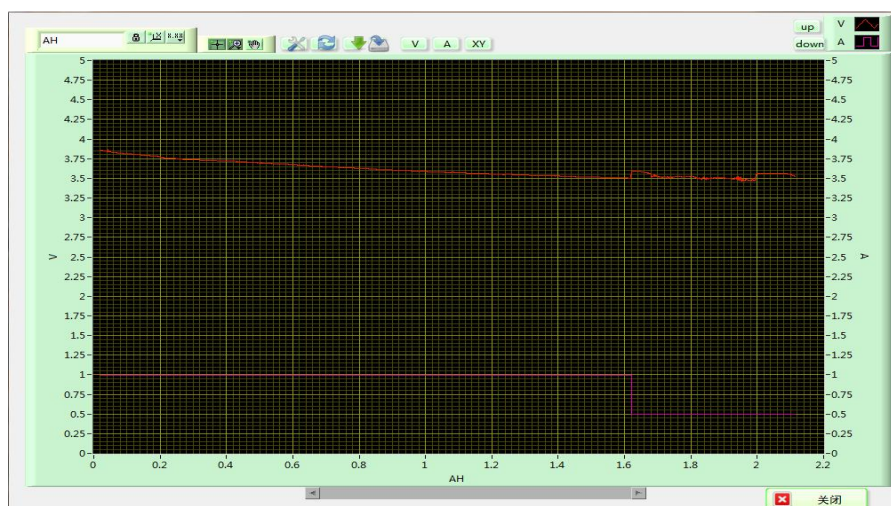
Mainly used to save the current system configuration parameters. Click will pop up after the selection of the path dialog box, select the saved path and name.

2.5 open

Mainly used to open previously saved system configuration. After clicking, a dialog box will pop up to select the path and select the file to open.

Chart 2.6:

Click the chart to select the file to display discharge capacity curve.



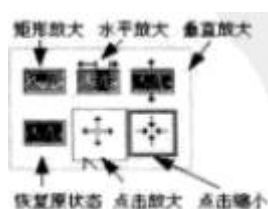
Middle button: click to restore the X-axis ruler.

Right button: click in the pop-up list to modify ruler format, precision, display and other attributes



Left button: mode state transition, click to convert to normal state.

Middle button: zoom in mode, click to appear six ICONS as shown in the figure below, the above three are respectively: rectangular zoom in, horizontal zoom in, vertical zoom in. The following three are: restore the original state, click when big, click shrink.



Right button: pan mode.



Click to hide chart grid



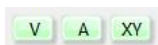
Click to update data



Click to save the chart as an image



Click to save the curve as a BMP file. This feature can also be implemented by right-clicking on the diagram and selecting export to simplify the graph.



Click to display voltage cursor, current cursor, free cursor and their values respectively. Right-click on the chart and select whether to display the cursor legend in the display item, as shown in the figure below. Select the cursor and click the arrow key to move the cursor. The free cursor moves at will, the voltage cursor moves only on the voltage curve, and the current cursor moves only on the current curve.

光标	X	Y
XY	0.100	4.0957
V	0.018	3.858
A	0.155	0.999



The right side is a legend, click to modify the curve color and other attributes. The two keys on the left adjust the position of the current, up and down, so that the diagram shows the voltage and current in a proper proportion. If two current appears, the data can be refreshed.

2.6 round show

Wheel display interface for multiple 485 communication control, automatic loop view the selected address of the machine data.



1. Left-click to select the number of machines to be displayed in turn. Up to 10 machines can be selected and the mailing address of the machine can be filled in.



2. Select the time interval for continuous observation of each machine, the minimum can be set to 10S.
3. Click start, start to take turns to query the selected address of the machine, the current data display machine, the indicator light will be highlighted.
4. Click the stop button to stop the rotation display, and click start to restart the rotation display
5. Exit by clicking the close button or the cross in the upper right corner

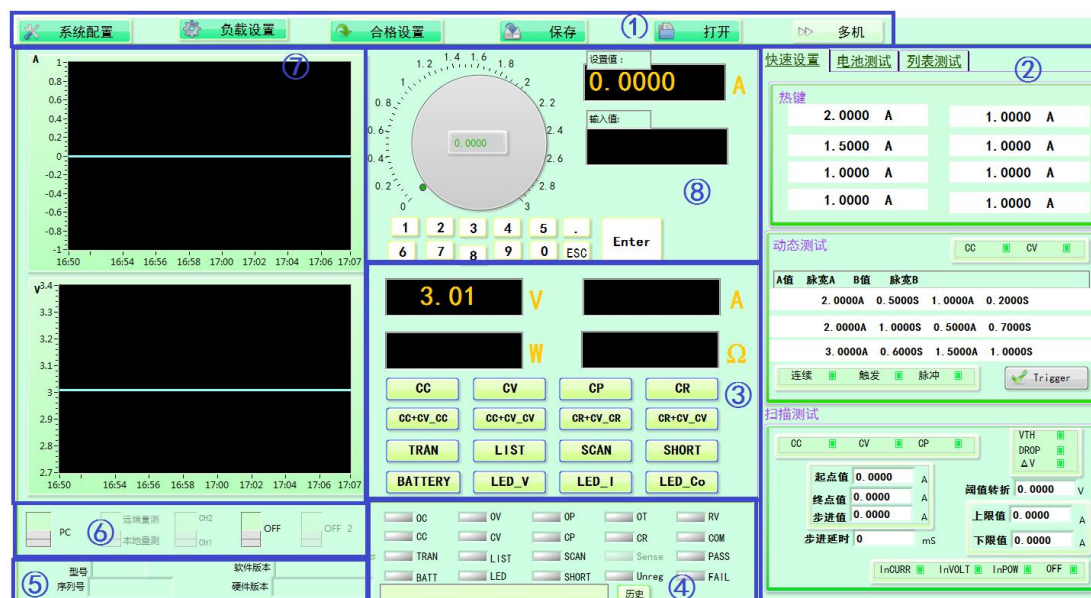
of the window.

More than 2.7 machine

Click to enter the interface of multiple machines for simultaneous operation of multiple electronic loads in battery mode.

Electronic load interface

3.1 introduction to the main interface



9.Menu, toolbar.

10.Quick setup, battery test, list test.

11.Load working mode switch (CC, CV, CP, CR, CC+CV, CR+CV, dynamic test, list test, scan test, short circuit test, battery test, LED test), display the load voltage, current, power, resistance real time value.

12.Display the indicator light of working mode of corresponding load (CC+CV mode shows CC and CV together, CR+CV is similar), load status (OC (overcurrent), OV (overvoltage), OP (overpower), OT (overtemperature), RV (polarity reverse connection), COM(abnormal communication), Sense, Unreg (actual value cannot reach the set value), FAIL, PASS).Below is the history of communication error, click history to query.

13.On-line electronic load system information display.

14.Switch switch of channel input, switch of corresponding operation channel (channel for

sending parameters set by the main interface), remote measurement (ET55 series electronic load is available), switch of panel control and PC online control.

15.Real-time display diagram of voltage and current.Right - click to display voltage current resistance power all real - time curve

16.Display the setting value of the corresponding mode switch and adjust the setting value of the numeral key of the knob.

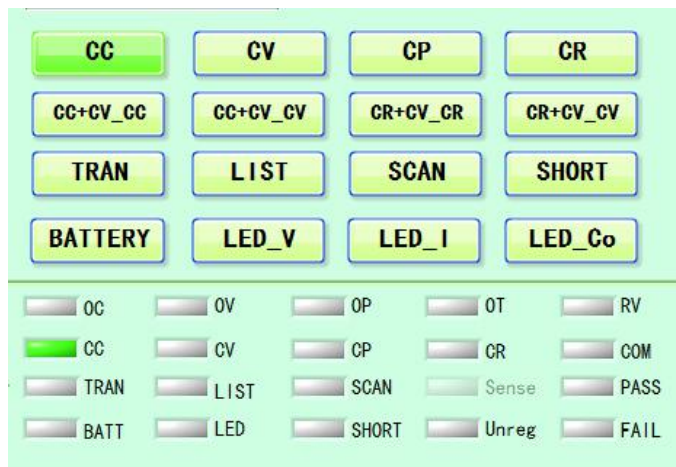
3.2 set the values of CC, CV, CP, CR, CC+CV, CR+CV and LED test parameters

CC, CV, CP, CR, CC+CV, CR+CV, LED test parameter values can be set by simulating the pulse knob, or by the number key.It can also be set by hotkeys.

The following is an example of setting CC value to illustrate the operation steps of setting parameters of CC, CV, CP and CR mode.

Setting the CC value

1. Click load working mode as CC.



2. Move the mouse to the knob, click and turn the knob to set the current value, and input the value to update the setting value in real time.

3. The parameter setting can be displayed in the input box by clicking the number key. After the setting is done, click the ok key to update the input value to the setting value.

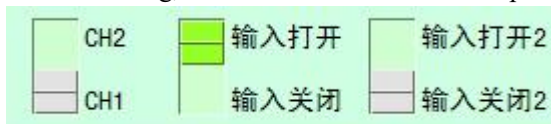


4. Parameter values can be set by hotkeys. Left-click to update the value to the setting value, and right-click to modify the hotkey key value.



5. The setting value can be modified by keyboard and mouse scroll, direction key and page turning key, and the step value can be set in the system configuration.

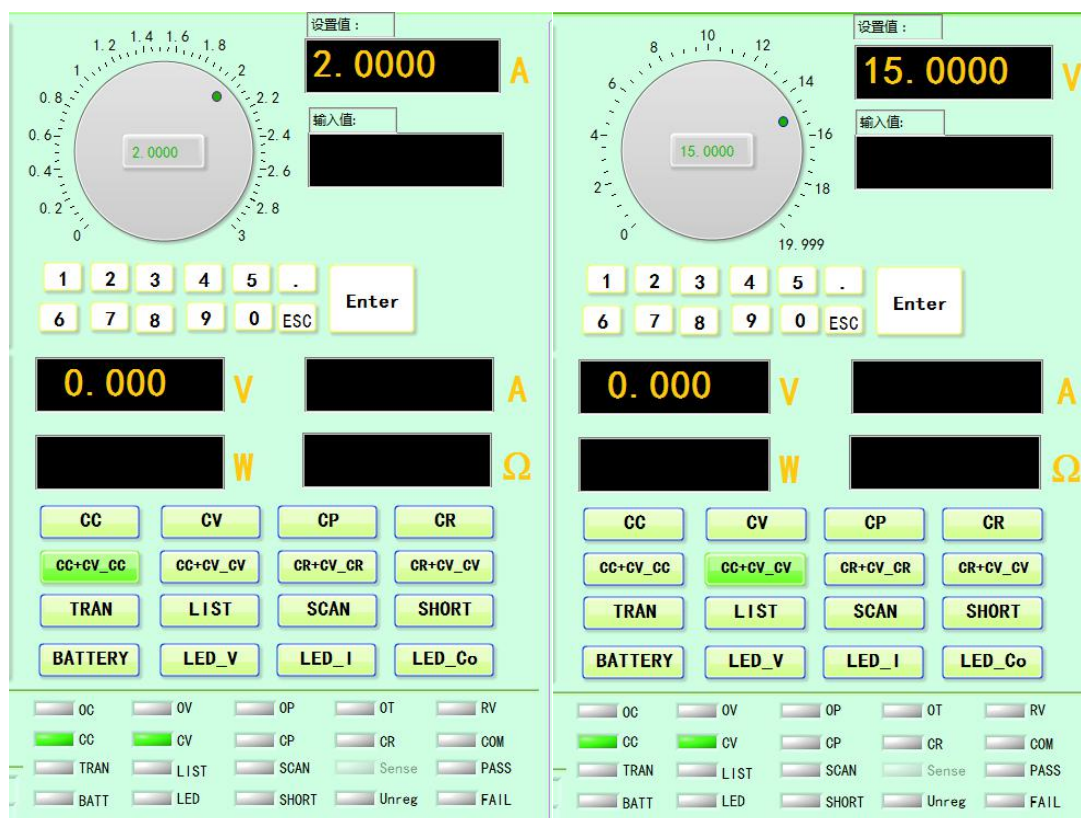
6. After setting, click the switch of the corresponding channel to run CC working mode.



Take setting CC+CV value as an example to illustrate the operation steps of setting parameters of CC+CV, CR+CV and LED mode.

Set the CC + CV value

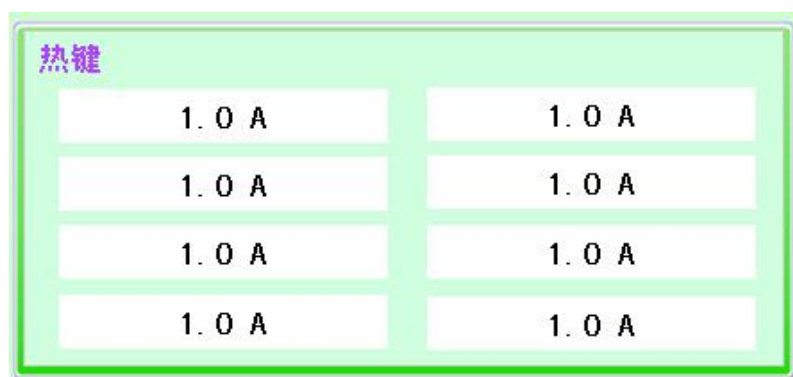
1. In CC+CV mode, click CC+CV_CC to set the current value, and click CC+CV_CV to set the voltage value



2. Move the mouse pointer to the knob, click and turn the knob to set the corresponding value, and input the value to update the setting value in real time.
3. The parameter setting can be displayed in the input box by clicking the number key. After the setting is done, click the ok key to update the input value to the setting value.
4. Parameter values can be set through hotkeys (except LED_Co).
5. After setting, click the switch of the corresponding channel to run CC+CV working mode.

3.3 quick Settings

Hot key (operate in the test mode of CC, CV, CP, CR, CC+CV, CR+CV, LED)



Hot keys:

This is a quick setting for the user to use, with 8 quick Settings for each mode. In different operation modes, you can simply set the desired value and click the mouse to perform the corresponding operation. When performing this operation,

the operation mode must be selected first.

Modify data: right click the area to modify data with the mouse, and the dialog box of setting parameters appears. Press ok to return to the main interface. The user can modify the quick Settings as needed.



3.4 dynamic test

Interface is introduced



From top to bottom:

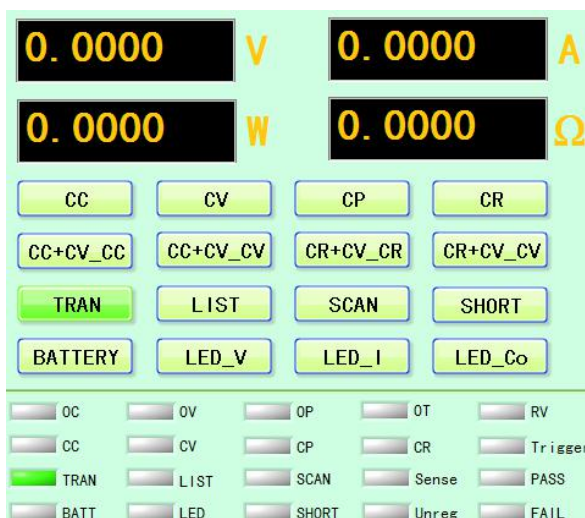
1. Dynamic test mode selection
2. Three sets of parameter keys. The values above the keys are in order: A value, pulse width A value, B value and pulse width B value. Right click to modify the corresponding value, modify the completion of the confirmation key return. Left-click to send this set of values to the online electronic load.



3. Set the AB value transformation mode. When the Trigger mode in the load setting is selected to Trigger the software, press the Trigger key to Trigger once.

Dynamic operations

1. Select the working mode and conduct the next operation under the dynamic test.



2. When conducting dynamic operation, the user must first select a dynamic loading state (CC or CV). The following example illustrates the dynamic operation steps with the CC pattern.



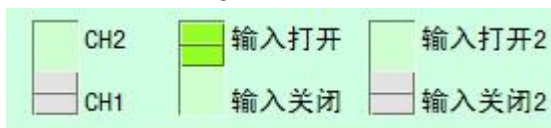
3. Mouse down to any of the three rows with A value, pulse width A, rising edge (ET55 series has), B value, pulse width B, falling edge (ET55 series has).

4. Right click with the mouse, the dialog box of setting parameters appears. Confirm after editing parameters.

5. Click the left mouse button to send the parameters to the electronic load.

6. AB value transformation mode (continuous, trigger, pulse).

7. After setting, click the switch of the corresponding channel to run.



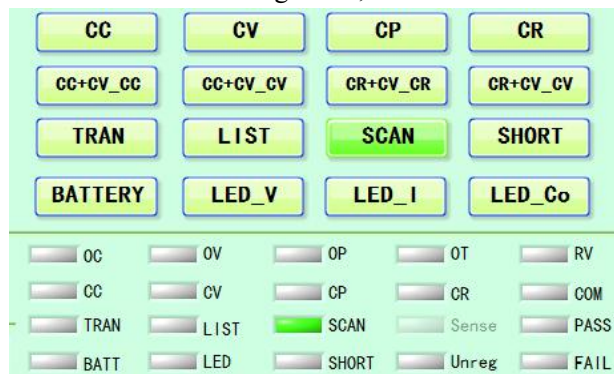
8. If the Trigger mode is selected as Trigger, and the corresponding Trigger source in the load setting is software (TRG), then pressing the Trigger key will realize A jump of A value of B (the pulse width value is invalid at this time).

9. If the Trigger mode is pulse, and the corresponding Trigger source in the load setting is software (TRG), pressing the Trigger key will realize A jump from A value to B value. Return A after pulse width B time.

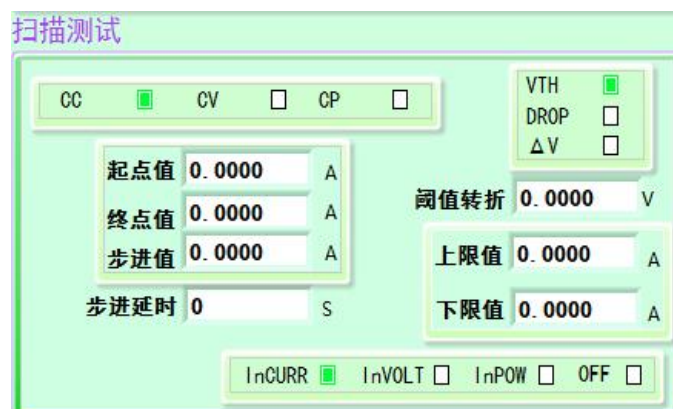
3.5 scanning test

Scanning operation

1. Select the working mode, scan the test and then proceed to the next operation.



2. The user must first select a scanning type (CC, CV, CP) when performing the scanning operation. The following example illustrates the dynamic operation steps with the CC pattern.



3. You can directly set the starting point value, end point value, step value and step delay.

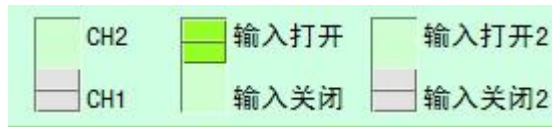
4. Optional comparison type to OFF (OFF), according to the current (InCURR), according to voltage (InVOLT), according to power (InPOW). Once selected, set the upper and lower limits.

5. Optional threshold types are voltage transition (VTH), DROP, minimum voltage (ΔV). Once selected, set the threshold.

6. You can choose to save the test data of the scan test, as shown in the figure, cut to save the file, select save on the corresponding channel, and enter the file name (the file name cannot be the same as the existing file name, the file is saved in the folder 'savefiles').



7. After setting, click the switch of the corresponding channel to run.



3.6 battery test

When the test object is a battery, the electronic load discharges the battery in the mode of constant current (CC) or constant resistance (CR). The user can set the discharge condition, and the interface will also display the discharge time and discharge capacity, as shown in the figure below. The capacitor discharge function is not opened.

快速设置 电池测试 列表测试

停止条件 启用

停止容量 0 AH

停止时间 0 Day 0 H 0 M 0 S

放电显示

时间

容量 AH

电容放电 启用

起始电压 0.0000 V 放电时间 0.0 S

截止电压 0.0000 V 电容容量 0.0000 AH

放电条件 CC CR

2.0000A	4.0000V	1.0000A	3.0000V	0.5000A	2.0000V
0.0000A	0.0000V	0.0000A	0.0000V	0.0000A	0.0000V
0.0000A	0.0000V	0.0000A	0.0000V	0.0000A	0.0000V
		700.00Ω	16.000V		
		500.00Ω	15.000V		

Battery test interface introduction

Stop condition. When enabled, the PC side controls the battery test stop and closes the input.

停止容量：电池容量到达设定值时停止。

停止时间：运行到设定时间时停止。

Discharge display

Discharge time: displays the time consumed by battery discharge.

Discharge capacity: displays the discharge capacity of the battery.

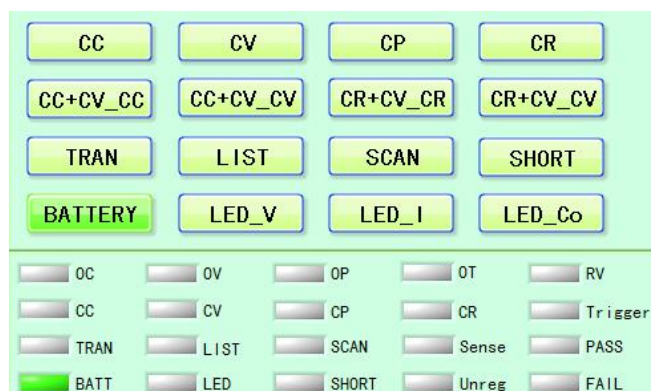
Discharge conditions

Discharge mode: select CC or CR discharge mode.

Set parameters: right click to set parameters, left click to modify the next computer data. The first three keys are used for setting CC mode, and the last two keys are used for setting CR mode.

The test operation

Operating mode select battery test and then proceed to the next step.



The user must select a discharge mode (CC or CR) in the discharge condition when conducting the battery test operation. The following is an example of CC mode to illustrate the operation steps of battery test.

- Slide the mouse pointer to any one of the above three lines of discharge condition parameters (CR discharge mode parameters of the following two lines).

- Right click with the mouse, and the dialog box of setting parameters appears. Confirm after editing parameters.

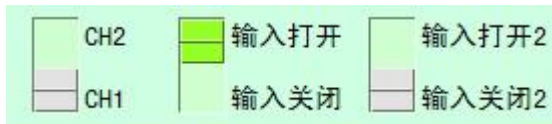


- The left mouse button can be clicked to send to the electronic load.

- You can choose to save the test data of the scan test, as shown in the figure, cut to save the file, select save on the corresponding channel, and enter the file name (the file name cannot be the same as the existing file name, the file is saved in the folder 'savefiles').



5. After setting, click the switch of the corresponding channel to run.



6. If the stop condition is reached, turn off the electronic load input; if the cut-off voltage is reached, switch to cut-off voltage 2 or turn off (cut-off voltage 2 is greater than cut-off voltage 1 or there is no cut-off voltage 2 in CR mode).

7. Record every 0.1a.h after the test starts. The data is stored in TXT file in the form of discharge capacity, voltage and current.

3.7 list test



List test interface introduction

The table shows steps, load type, setting value, delay time, comparison switch, upper limit, lower limit, result (comparison open and show PASS or FAIL after the comparison is executed), internal editable parameter entries.

Start step, stop step, step mode (triggered, continuous), loop on (loop on or off).

Setup will send the parameters set in the table to the electronic load

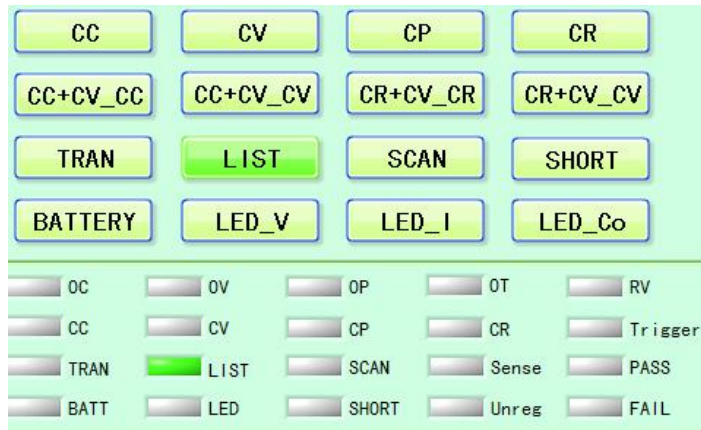
Purge cleans up all the data in the table. Clear the result, and clear the data in the column of the result after execution.

The import opens the previously saved table parameters

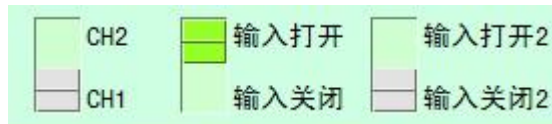
The export will save the table parameters

The test operation

Select list to test working mode before operation.

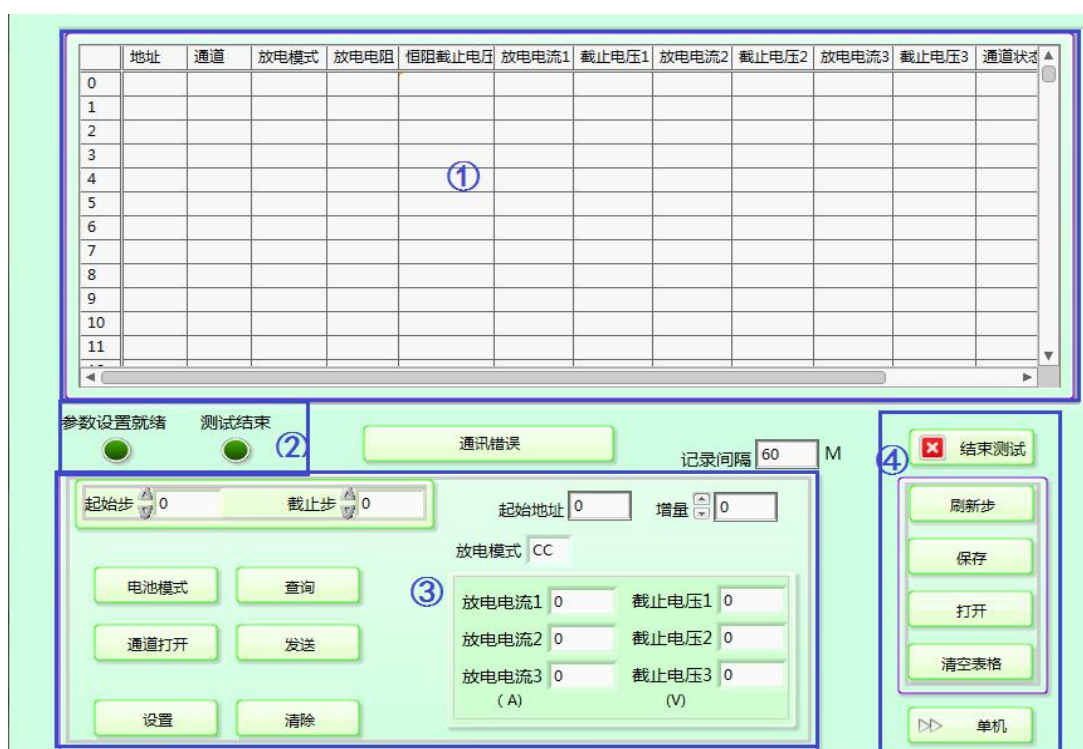


1. Set the table parameters, which can be entered manually or imported from the outside.
2. Set the start and end steps of running steps.
3. Select the step mode (continue to carry out the next step automatically when the delay time arrives, Trigger in the software Trigger mode, click the Trigger key to enter the next step and open the cycle (start again from the initial step after the sequence ends).
5. Open the input of the corresponding channel.



6. If the execution is finished, enter close, or close the channel input and the execution is finished.

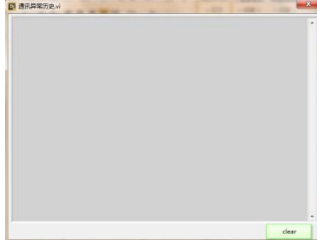
Multi-machine interface



1. Parameter table. Table parameters can be displayed or set, right click can select delete row and add row operation, at this time, the first row of the number will appear blank or lack of Numbers, click (4) in the refresh step.
2. Indicator light. Click the send button (3) in the center, the light becomes dark and starts sending data to the electronic load. After sending the data, the light becomes bright. Click the "3" channel to open the button, the light will dim, start the test, and the light will turn on at the end of the test.
3. Parameter setting. **The Numbers of the initial step and cut-off step correspond to the Numbers in the front of the table. Other operations are performed on the data from the initial step to the cut-off step. When the starting address and incremental data change, the address is filled into the table. The discharge mode and the following parameters can be directly filled in by clicking the setting button on the left. The parameters in the discharge mode can be filled in the table from the initial step to the cut-off step.** Click the clear button to clear the data from the initial step to the cut-off step. Click the query button, the initial step to step by the corresponding address and read channel parameters into the form, you can see the corresponding electronic load state of channel model, and the parameters of the battery model, if not the battery mode, click on the button battery model, the initial step to step by the corresponding electronic load switch to the battery model. After parameter setting, click the channel open button to open the channel of electronic load and start the test.
4. Click the end test button to send the command of channel closing to manually end the test. **Refresh step will reorder the first number, save the table to save**

the data, open the saved data can be directly filled into the table, empty the table to empty the table data, empty the table can also be right click on the table to empty the table to achieve.Click the PC to return to the main screen (do not return to the main screen until the end of the test!).

5. Error button will change color, click to query the error, click clear to clear the error. Click the upper right corner, click the wrong number in the upper right corner to close. Record interval can set the time between the record data



Interval, the unit is minute, the minimum interval can be set to an hour. Data record as "discharge capacity, voltage, current", record format as TXT text, text named address + channel. This file can be found in the program exe file save directory.