



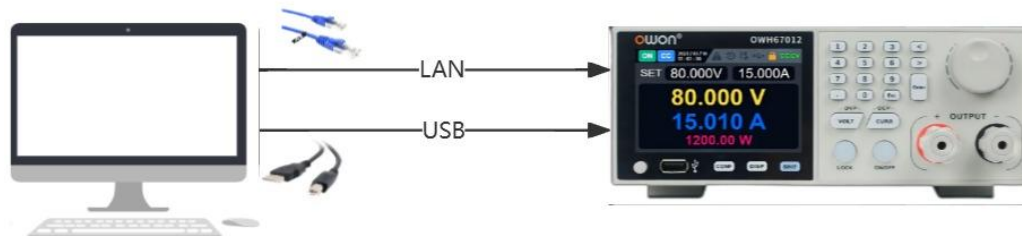
SPE Software Help Tool

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1. Connection method

USB serial port or Ethernet is supported by SPE series software as below.



1.1 USB series port communication

1.1.1 Driver Installation

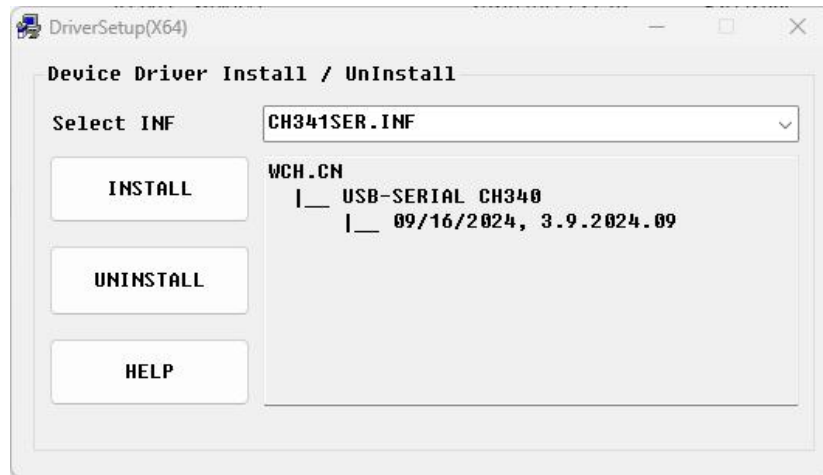
1. Please find the document: ”

OWON-POWER-SPE-series-software”.

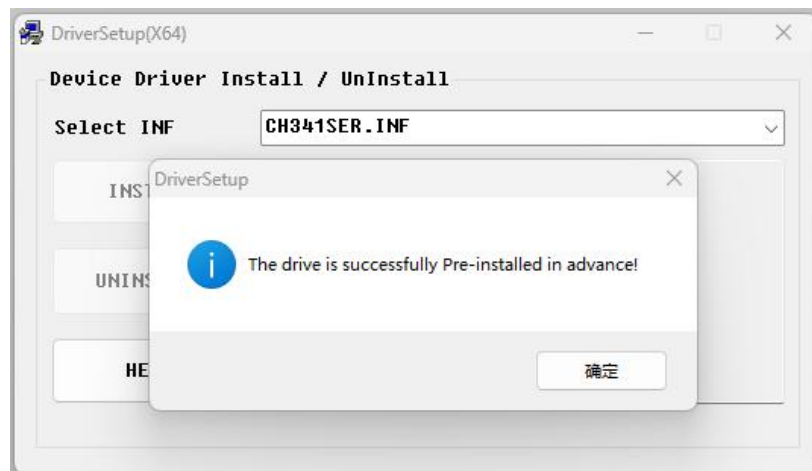
2. Unzip and find the file :” CH340 Driver”, as shown below:

bearer	2024/11/9 17:33
CH340 Driver	2024/11/11 13:00
iconengines	2024/11/9 17:33
imageformats	2024/11/9 17:33
platforms	2024/11/9 17:33
SPE-series-software	2024/11/11 12:58
styles	2024/11/9 17:33
translations	2024/11/9 17:33
translator	2024/11/9 17:33
D3Dcompiler_47.dll	2014/3/11 18:54
libEGL.dll	2020/11/6 17:00
libgcc_s_dw2-1.dll	2018/5/12 9:28
libGLSv2.dll	2020/11/6 17:00
libstdc++-6.dll	2018/5/12 9:28
libwinpthread-1.dll	2018/5/12 9:28
opengl32sw.dll	2016/6/14 21:08
OWON-POWER-SPE-series	2024/11/9 17:21

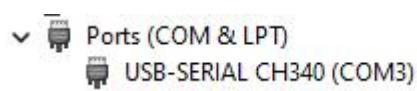
3. Double-click or right-click to unzip the CH341SER.zip package, and run the SETUP.EXE inside to directly install the CH340 driver, as shown below



4. Click Install, wait for the installation to complete, and click "OK", as shown below:



5. Return to the computer, click Device Manager, and check the COM port number and driver, as shown below:

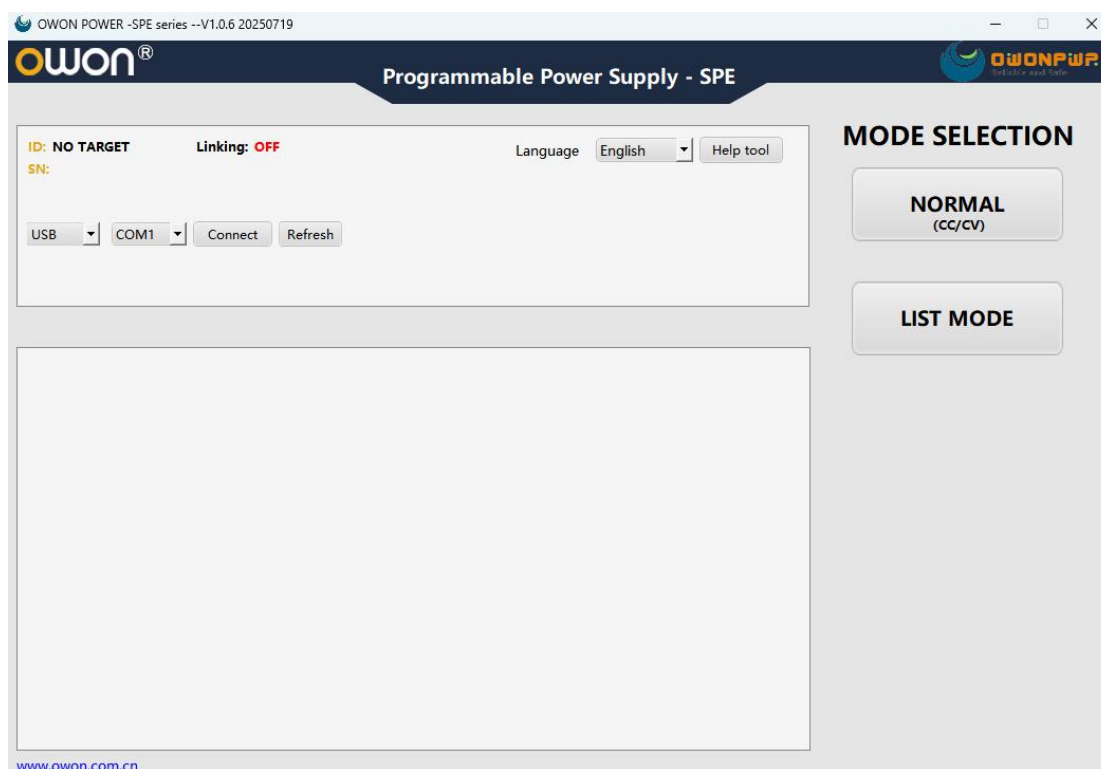


1.1.2 Hardware connection

1. Run “OWON-POWER-SPE.exe ” file as below,

 opengl32sw.dll	2016/6/14 21:08	应用程序扩展
 OWON-POWER-SPE-series	2024/11/9 17:21	应用程序

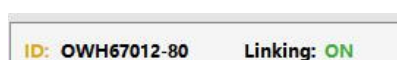
2.The front page is shown as below:



3.Please select the “USB” and COM, if not available, please click “Refresh”. Then click “connect” button



4. ID and connection status would be shown when connection is successful.



1.2 Ethernet connection

Users can use the SPE series software to directly connect and control the SPE8x0x product, or they can obtain the IP mode and IP address of the SPE8x0x through this software configuration.

The following introduction to obtain DHCP and static IP address.

Taking the configuration of DHCP for multiple online devices as an example, the steps for the host computer to configure the SPE8x0x device are as follows:

- a) Connect multiple devices to the router device(the device is connected to the router via a network cable)
- b) Search the online device list, select all IP modes, edit the configuration to DHCP, confirm the modification, you can modify a single device, or modify the selected device in batches by right-clicking.

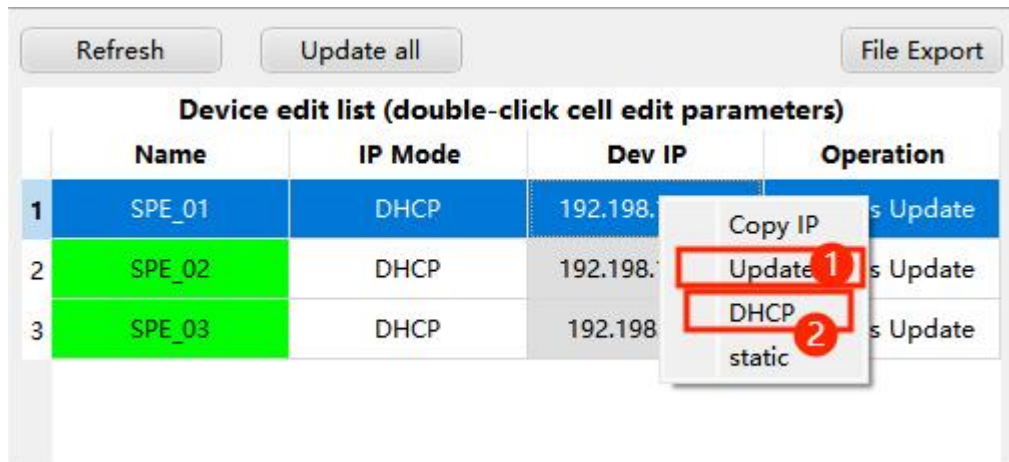
Refresh

Update all

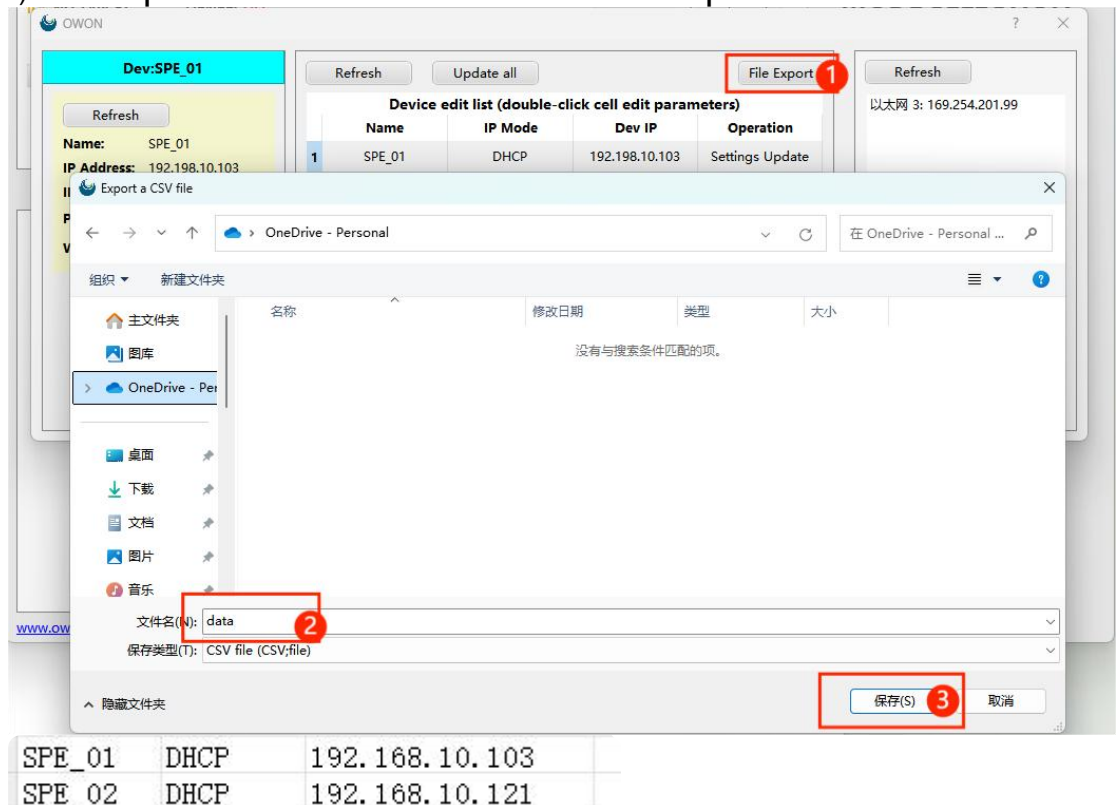
File Export

Device edit list (double-click cell edit parameters)

	Name	IP Mode	Dev IP	Operation
1	SPE_01	DHCP	192.198.10.103	Settings Update
2	SPE_02	static	192.198.10.121	Settings Update
3	SPE_03	DHCP	192.198.10.13	Settings Update



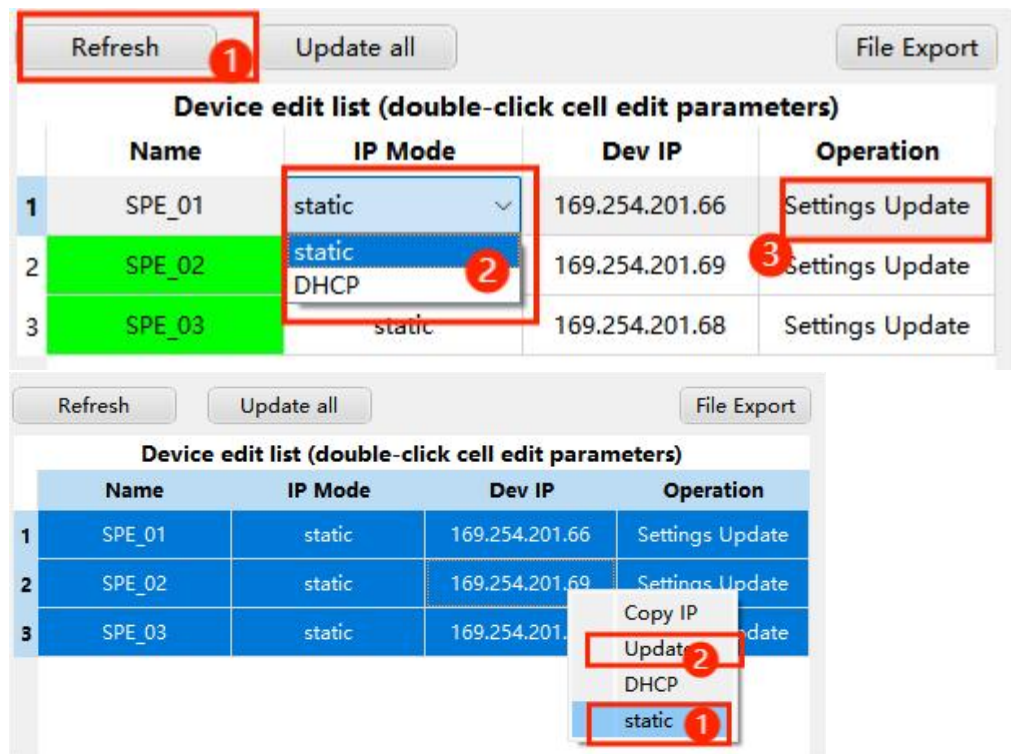
a) Multiple devices' information can be exported in csv file.



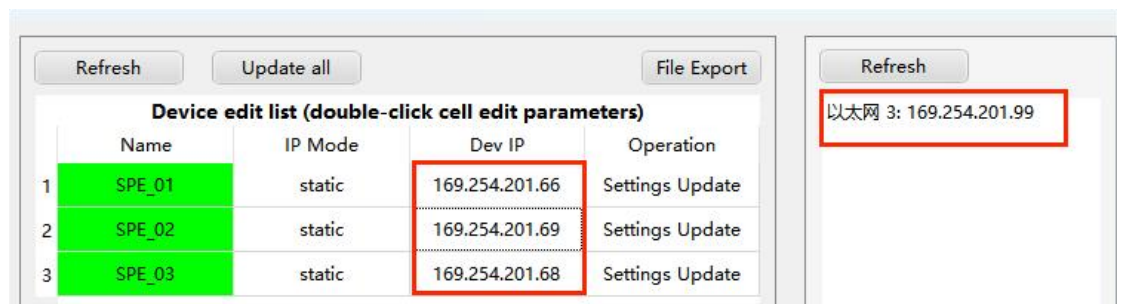
(b)The user system can connect to the new device through the latest device dynamic IP address.

Configuring a static IP address is similar to configuring a dynamic IP address.

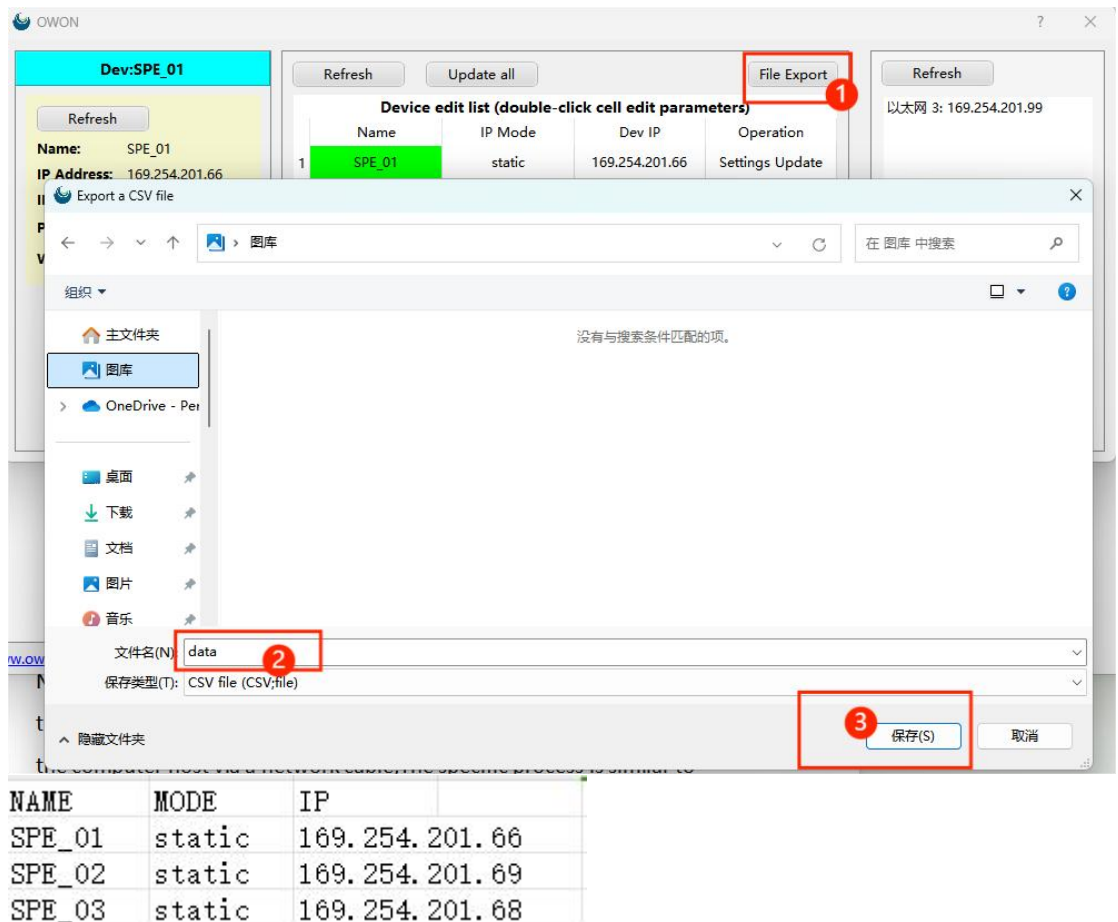
- Connect multiple devices to the router device
- Search the online device list, select all IP modes, edit the configuration to static IP, confirm the change, you can modify a single device, or modify the selected device in batches by right-clicking.



- c) Edit the IP address at the same time and change the device's IP address to the same network segment as the host Ethernet IP address



- d) Multiple devices' information can be exported in csv file.

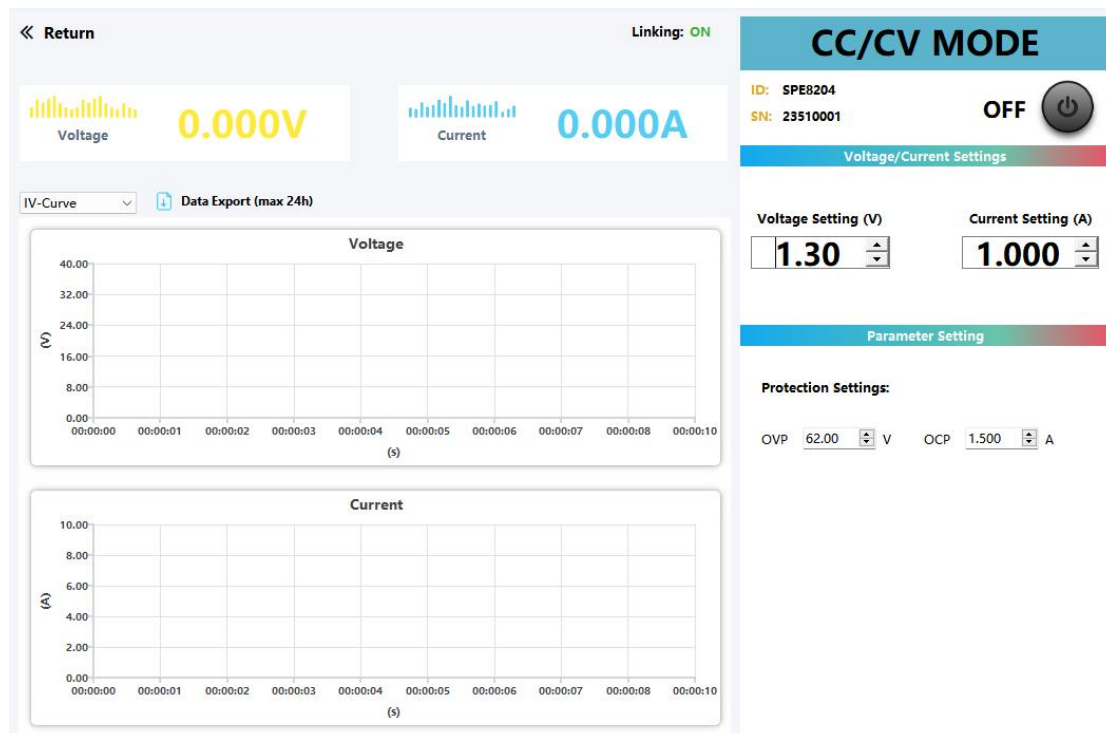


Note: If the user does not have a router device, then can use a computer to configure the device one-to-one, the device is directly connected to the computer host via a network cable, The specific process is similar to the multiple device configuration method.

2.SPE software operation guide

2.1 CC/CV Mode

User can use USB series /LAN port to remote control SPE series product, here is CC/CV MODE main page.



2.1.1 CC/CV operation introduction

1. Parameters input edit box.

User can input the targeted voltage and current setting and OCP, OVP.

Note: the new data in the edit box would take effect only when "Update" button or "Enter" Key is pressed.

Voltage/Current Settings

Voltage Setting (V)

20.00

Current Setting (A)

0.000

Parameter Setting

Protection Settings:

OVP

80.00

 V

OCP

31.000

 A

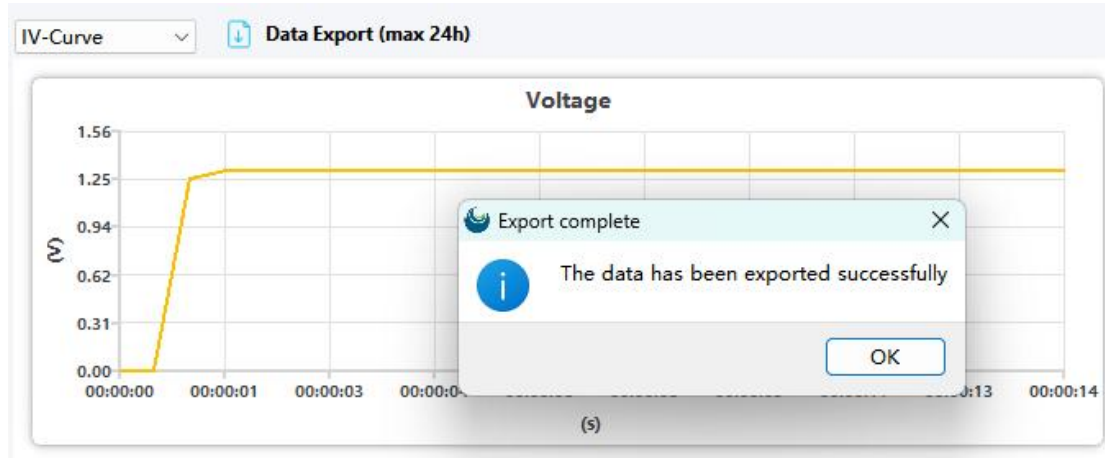
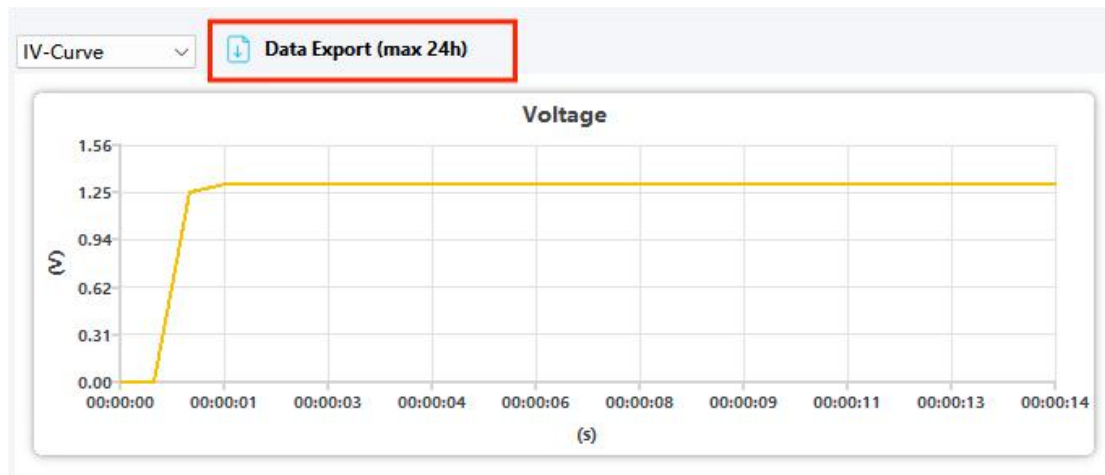
2. Display area.

The output data (Output voltage, Current and Power) can be display in this area in the form of numbers and curves.

When output is turned off, then you can export the data in csv.file.

Note that the data can be recorded up to 24 hours and the data sampling interval is 1 second.

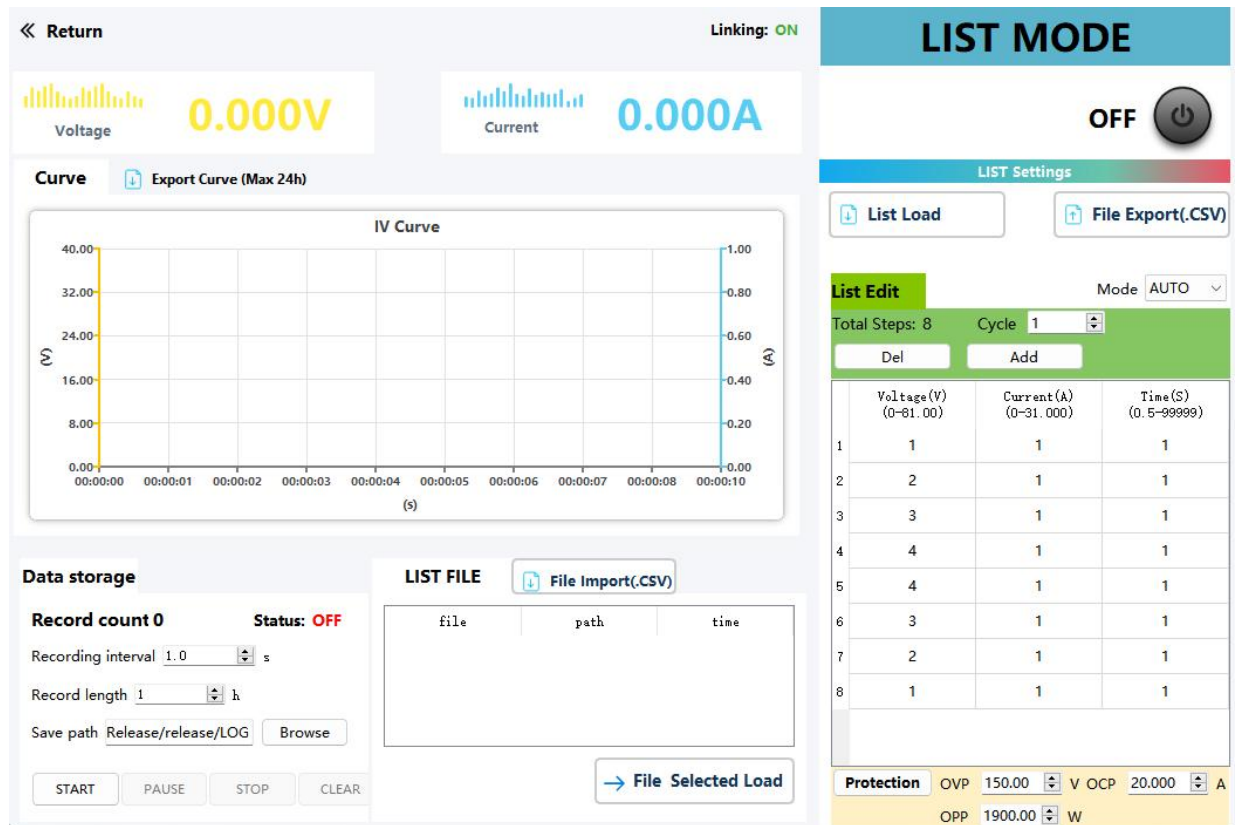




Store No.	Time(hh.mm.ss.zzz)	Volt(V)	Curr(A)
1	00.00.00.000	0	0
2	00.00.01.000	1.03	0.0411
3	00.00.02.000	1.3	0.05
4	00.00.03.000	1.3	0.05
5	00.00.04.000	1.3	0.05
6	00.00.05.000	1.2	0.05

2.2 LIST MODE

After successfully connecting to the instrument, enter the LIST mode to remotely operate the instrument.



2.2.1 LIST MODE -AUTO MODE

1. Select AUTO mode from the "Mode" drop-down box. This mode will automatically execute each parameter in the LIST table.

List Edit Mode **AUTO**

Total Steps: 8 Cycle 1

	Voltage(V) (0-81.00)	Current(A) (0-31.000)	Time(S) (0.5-99999)
1	1	1	1
2	2	1	1
3	3	1	1
4	4	1	1
5	4	1	1
6	3	1	1
7	2	1	1
8	1	1	1

2. The LIST table can be simply edited by "adding" and "deleting" a line. The "total number of steps" always records the current number of steps in the list. The value of the "number of cycles" corresponds to the number of times the instrument executes the entire list.

List Edit Mode **AUTO**

Total Steps: 8 Cycle 1

	Voltage(V) (0-81.00)	Current(A) (0-31.000)	Time(S) (0.5-99999)
1	1	1	1
2	2	1	1
3	3	1	1
4	4	1	1

3. You can quickly edit the LIST list by right-clicking the mouse. If you select multiple lines, press Ctrl+C on the keyboard to copy the selected lines, and then press Ctrl+V to paste the selected lines back into the LIST.

List Edit

Mode AUTO

Total Steps: 8 Cycle 1

Del

Add

	Voltage(V) (0-81.00)	Current(A) (0-31.000)	Time(S) (0.5-99999)
1	1	1	1
2	2	1	1
3	3		1
4	4		1
5	4		1
6	3		1
7	2		1

Del

Copy(Ctrl+C)

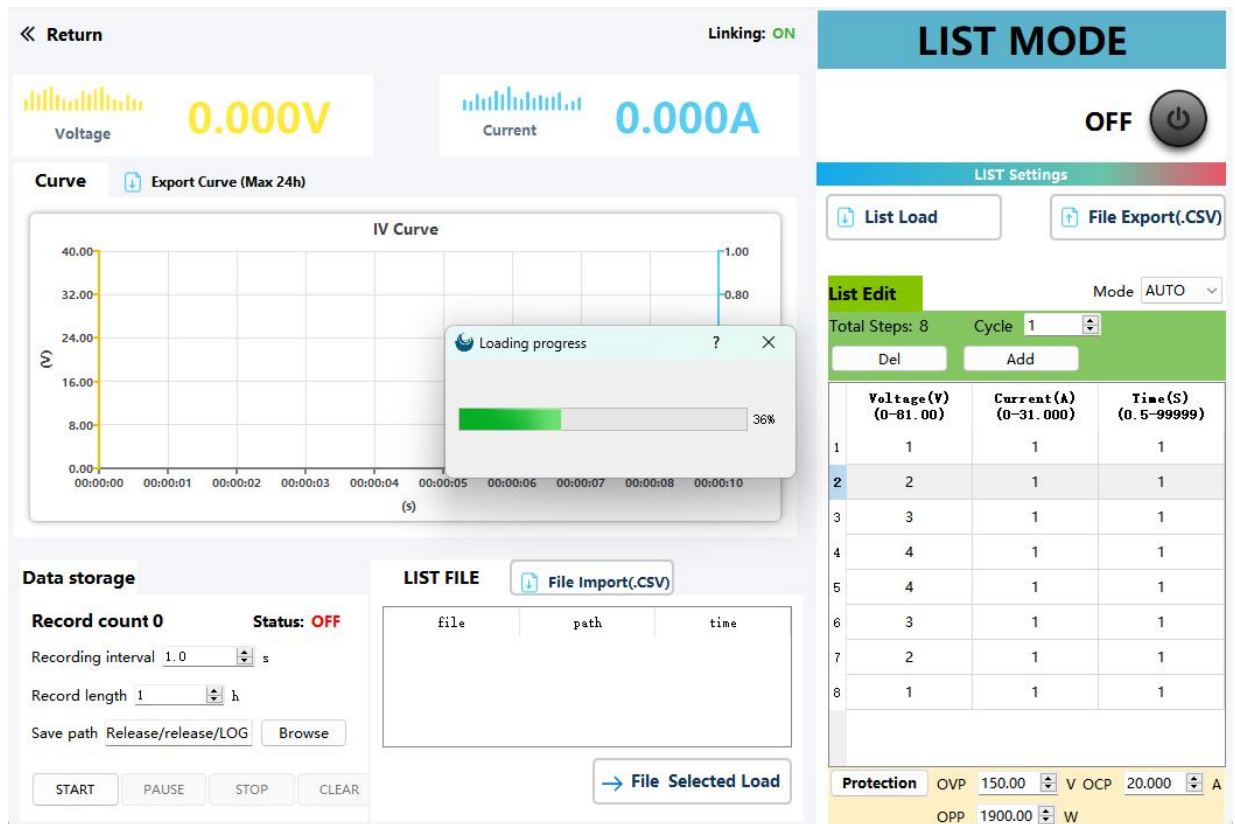
Paste(Ctrl+V)

Insert rows above

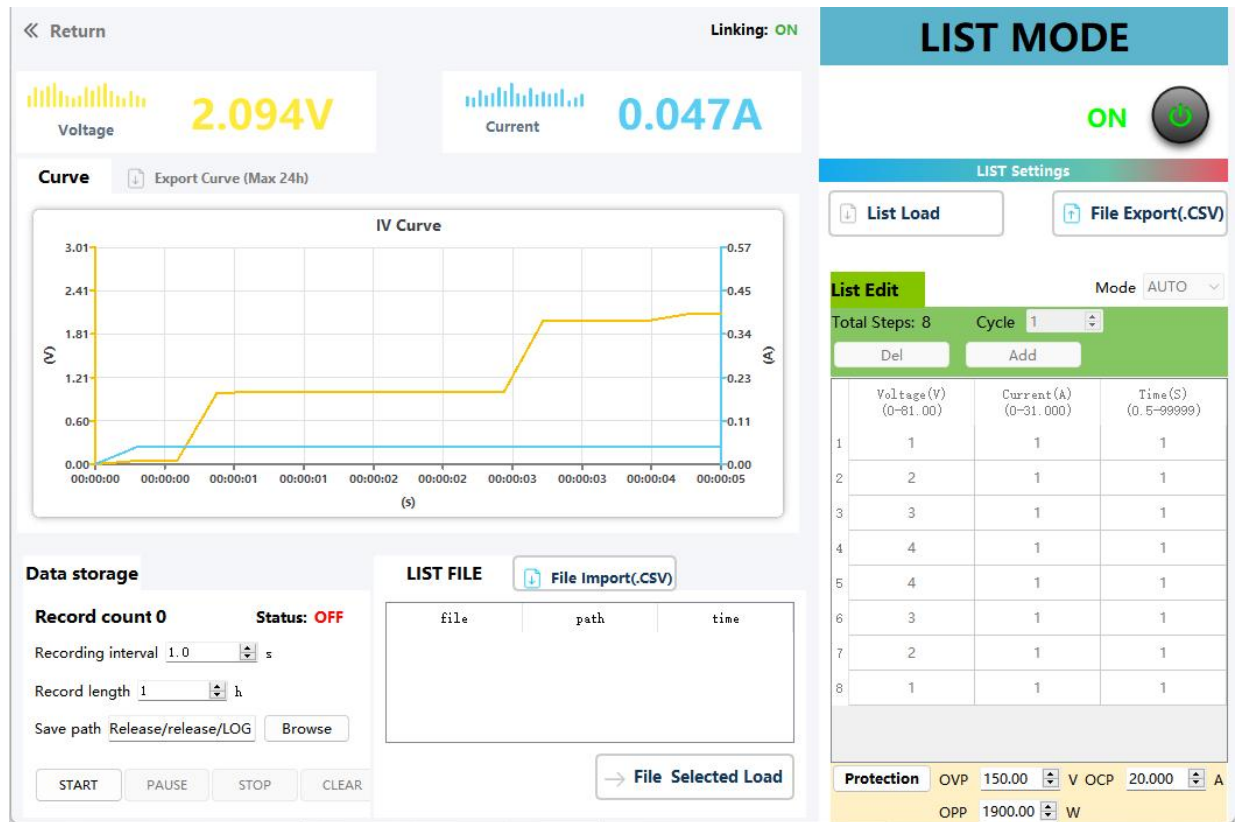
Insert rows below

Clear file list

4. Click "Load current list" or the power button to load the list data to the instrument.

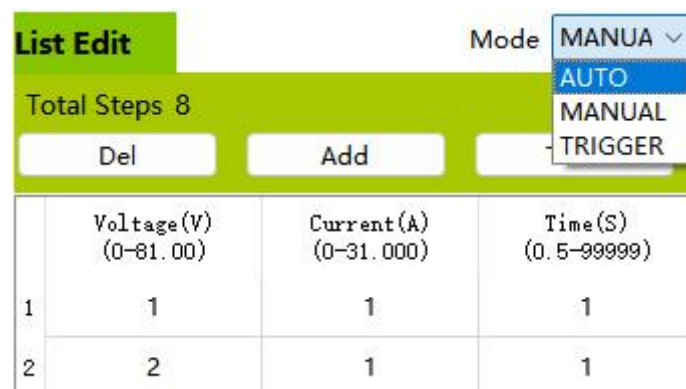


5. Click the power button, and the list will be automatically output after powering on.

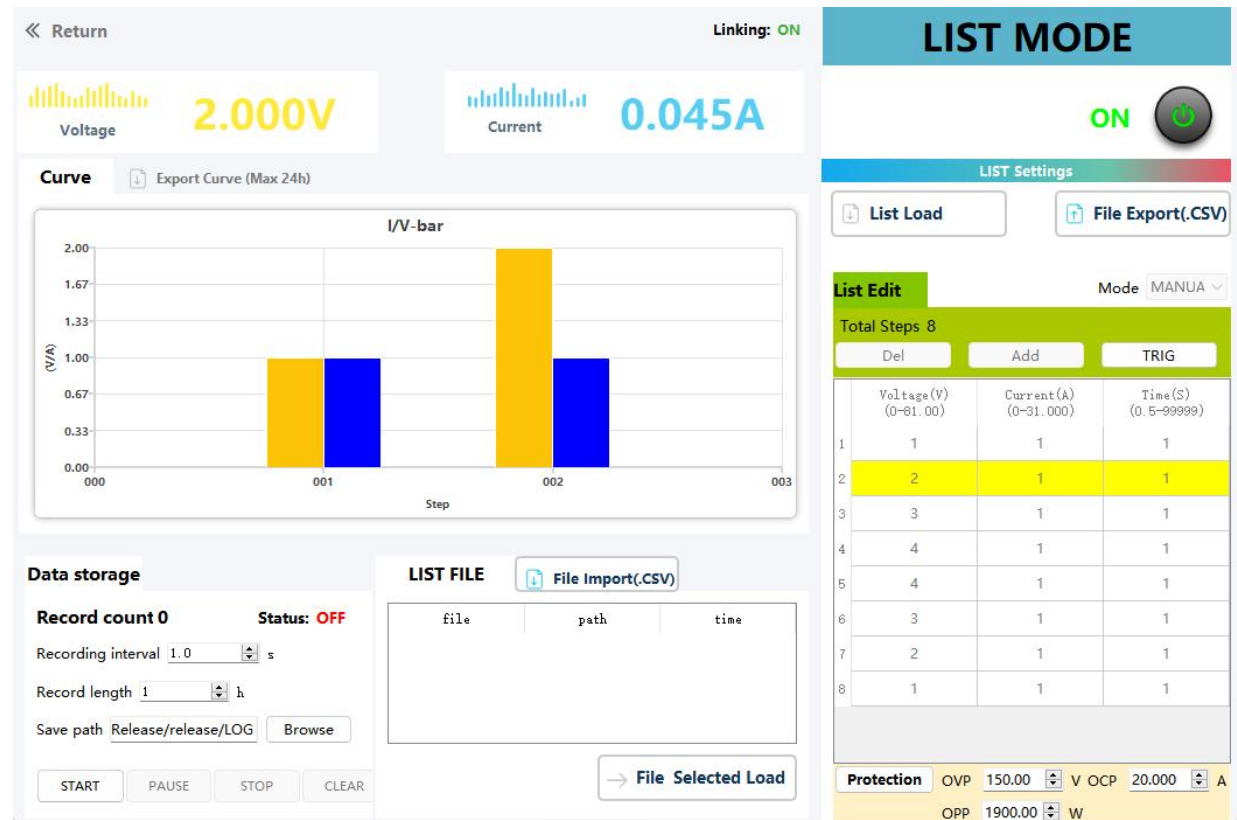


2.2.2 LIST MODE -MANUAL MODE operation introduction

1. Select the MANUAL mode from the "Mode" drop-down box. This mode will execute each parameter in the LIST list by actively pressing the button.

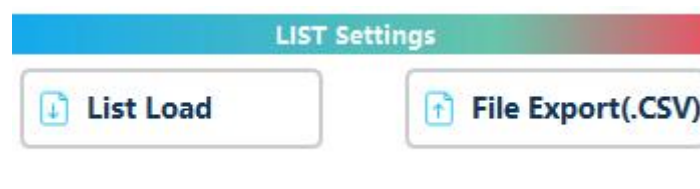


2. The LIST editing method is the same as the AUTO mode
3. Click "Load current list" or the power button to send the list data to the instrument.
4. Press the "TRIG" button once to trigger a LIST step.



2.2.2 LIST MODE file import and export operation

1. Click "Export File" to export the current data in CSV file format. Users can use Notepad/Microsoft Office Excel or other similar software to edit the CSV file.



	A	B	C	D	
1	#TotalCounts	10			#TotalCounts,10,,
2	#Cycles	1			#Cycles,1,,
3	#Mode	auto			#Mode,auto,,
4	STEP	VOLT	CURR	TIME	STEP, VOLT, CURR, TIME
5	#1	10	1	3	#1,10,1,3
6	#2	20	1	3	#2,20,1,3
7	#3	30	1	3	#3,30,1,3
8	#4	0	0	1	#4,0,0,1
9	#5	0	0	1	#5,0,0,1
10	#6	10	1	3	#6,10,1,3
11	#7	20	1	3	#7,20,1,3
12	#8	30	1	3	#8,30,1,3
13	#9	0	0	1	#9,0,0,1
14	#10	0	0	1	#10,0,0,1

Table editing instructions:

- The first row: Total step setting A1: #TotalCounts, #TotalCounts is the identification name, B1: Total step number
- The second row: Cycle setting A2: #Cycles, #Cycles is the identification name, B2: Total cycle number
- The third row: Mode setting A3: #Mode, #Mode is the identification name, B2: auto/manual/trigger
- The fourth row: Parameter title
- The fifth row: start setting the first step, the corresponding number of steps, voltage value, current value, duration, the corresponding table B5 is the voltage setting value of STEP1, C5 is the current setting value of STEP1, and D5 is the time setting value of STEP1.
- The sixth row: similar to the fifth row, the number of steps plus 1.

2. After the table editing is completed, load the file into the LIST file list by clicking "Import File" in the software.

LIST FILE

File Import(.CSV)

	file	path	time
1	123.csv	C:/Users/...	2025-07-19T11:...

File Selected Load

3. Select the file to be loaded and click "Load Selected File" to further load the data into the LIST editing list.

Return

Linking: ON

Voltage

0.000V

Current

0.000A

Curve

Export Curve (Max 24h)

IV Curve

Data storage

Record count 0

Status: OFF

Recording interval 1.0 s

Record length 1 h

Save path Release/release/LOG

Browse

START

PAUSE

STOP

CLEAR

LIST FILE

File Import(.CSV)

	file	path	time
1	123.csv	C:/Users/...	2025-07-19T11:...

File Selected Load

LIST MODE

OFF

Power Button

LIST Settings

List Load

File Export(.CSV)

List Edit

Mode AUTO

Total Steps: 8

Cycle 1

Del

Add

	Voltage(V) (0-81.00)	Current(A) (0-31.000)	Time(S) (0.5-99999)
1	1	1	1
2	2	1	1
3	3	1	1
4	4	1	1
5	4	1	1
6	3	1	1
7	2	1	1
8	1	1	1

Protection

OVP 150.00 V

OCV 20.000 A

OPP 1900.00 W

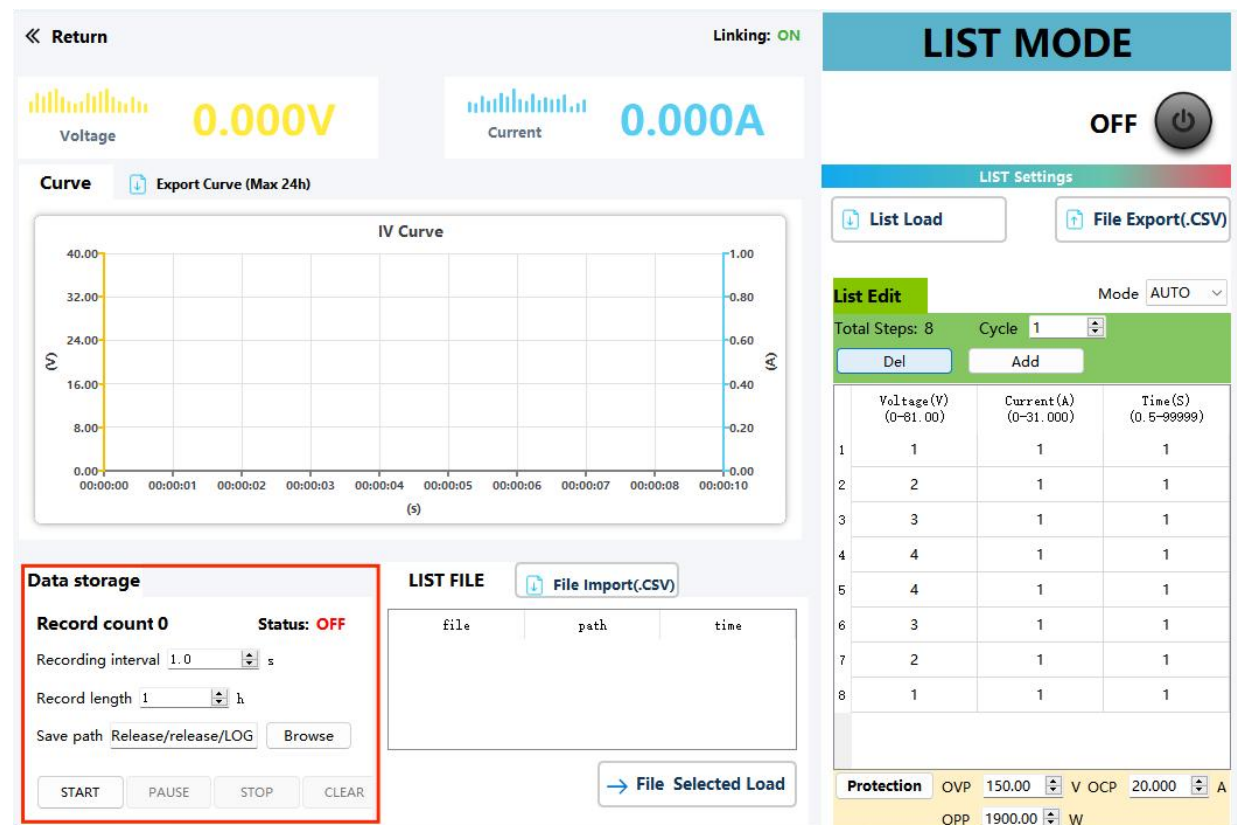
2.2.4 LIST interface data recording operation instructions

1. Function overview

The data recording function allows you to save the voltage and current data collected by the device in CSV format independently. This function can run stably whether or not the chart is viewed, and you only need simple Settings to enable automatic data recording.

2. Description of the operation interface

The following is the layout description of the data recording interface (please refer to the schematic diagram):



3. Interface layout:

Top information area:

- (1) Current number of records: shows the number of data entries saved
- (2) Status indicator: Display the current recording status (not started, recording in progress, paused)

Parameter setting area:

- (1) Data record interval: Set the time interval for data saving (unit: seconds)
- (2) Data record length: Set the total duration of continuous recording (unit: hours)
- (3) Save path: Set the storage location of the record file
- (4) Browse button: Select a different save directory

Operation button area:

- (1) Start recording: Start the data recording function
- (2) Pause record: temporarily pause data recording
- (3) End record: Stop and save the current record completely
- (4) Clear the record: Clear the current data records that are not saved

4. Detailed operation guide

dead work

- (1) Make sure the equipment is properly connected

- (2) Click the "Data Record" button on the main interface to open the record window

Set the record parameters

- (1) Record interval: Set the time interval (0.5-60 seconds) for each record. The default is 1 second. For example, if you set it to 5 seconds, the data will be saved every 5 seconds
- (2) Record length: Set the total duration of continuous recording (1-72 hours), default 1 hour. For example, set it to 2 hours, the system will automatically stop after recording for 2 hours
- (3) Save path: Click "Browse" to select the save directory, or keep the default path (LOG folder under the application)

Start recording data

Click the "Start recording" button to start data saving:

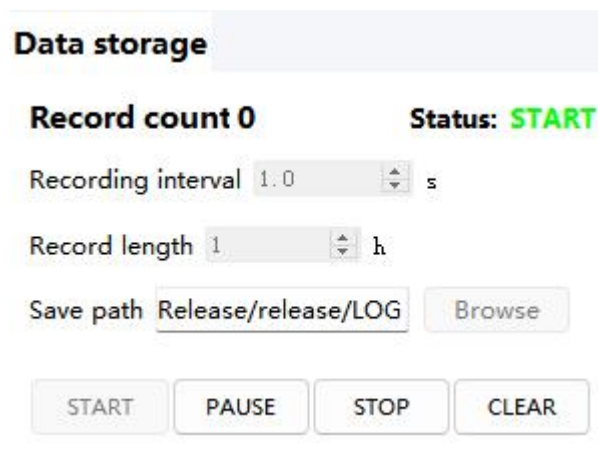
- (1) The system automatically creates the LOG folder (if it does not exist)
- (2) File name with timestamp: year, month, day _ hour, minute, second.csv (e.g. 20250717_143000.csv)
- (3) The file begins saving data:

Store No.,Date,Time,Volt(V),Curr(A)

0,2025-07-17,14:30:05.123,220.123,1.234

1,2025-07-17,14:30:06.234,220.456,1.235

(4) The status indicator shows "Recording"



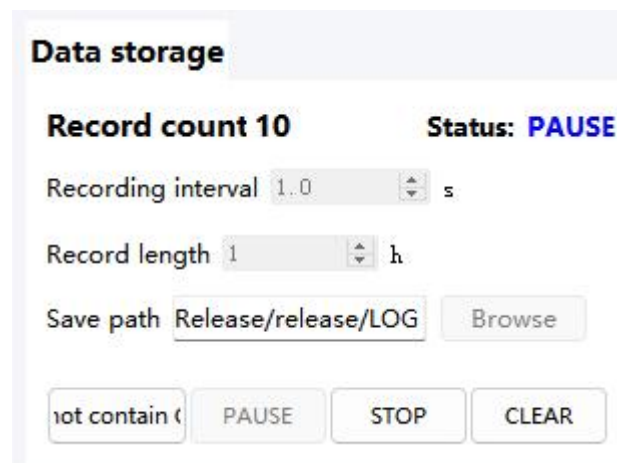
The screenshot shows a control panel titled "Data storage". At the top, it displays "Record count 0" and "Status: START" in green. Below this are two input fields: "Recording interval" set to "1.0" with a unit of "s", and "Record length" set to "1" with a unit of "h". There is a "Save path" field containing "Release/release/LOG" and a "Browse" button. At the bottom, there are four buttons: "START", "PAUSE", "STOP", and "CLEAR".

(5) The "current number of records" starts to increase

Suspension and continuation of records

When temporary suspension of recording is required:

(1) Click "Pause recording": Stop saving data immediately and the status becomes "pause"



The screenshot shows the same "Data storage" control panel, but the status is now "PAUSE" in blue. The "Record count" has increased to "10". The "Recording interval" and "Record length" fields remain the same. The "Save path" field and "Browse" button are also present. The buttons at the bottom are "not contain (", "PAUSE", "STOP", and "CLEAR".

(2) Click "Continue recording" again: Continue recording from the pause point

Time continuity: The system calculates the pause time during the pause period, and the timestamp automatically skips the pause period after recovery

instance :

(1) Last recorded time: (2025-07-12)(10:36:05.200)

(2) Pause for 1 minute and resume

(3) Next record time: (2025-07-12)(10:37:05.200)

Clear current records

When you need to restart recording (without changing the file name):

(1) Make sure it's in pause

(2) Click Clear Records

(3) The system will clear the current cache of data records

(4) The number of records is reset to zero

Note: Data saved to the file will not be deleted

end record

When the data collection is complete:

(1) Click the "End Record" button

(2) The system stops recording data

(3) Save and close the current data file

(4) The status returns to "not started"

6. Data file description

file format

The record file is in standard CSV format and can be opened by software such as Excel/WPS:

- (1) Column 1: Record serial number (auto-increment)
- (2) Column 2: Record date (in the format of DAY-MON-YEAR)
- (3) Column 3: Record time (accurate to milliseconds)
- (4) Column 4: Voltage value (unit: V)
- (5) Column 5: Current value (unit: A)

File location

The file is saved in the LOG folder of the program's directory by default:

Application directory/

└─ LOG/

└─ 2025_07_17_14_30_00.csv

└─ 2025_07_17_15_45_00.csv

File content example

Store No.	Date	Time	Volt(V)	Curr(A)
0	2025/7/17	15.46.51.999	2.973	0.116
1	2025/7/17	15.46.53.001	3.971	0.155
2	2025/7/17	15.46.53.996	4	0.155
3	2025/7/17	15.46.55.01	3.034	0.118
4	2025/7/17	15.46.56.0	2.002	0.079
5	2025/7/17	15.46.57.007	1.036	0.039
6	2025/7/17	15.46.58.001	1	0.038
7	2025/7/17	15.46.59.009	1.999	0.079
8	2025/7/17	15.47.00.004	2.989	0.117
9	2025/7/17	15.47.00.995	3.972	0.155
10	2025/7/17	15.47.02.002	4	0.156
11	2025/7/17	15.47.02.998	3.033	0.118
12	2025/7/17	15.47.04.002	2.036	0.08