N83624 Series High-Accuracy Multi-Channel Battery Simulator

Application Software Manual

Version: V20210401

Contents

1 Application Software Installation & Configuration

1.1 PC Software Configuration

To make better use of the system performance, the following computer configuration is recommended:

- CPU: 2.0G, dual-core and above
- Memory: 4G and above
- Hard disk: 80G and above
- Port: Ethernet port
- Operating system: Microsoft Windows 7 and above

1.2 Application Software Installation and Uninstallation

1.2.1 Installation

1) Find the installation program "NGI N83624v3.0" from the USB flash drive.
2) Make double-click on the file and begin installation.

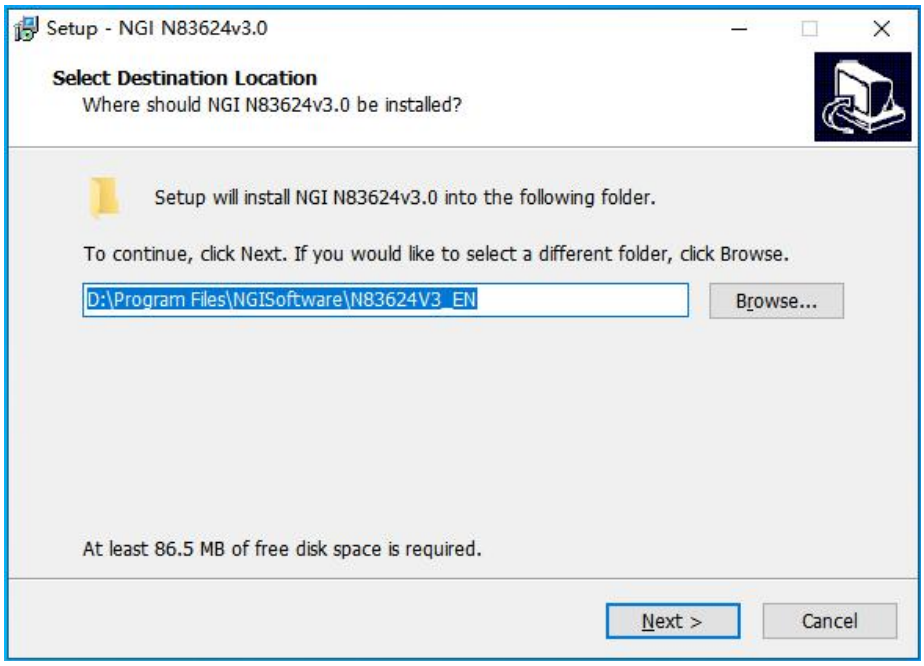

Figure 1 Program Installation

3) Click Next as prompted until the installation is completed. The software will automatically create a shortcut on the desktop.

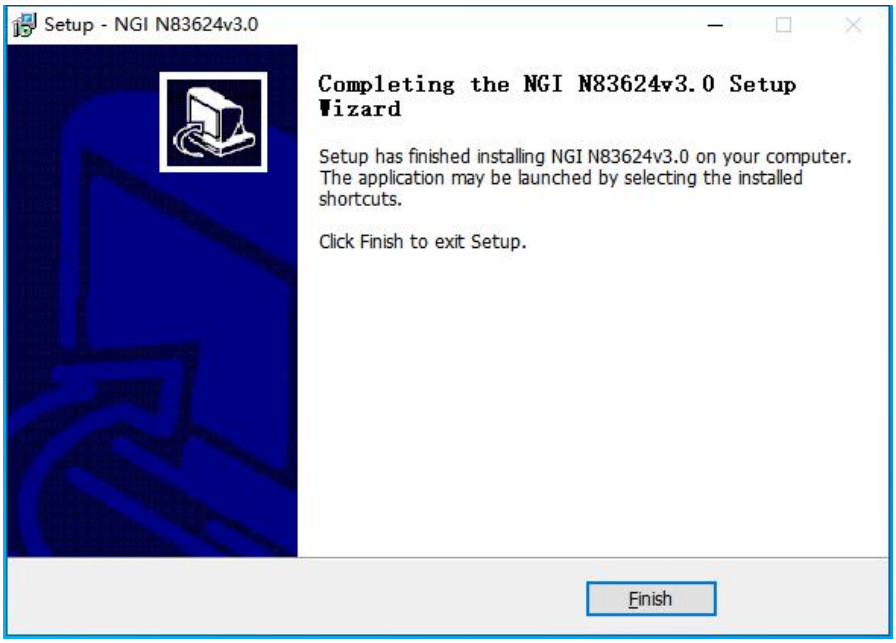

Figure 2 Installation Completed

1.2.2 Uninstallation

Methods for uninstallation:
Method 1: Program uninstallation can be completed through **Uninstall Program** in **Control Panel** of the operating system, or by right-clicking the shortcut and selecting uninstall.

Method 2: Find the setup program in your computer disk and delete.

1.3 Connection to PC and Preparation

1.3.1 Port Connection

Plug the Ethernet cable to PC Ethernet port and the other side to N83624 LAN port.

1.3.2 Disabling operating system standby mode

■ Windows 7 settings

Click **Start** → Click **Control Panel** → Click **Power Options** → Click **Change Computer Sleep Time**.

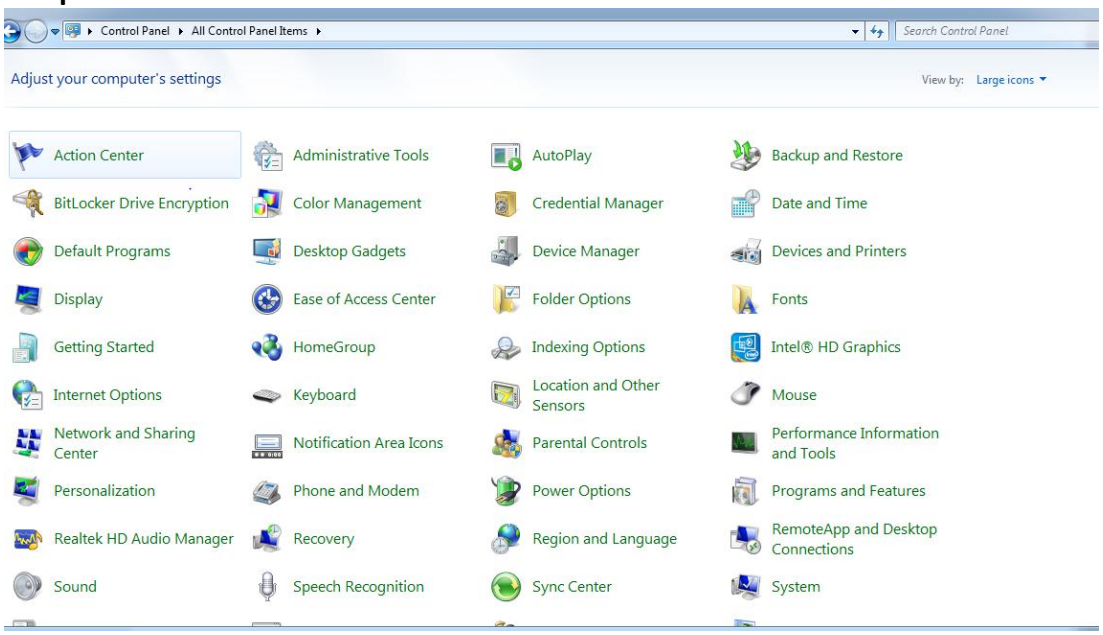

Figure 3 Windows 7 settings

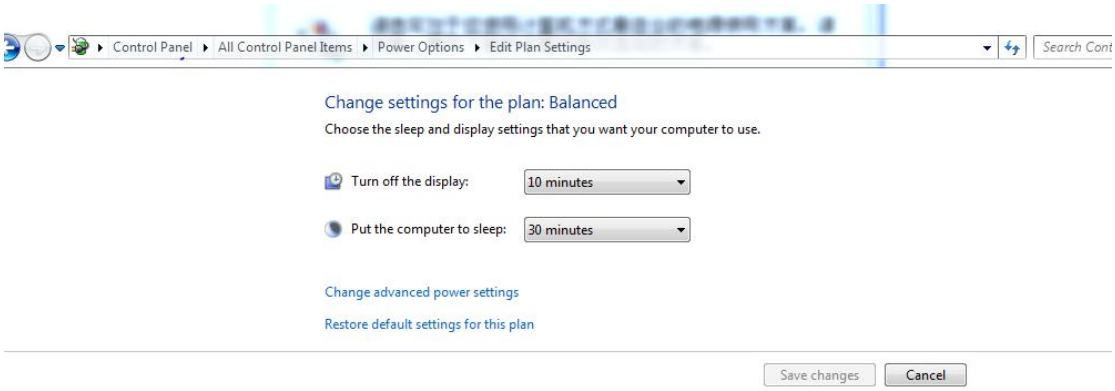

Figure 4 Windows 7 settings

Set **Turn off the display** and **Put the computer to sleep** to Never.

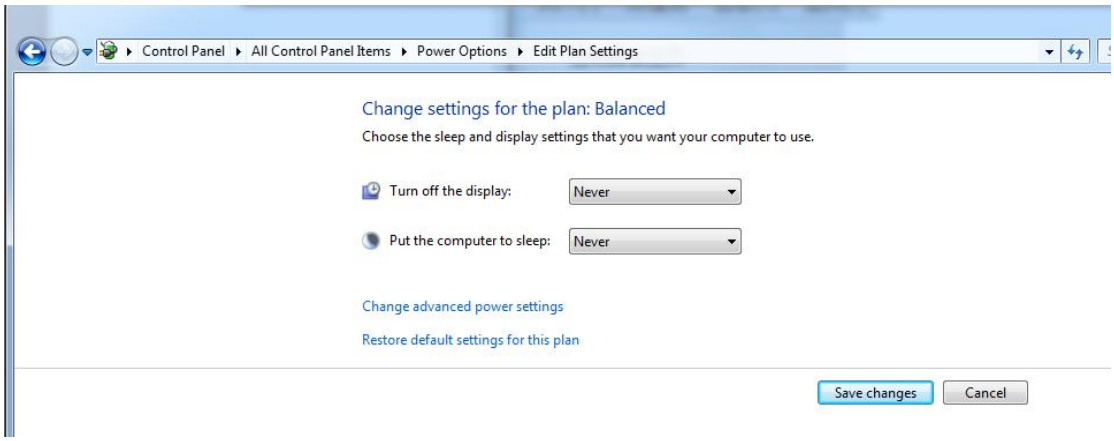

Figure 5 Windows 7 settings

■ Windows 10 settings

Click **Start**→Click **Settings**.

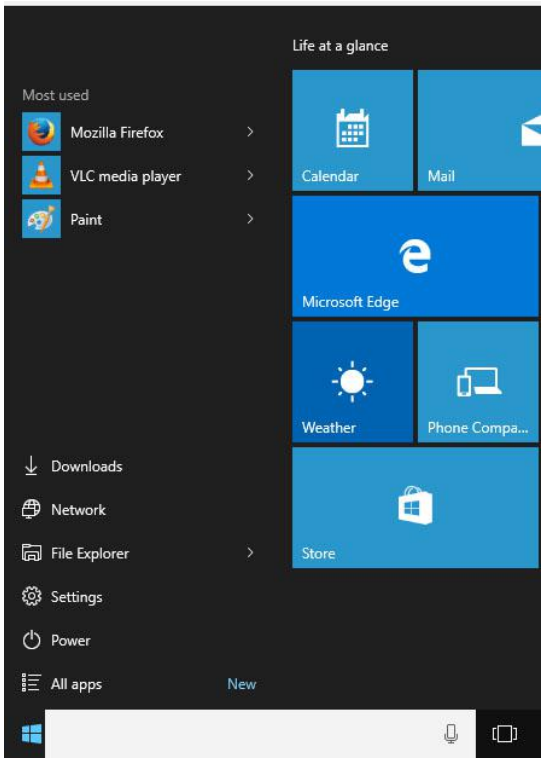

Figure 6 Windows 10 settings

Click **System**.

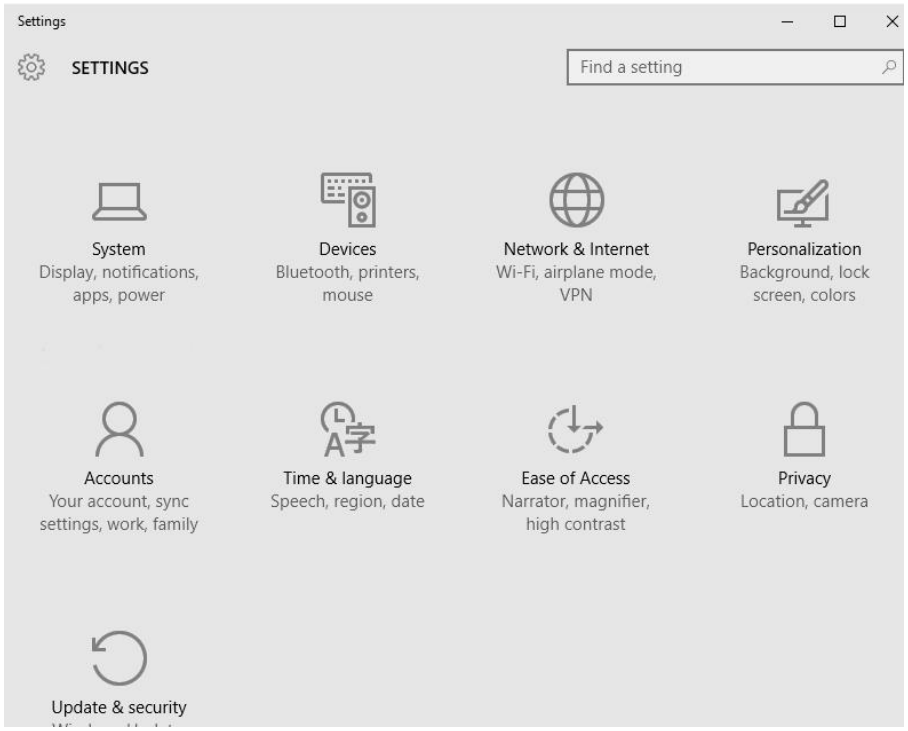

Figure 7 Windows 10 settings

Click **Power & sleep**.

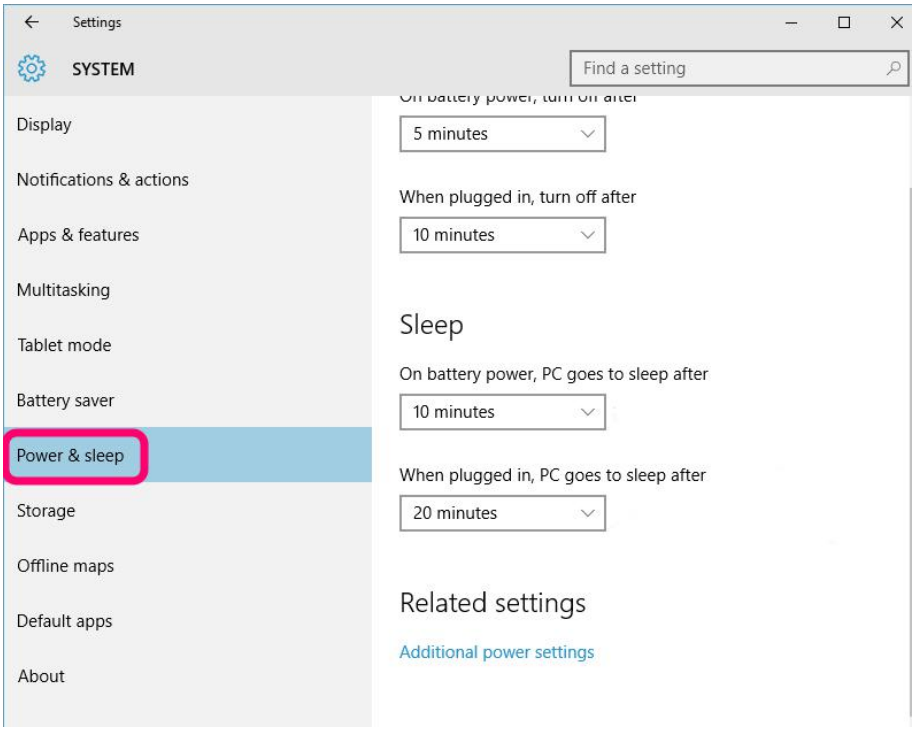

Figure 8 Windows 10 settings

Select **Never** for both options under **Sleep**.

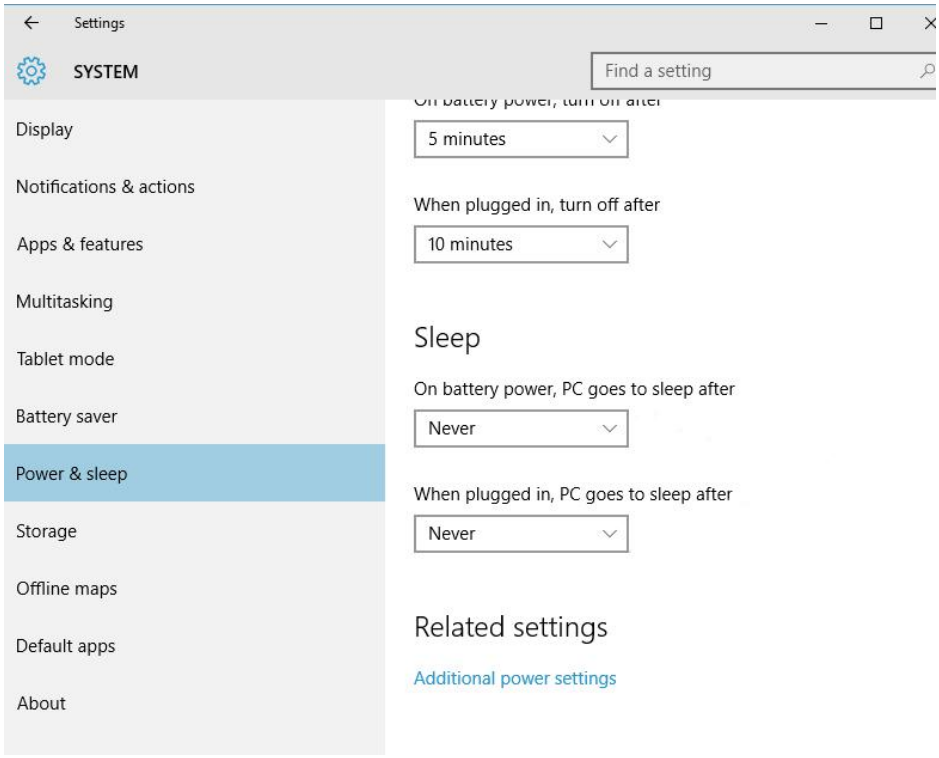

Figure 9 Windows 10 settings

1.3.3 Network IP Address Setting

The default IP of LAN port is 192.168.0.XXX (range from 0 to 255). Before operation, the computer IP should be assigned to the same network segment of N83624. But IP addresses should be different.

Take computer IP address 192.168.0.121 on Windows 7 setting for example.
Take computer IP address 192.168.0.12 on Windows 10 setting for example.

■ Windows 7 Setting

Click **Start**→Click **Control Panel**→Click **Network and Sharing Center**.

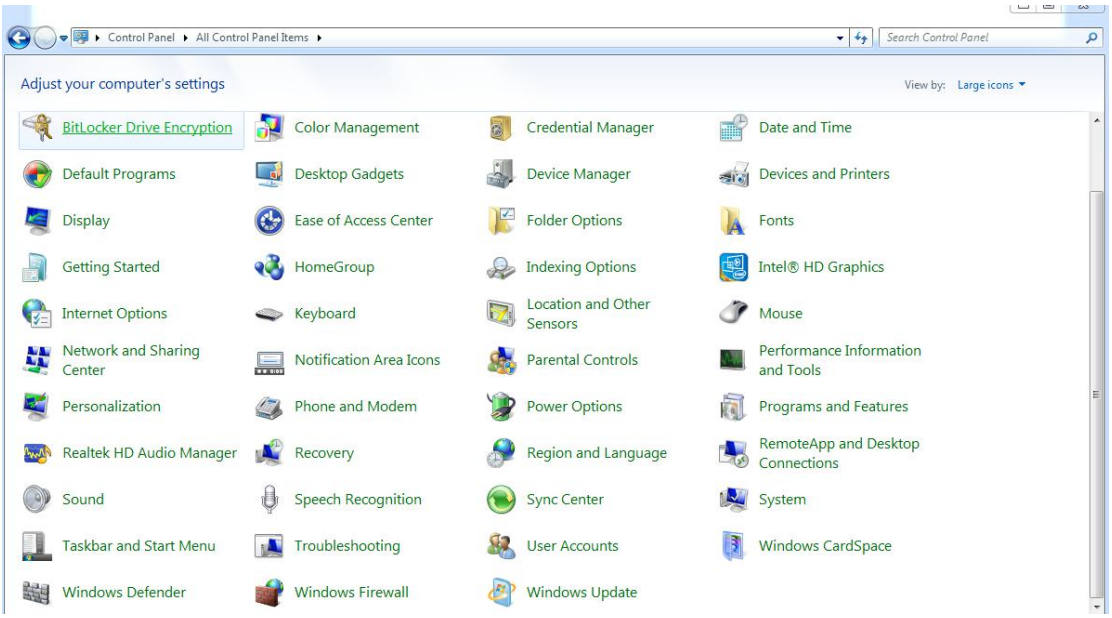

Figure 10 Network IP Address Setting

Click **Change adapter settings**.

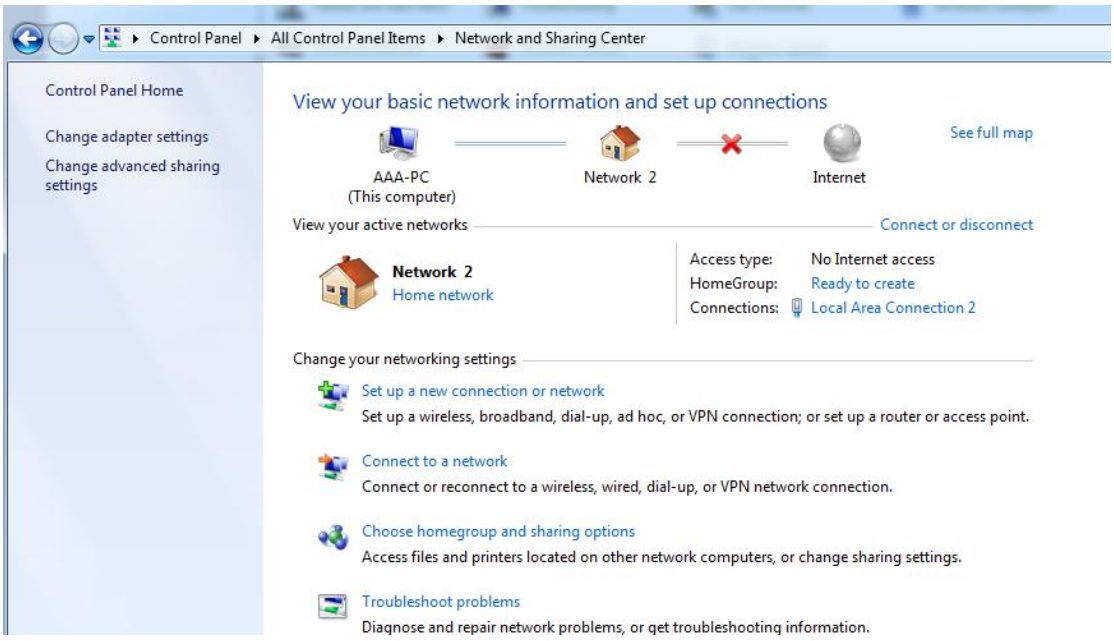

Figure 11 Network IP Address Setting

Select the network→Right click and choose **Properties**.

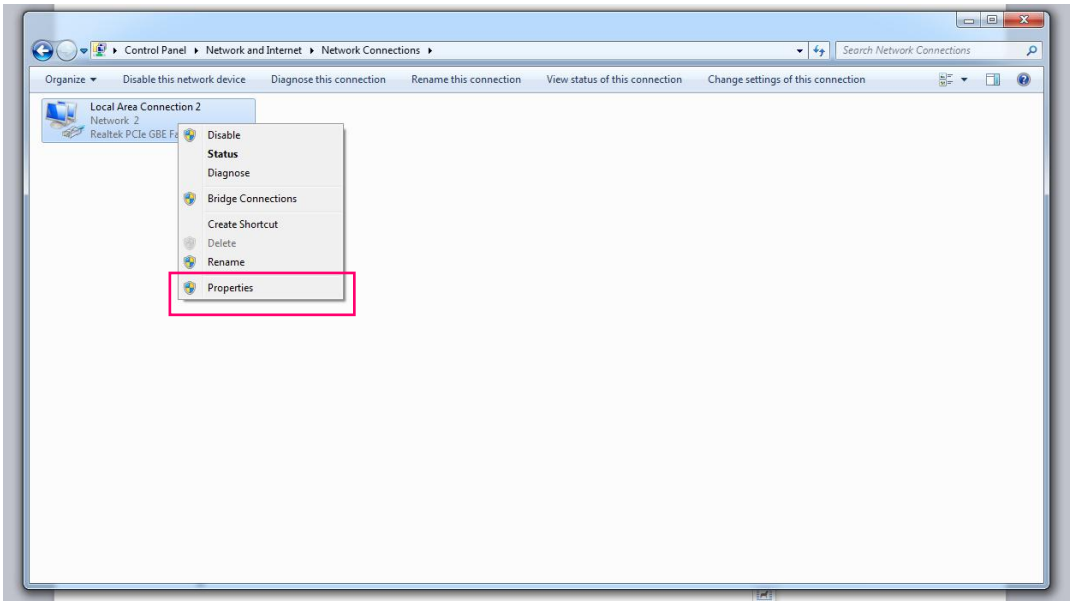

Figure 12 Network IP Address Setting

Fill the below information and press **OK**.

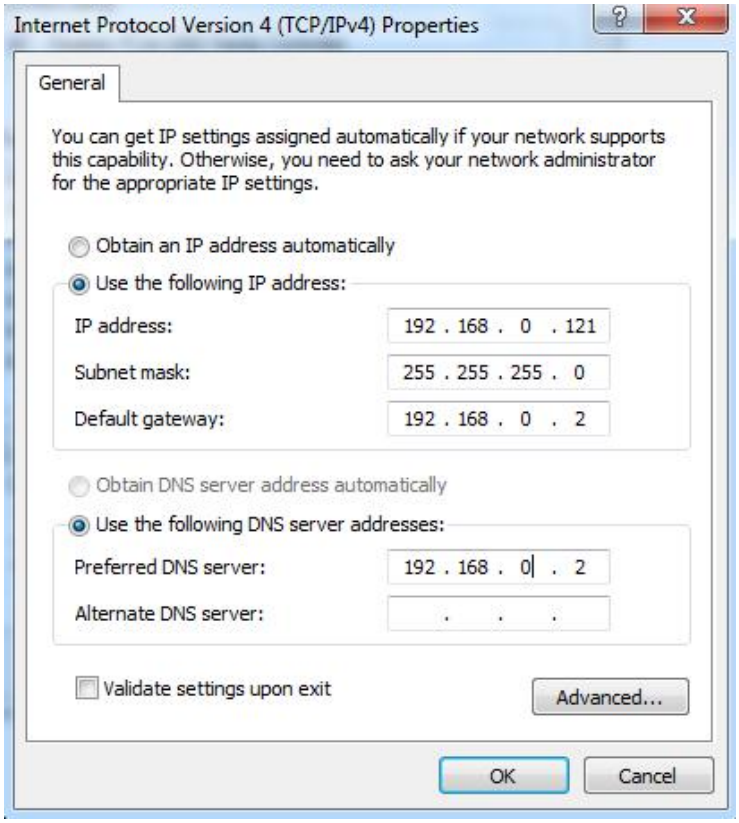

Figure 13 Network IP Address Setting

Click **Start**→Input **cmd**.

Input ping 192.168.0.123 and check if N83624 can communicate properly.

Figure 14 Run Command

If communicating properly, the below information will be reverted.

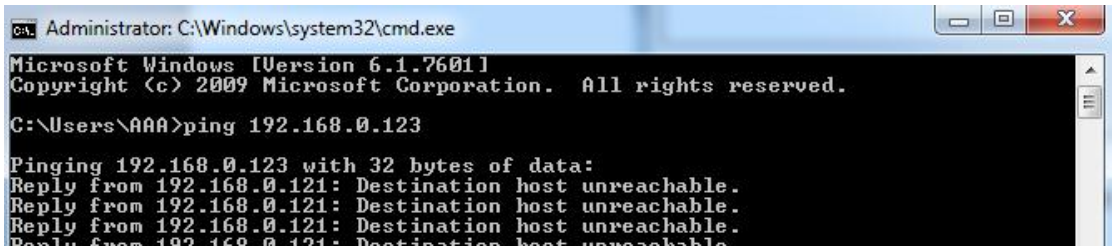

Figure 15 Communication Test

■ Windows 10 Setting

Click **Start**→Click **Set**→Click **Network & Internet**.

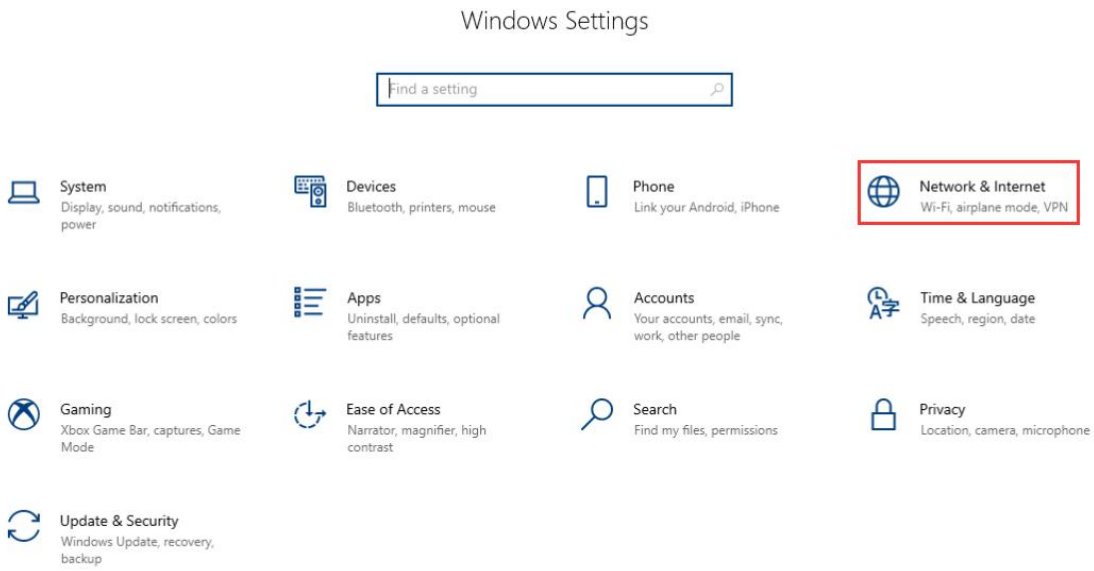

Figure 16 Network IP Address Setting

Click **Change adapter options**.

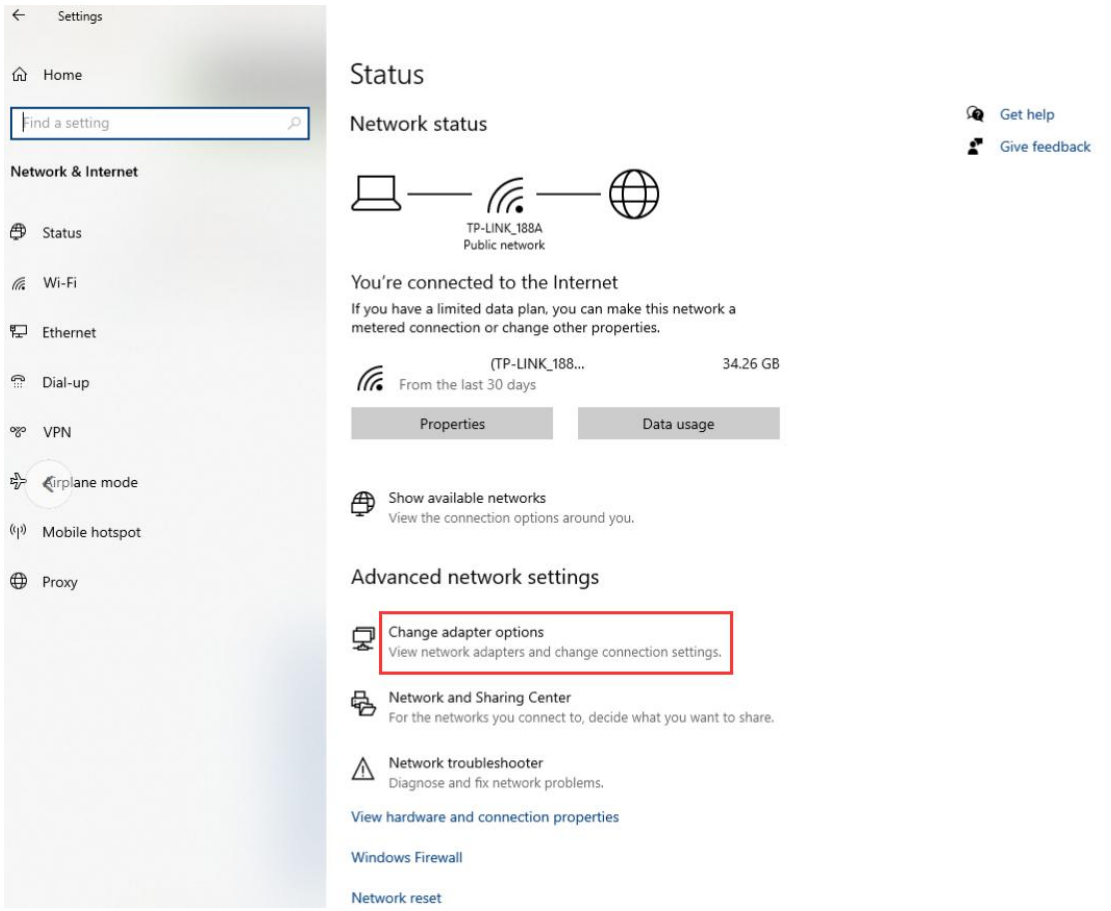

Figure 17 Network IP Address Setting

Select the network→Right click and choose **Properties**.

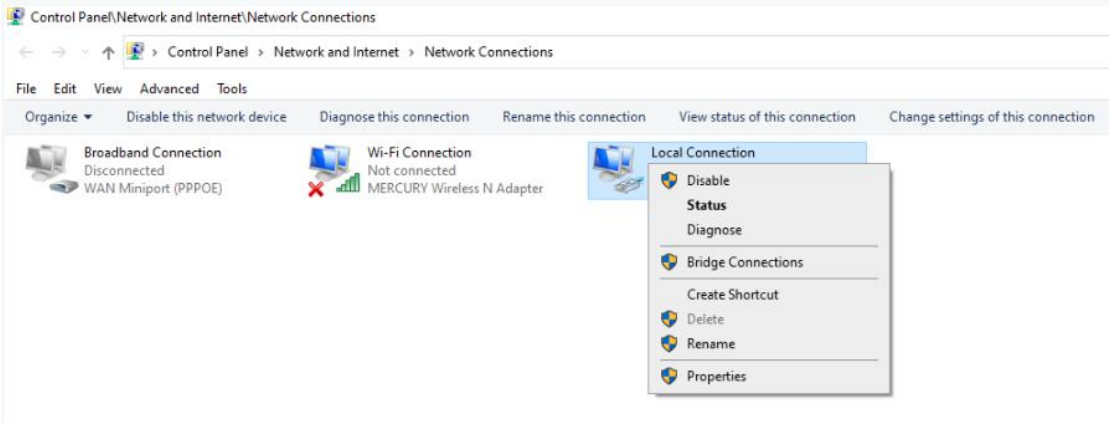

Figure 18 Network IP Address Setting

Click Internet Protocol Version 4(TCP/IPv4) and fill the below information and press **OK**.

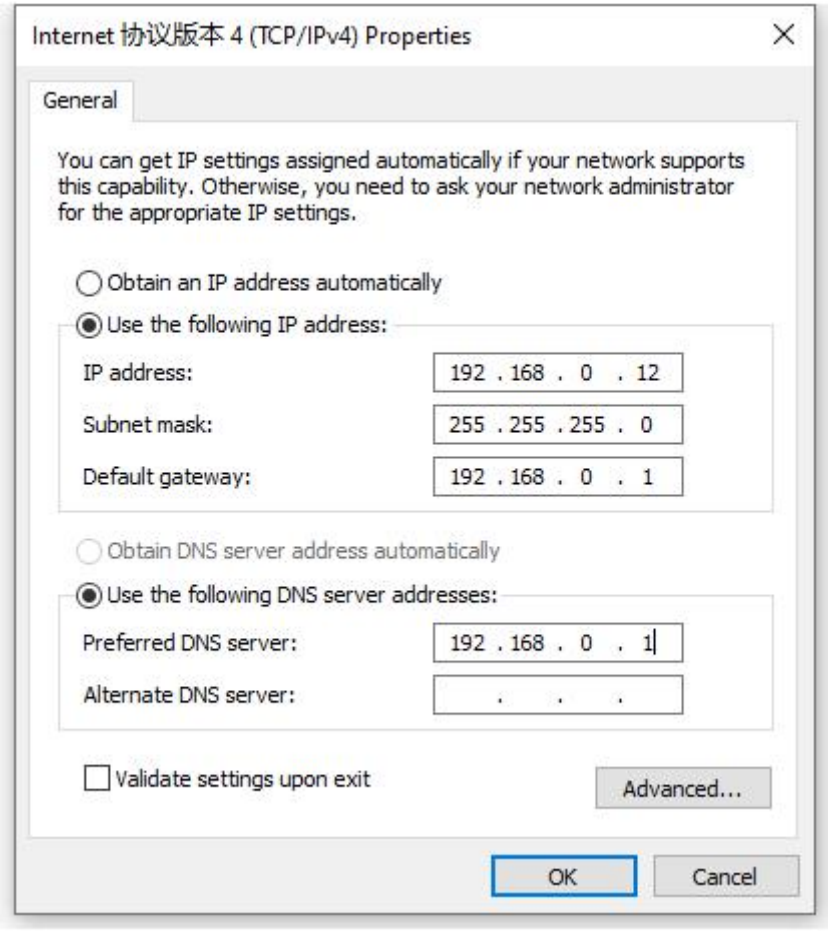

Figure 19 Network IP Address Setting

Click **Start**→Input **cmd**.

Input ping 192.168.0.123(default IP of N8352) and check if N8352 can communicate properly.

Figure 20 Run Command

If communicating properly, the below information will be reverted.

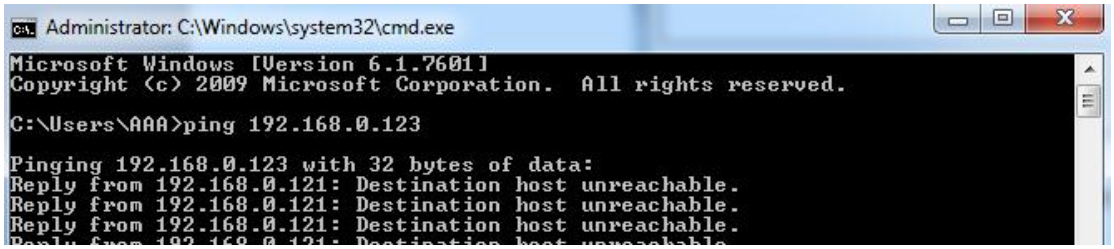

Figure 21 Communication Test

1.4 Menu

After the application software is successfully installed, a shortcut icon will be generated on the desktop. Please click the shortcut to enter the menu.

Figure 16 Shortcut

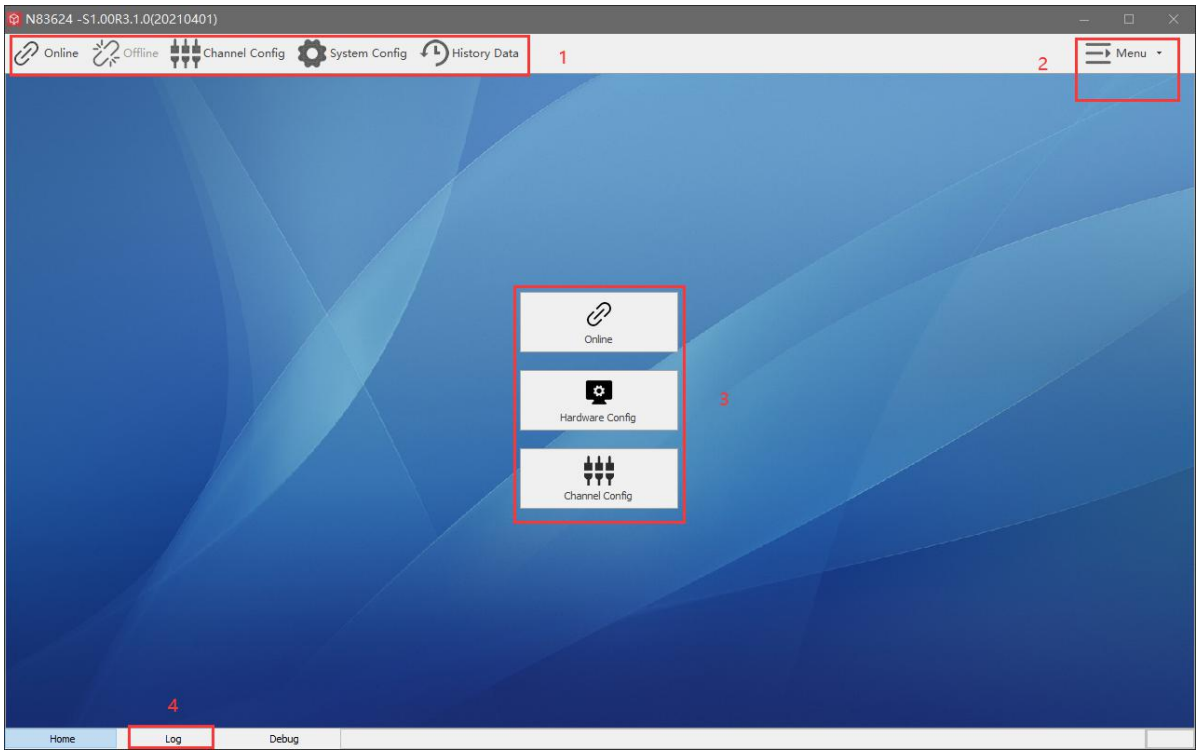

Figure 17 Application Software Interface

Application software interface introduction:

1. Toolbar

It includes Online, Offline, Channel Config, System Config and History Data.

2. Menu
3. Shortcut menu
4. Log

Operation, fault and status information can be found in Log.

1.5 Configuration

1.5.1 Hardware Configuration

Steps for hardware configuration:

1. Click **Hardware Config**.

2. Click **Scan** → Select 192.168.0.XXX network → Click **OK** → Click **Save** after all channels are searched.

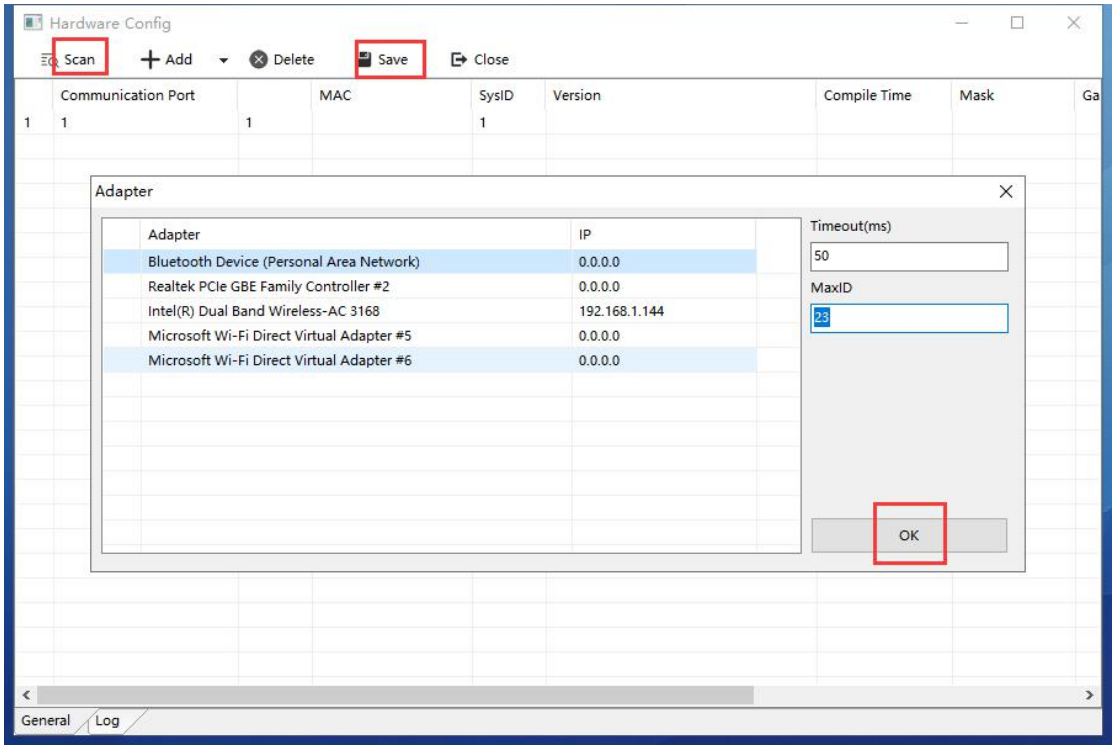

Figure 18 Hardware Configuration

1.5.2 Channel Configuration

Steps for channel configuration:

1. Set channel name

   Click the parameter under **Channel**→Input the required channel name.

2. Use default channel name

   Click **Other**→Select **Default Channel Name**.

3. Enable

The channel with tick will be enabled. Users can select All or None for enabling.

Note: Channel configuration should be completed under offline status.

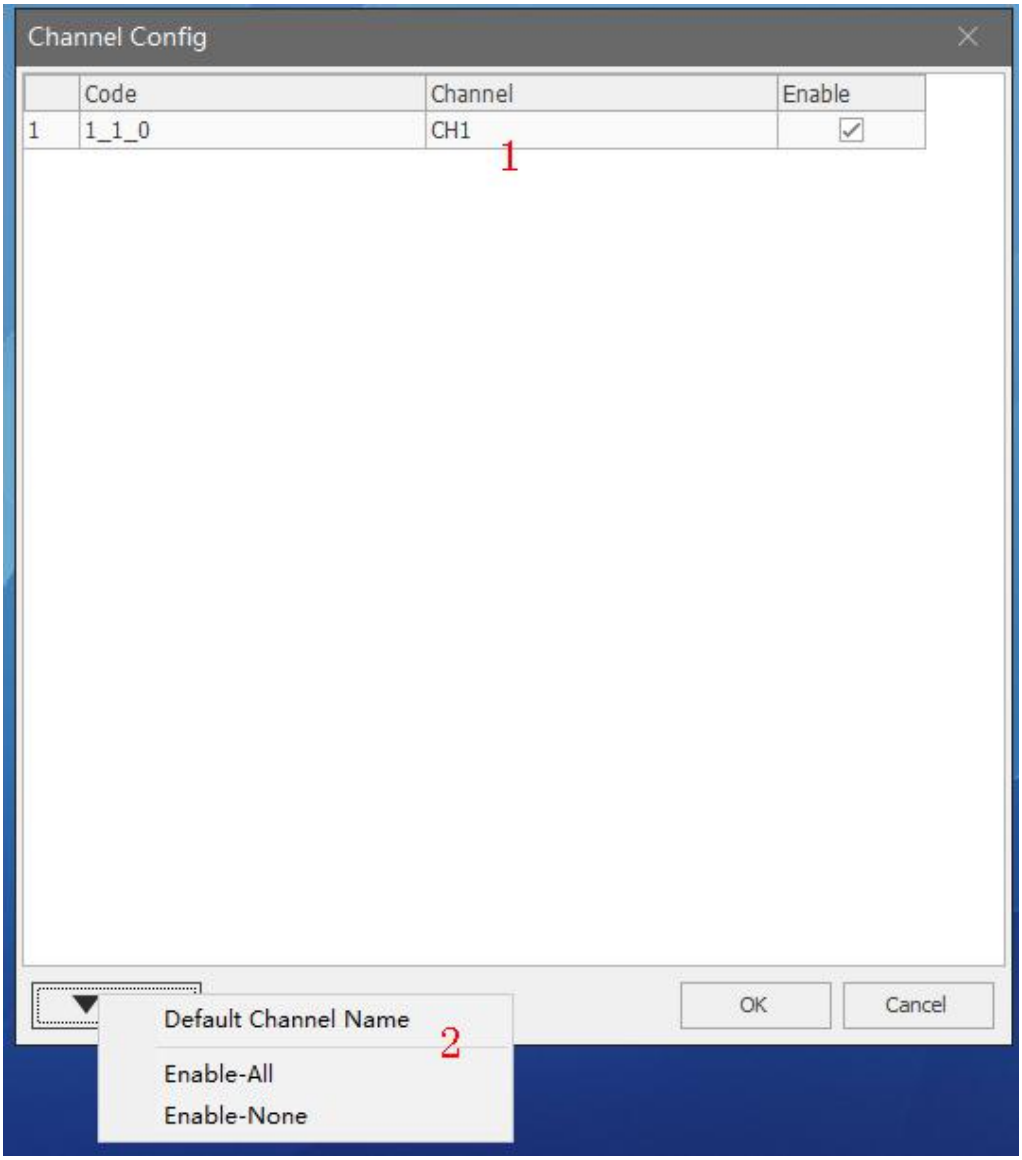

Figure 19 Channel Configuration

1.5.3 System Configuration

1. Data Storage Time
   Calculate the date from today to the previous time. The data within N days will be saved. The data beyond the time will be automatically delete.
2. Communication disconnected. Please choose device processing method.

Options: No Operation, Device OFF

3. Custom Data File Directory

If it is not customized, it will be the default directory.

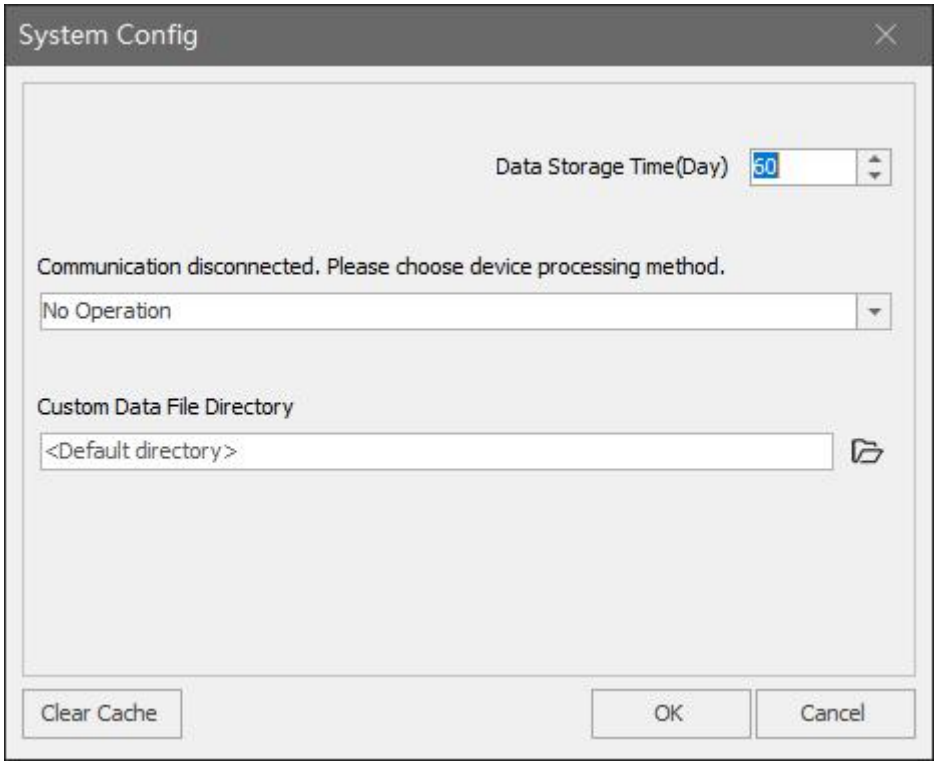

Figure 20 System Configuration

1.5.4 Online/Offline

Online means the communication between N83624 and PC is enabled.
Offline means the communication between N83624 and PC is disabled.

Figure 21 Online/Offline

2 Operation

2.1 Online Interface

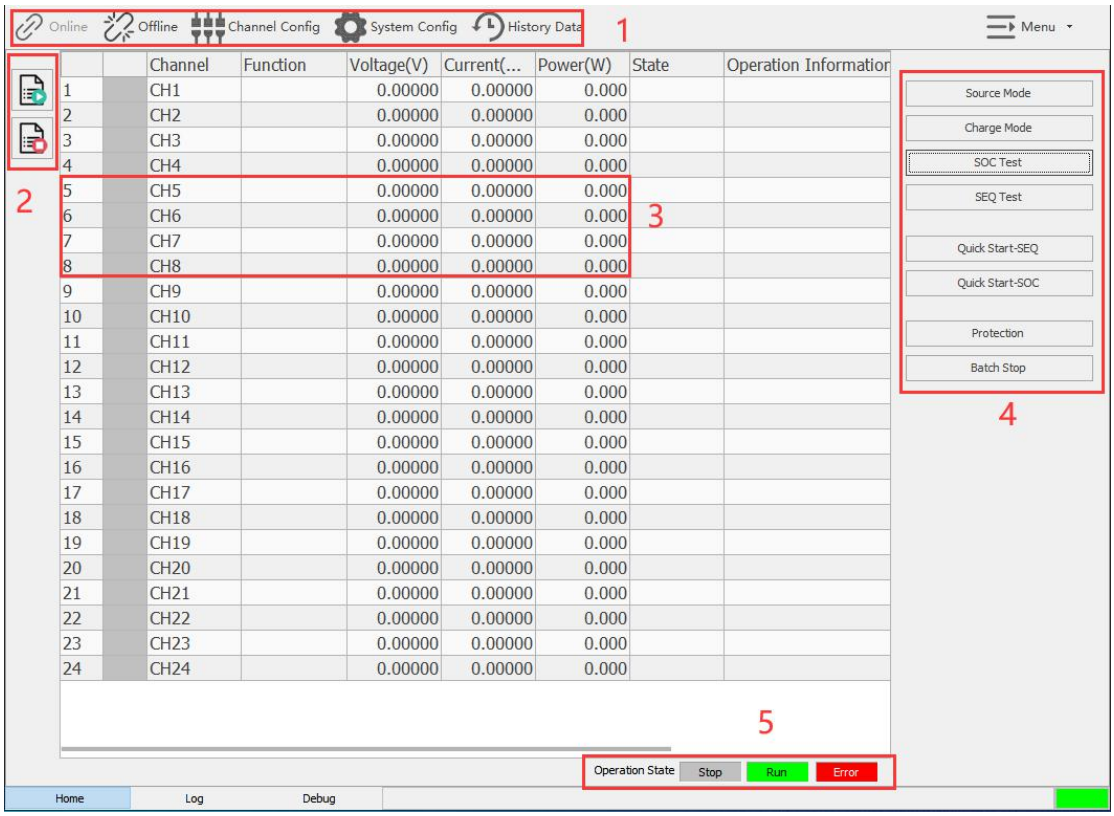

Figure 22 Online Interface

1. Tool bar
2. Batch start/stop data logging
3. Channel data
4. Shortcut menu
5. Operation state

2.2 Channel Operation

2.2.1 Batch Operation

Steps for batch operation:

1. Select the function from shortcut menu at the right side.
2. Select the required channels.
3. Set parameters.

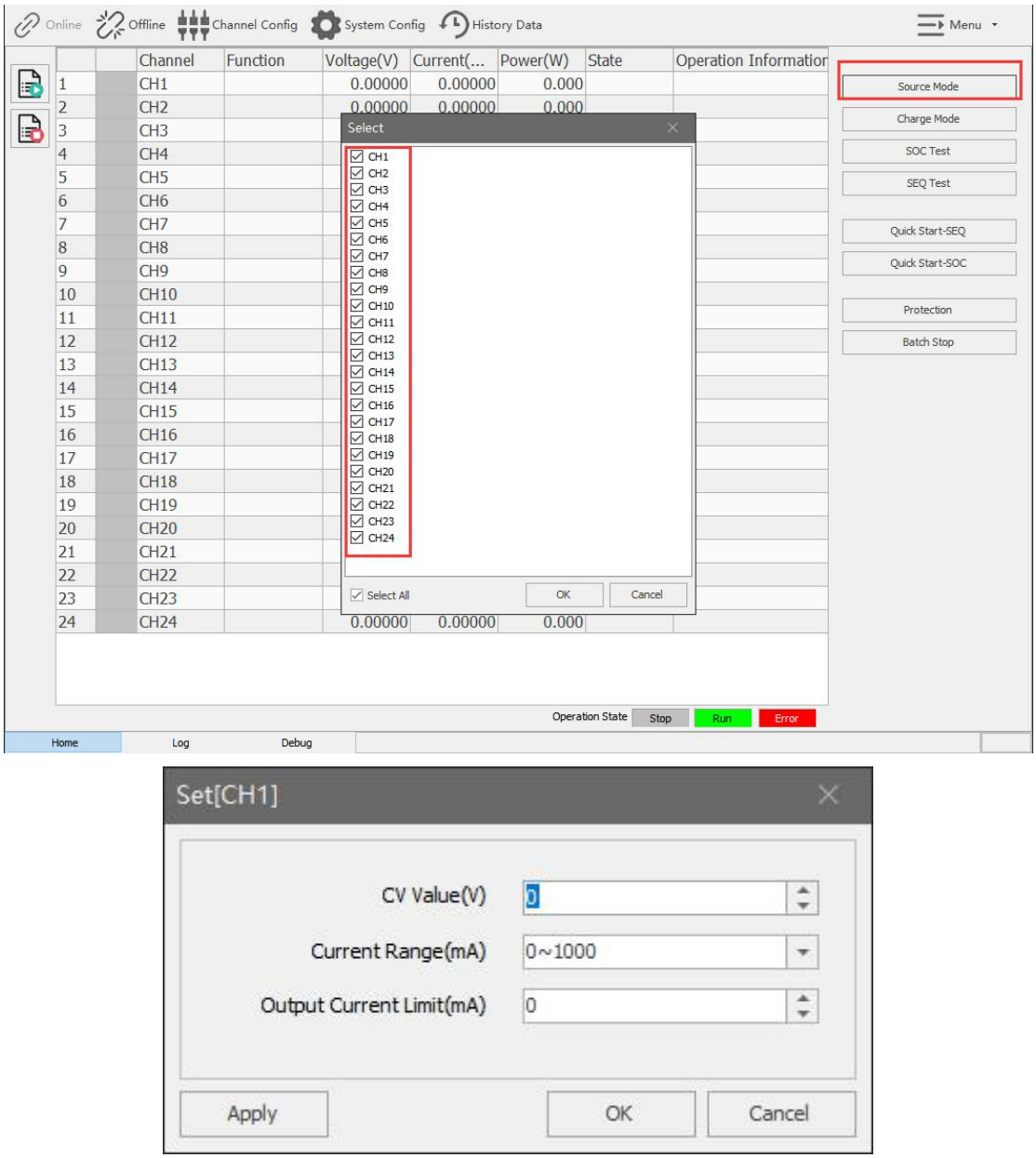

Figure 23 Batch Operation

2.2.2 Single Channel Operation

Steps for single channel operation:

1. Right click at the required channel.
2. Select the function.
3. Set parameters.

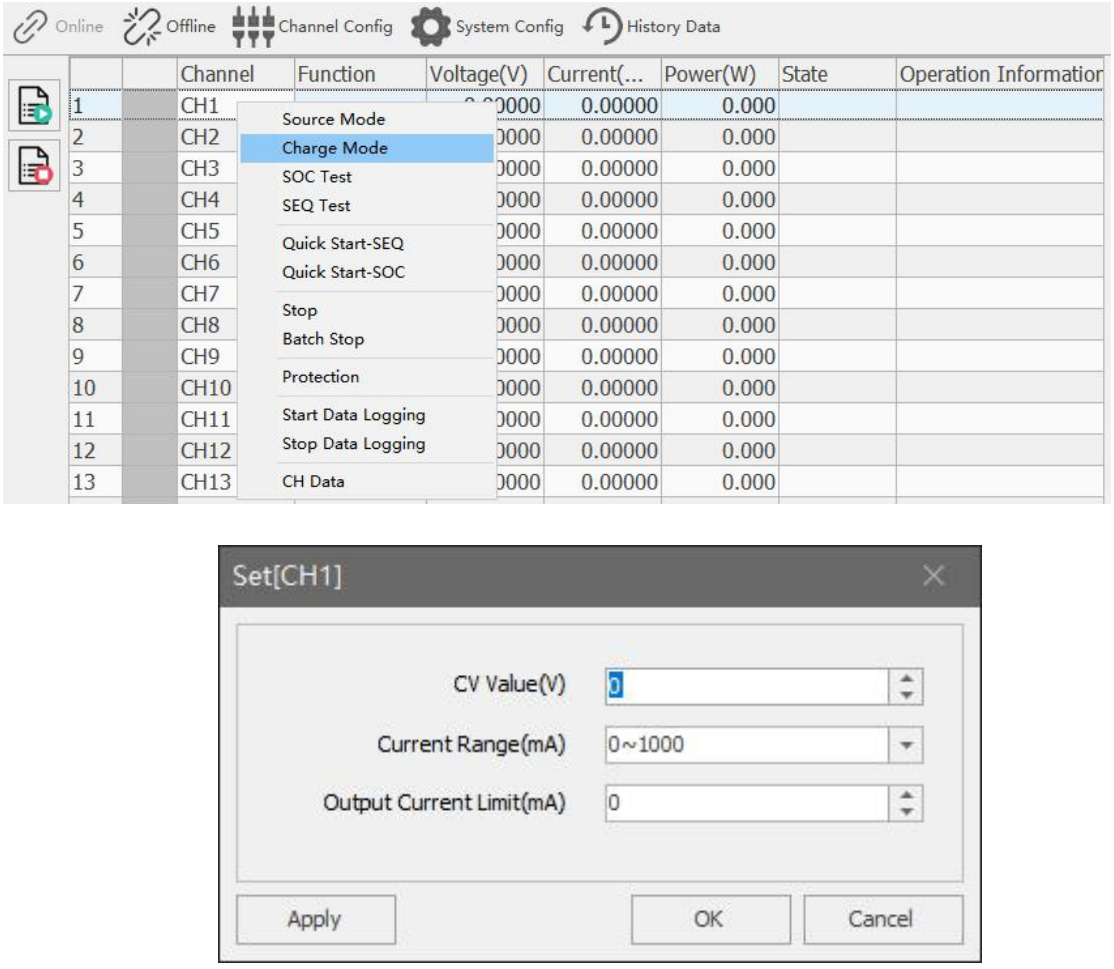

Figure 24 Single Channel Operation

2.3 Function Introduction

2.3.1 Source Mode

Users can set constant voltage and output current limit value, and select the current range under source mode.

After inputting parameters, please click OK or Apply. By OK, it will close the setting window. By Apply, the setting window will not be closed.

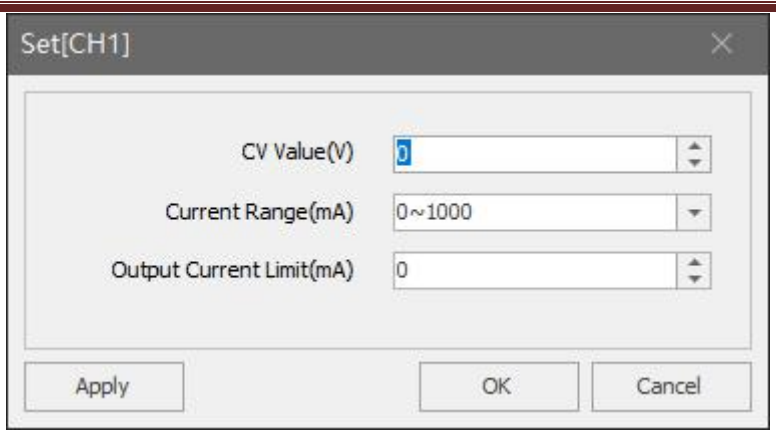

Figure 25 Parameter Setting

2.3.2 Charge Mode

Users can set constant voltage, output current limit value and resistance value under charge mode.
After inputting parameters, please click OK.

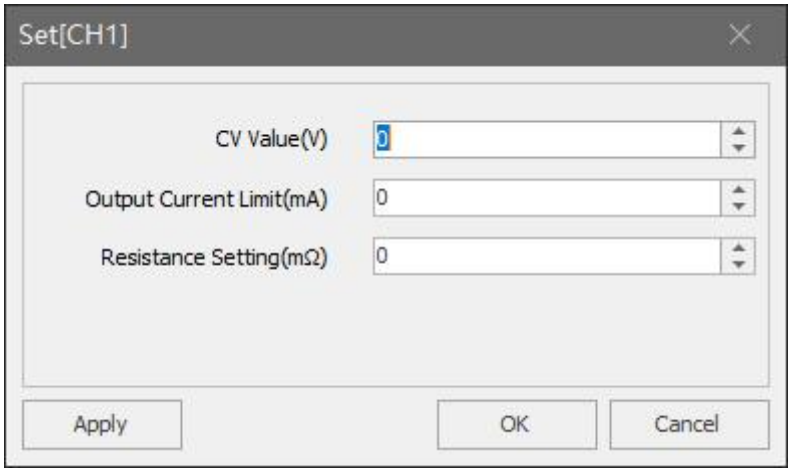

Figure 26 Parameter Setting

2.3.3 SOC Test

Steps for SOC test:

1. Click +.
2. Input parameters in Edit window.
3. Click OK to complete setting.

4. Click OK to start SOC test.

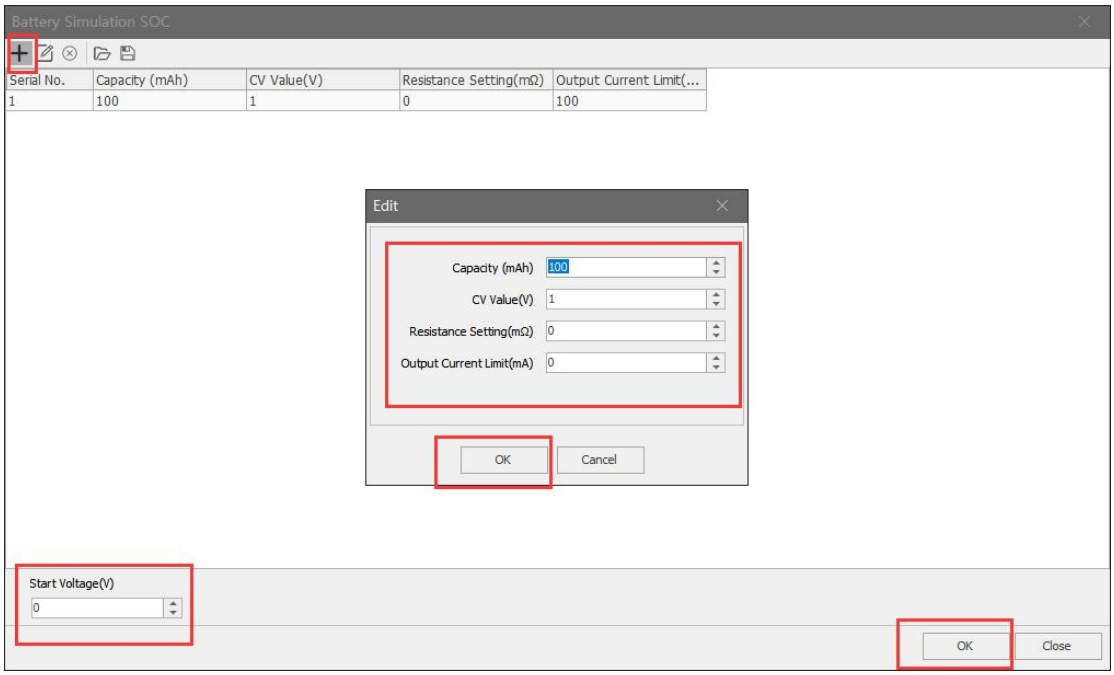

Figure 27 SOC Test

2.3.4 SEQ Test

Steps for SEQ test:

1. Click +.
2. Input parameters in Edit window.
3. Click OK to complete setting.
4. Input required cycle times.
5. Click OK to start SEQ test.

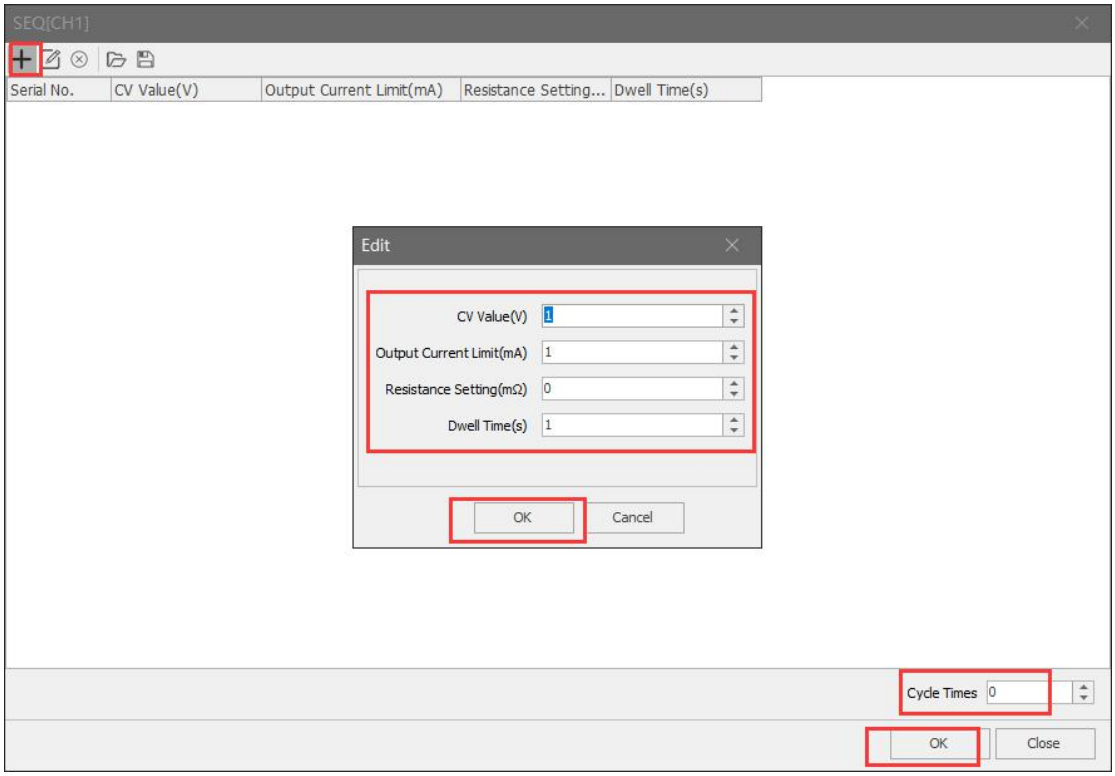

Figure 28 SEQ Test

2.3.5 Quick Start-SEQ

When there are steps saved, users can click Quick Start-SEQ to start SEQ test. This operation can accelerate the startup speed. It can be used in scenarios that require repeated sequence tests.

2.3.6 Quick Start-SOC

When there are steps saved, users can click Quick Start-SOC to start SOC test. This operation can accelerate the startup speed. It can be used in scenarios that require repeated SOC tests.

2.3.7 Protection

Steps for Protection:
1.Click Protection.

2.Input parameters in Set window.

3.Click OK to complete setting.

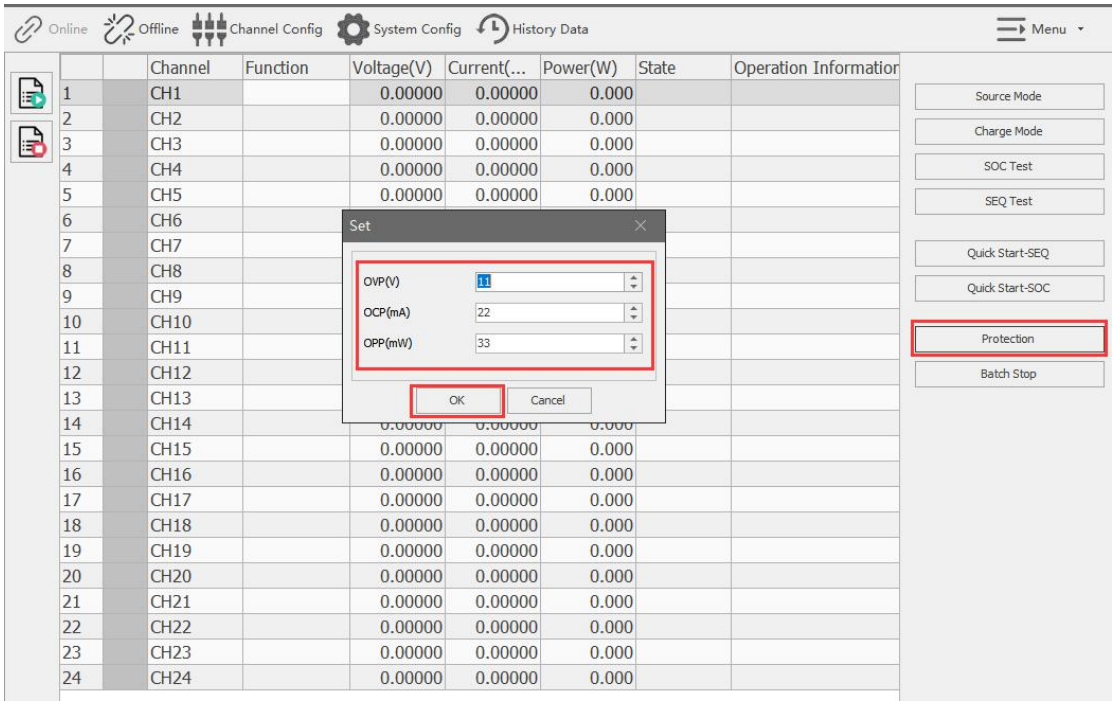

Figure 29 Protection

2.4 Stop/Batch Stop

This operation will stop the operation of the selected channel/channels.

2.5 Data Logging

2.5.1 Start Data Logging

Single channel operation

1. Right click at the required channel.
2. Select Start Data Logging.

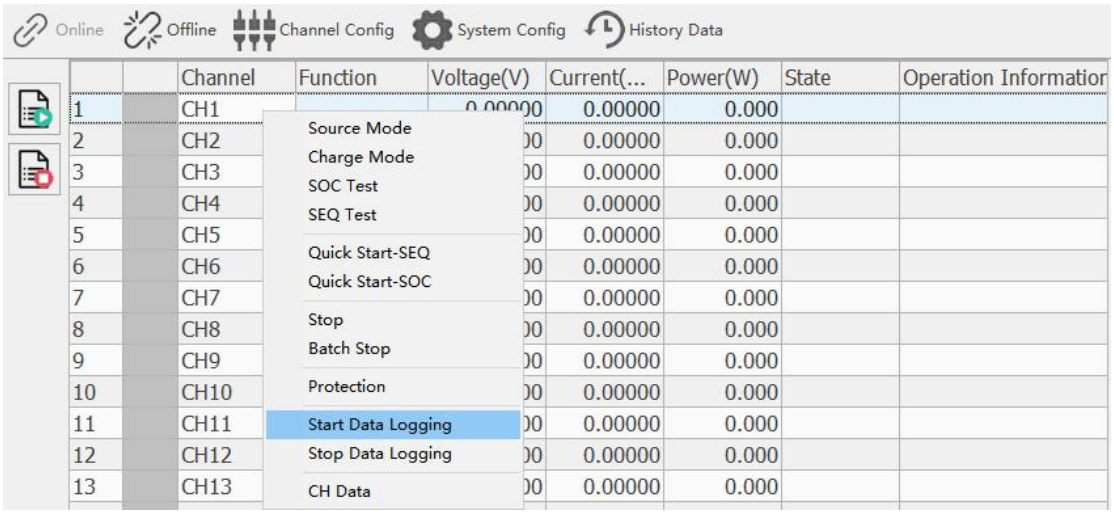

Figure 30 Start Data Logging

Batch operation

1. Click the green button at the left side.
2. Select the required channels.
3. Click OK to start batch data logging.

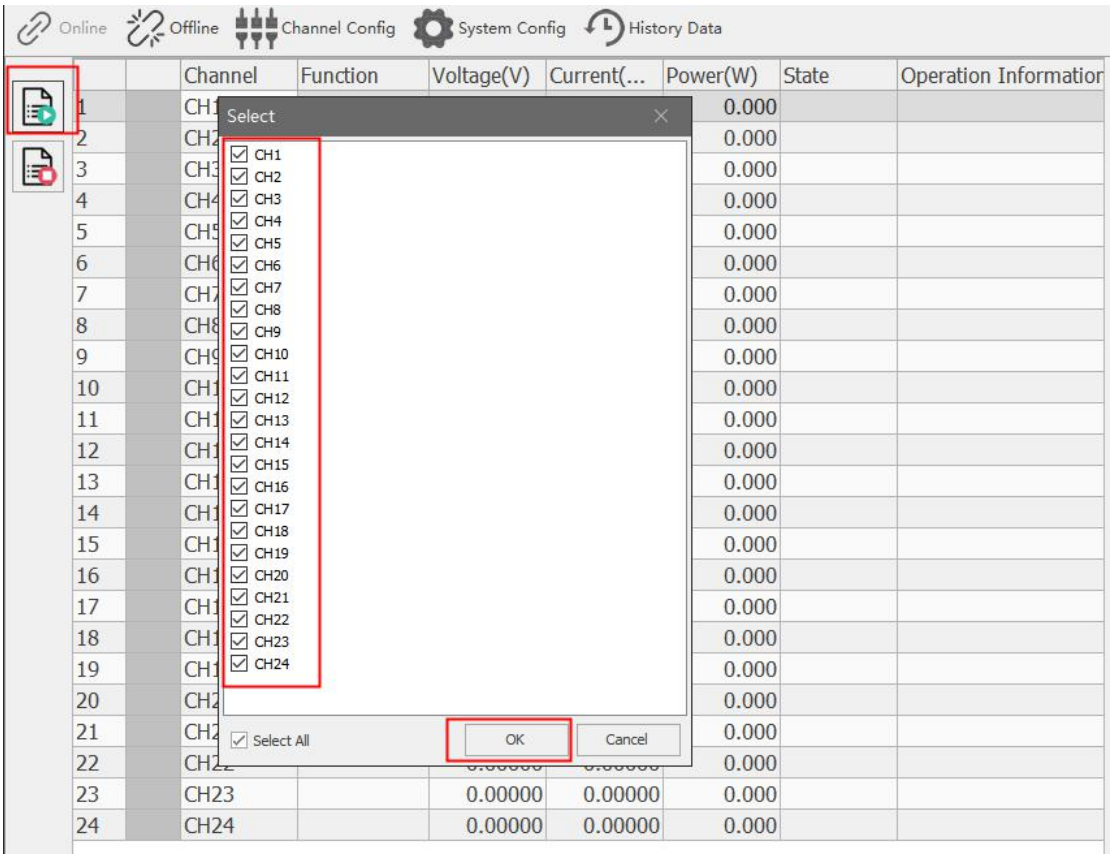

Figure 31 Start Data Logging

2.5.2 Stop Data Logging

Single channel operation

1. Right click at the required channel.
2. Select Stop Data Logging.

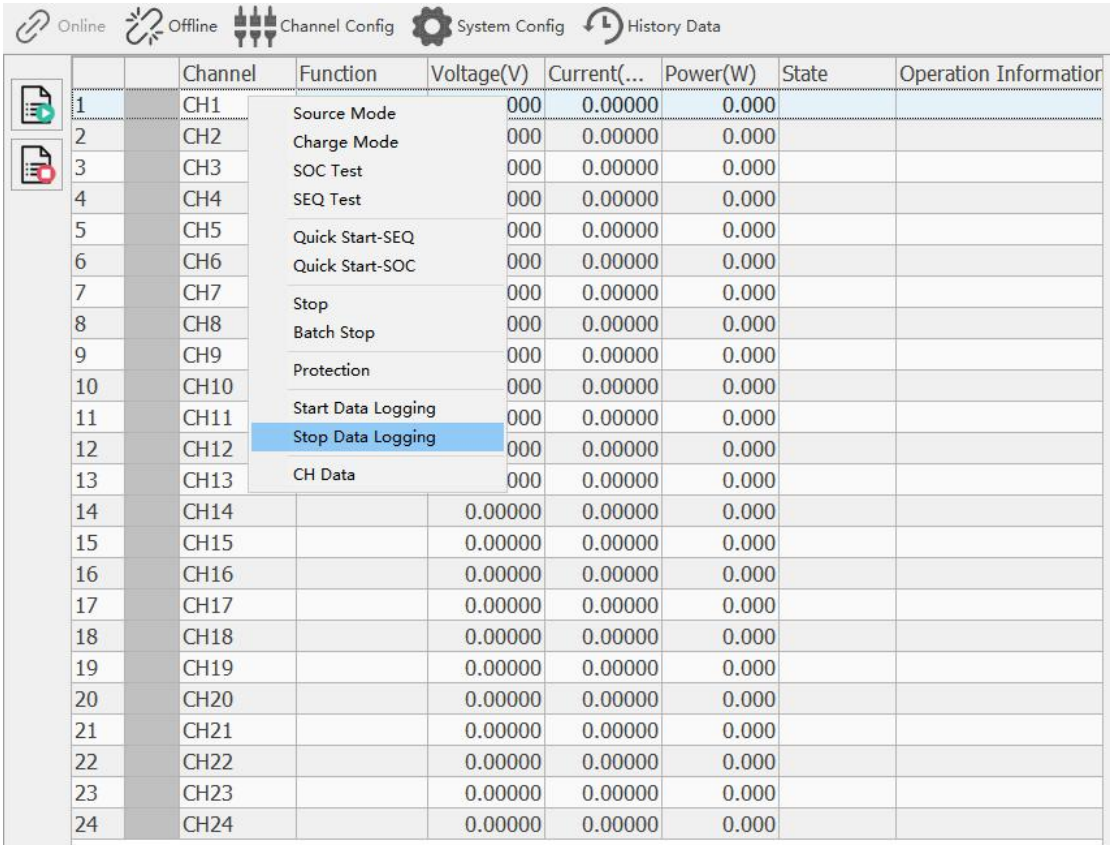

Figure 32 Stop Data Logging

Batch operation

1. Click the red button at the left side.
2. Select the required channels.
3. Click OK to stop batch data logging.

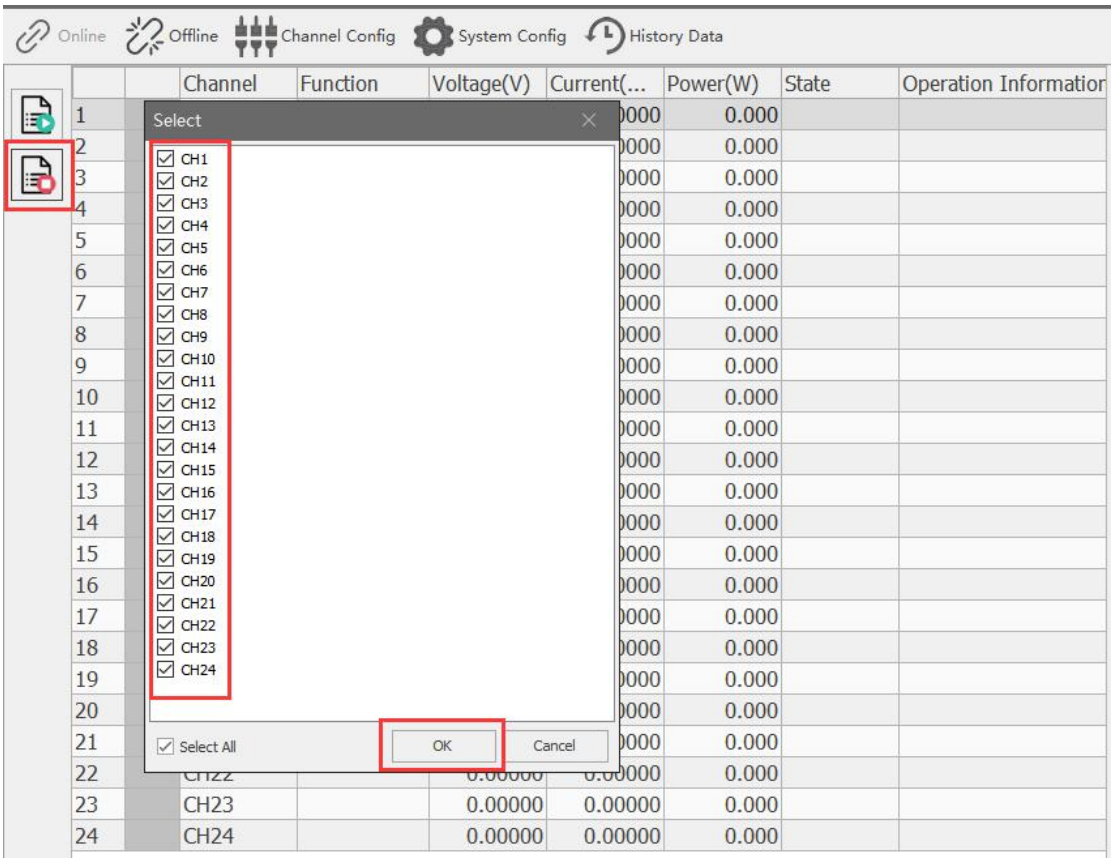

Figure 33 Stop Data Logging

2.5.3 Channel Data

Steps for checking channel data:

1. Right click at the required channel.

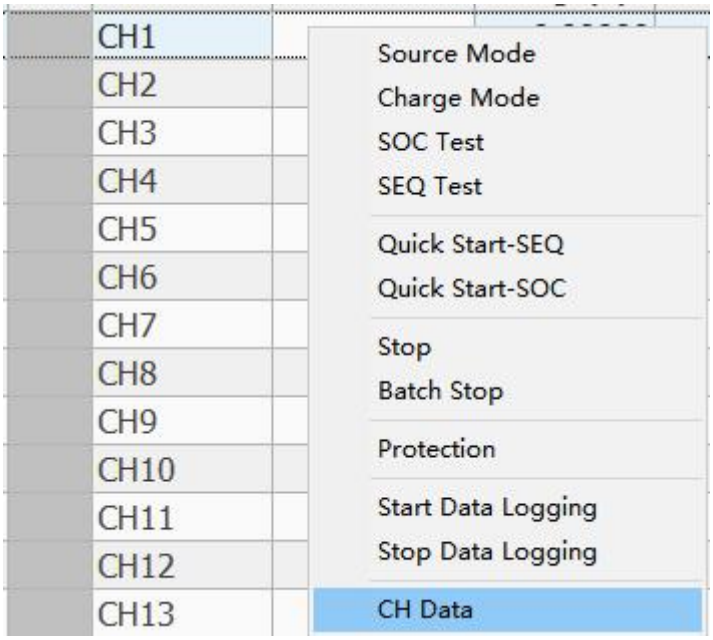

Figure 34 Channel Data

2. Wait for few seconds. The channel data will be showed.

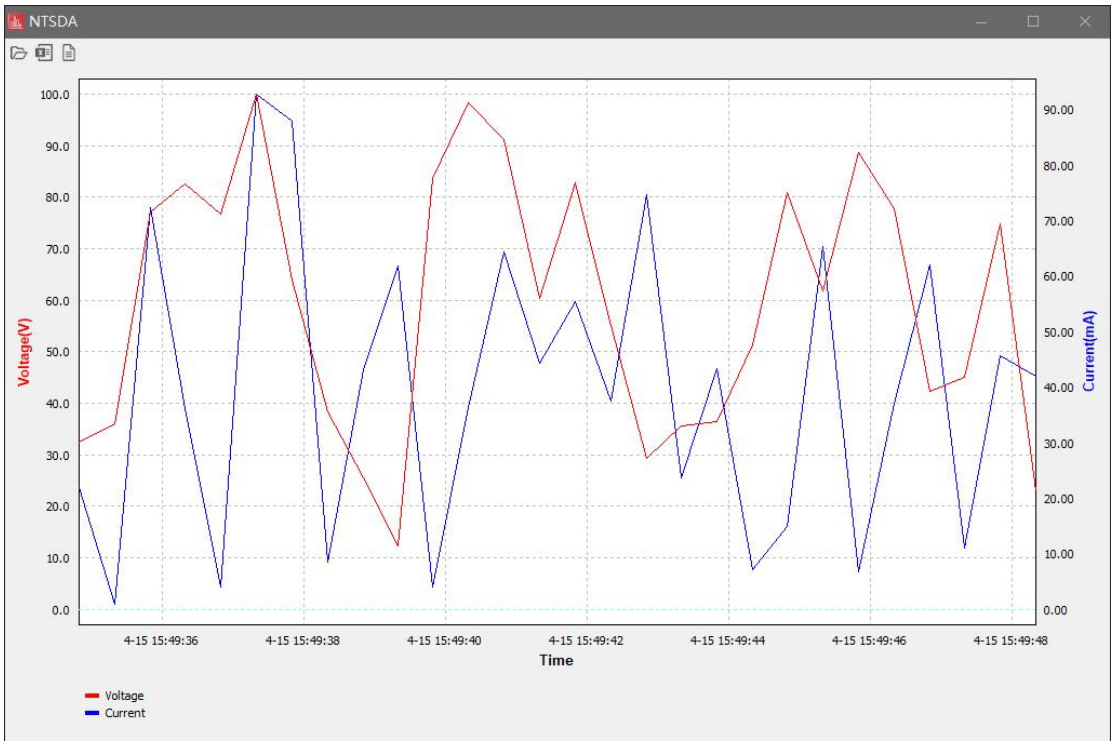

Figure 35 Channel Data

Note: To check channel data, users need to enable data logging function first.

The icons on channel data interface:

1. Open

   The saved data files can be opened.

2. Data Export

   The data recorded can be exported in Excel file for view.

3. File Location

   Users can choose the location to save file.

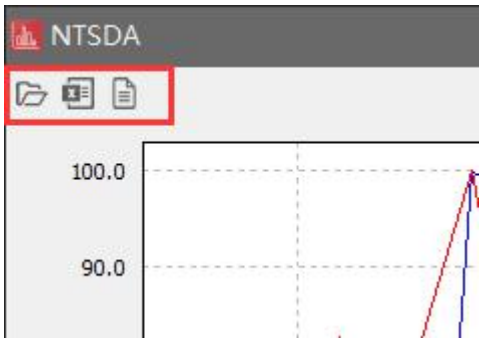

Figure 36 Channel Data

2.5.4 History Data

1. Data of required channels can be showed after completing the query terms.
2. Channel data of specific channel can be viewed or deleted by right clicking at the specific channel.
3. It also provides access to open external file.

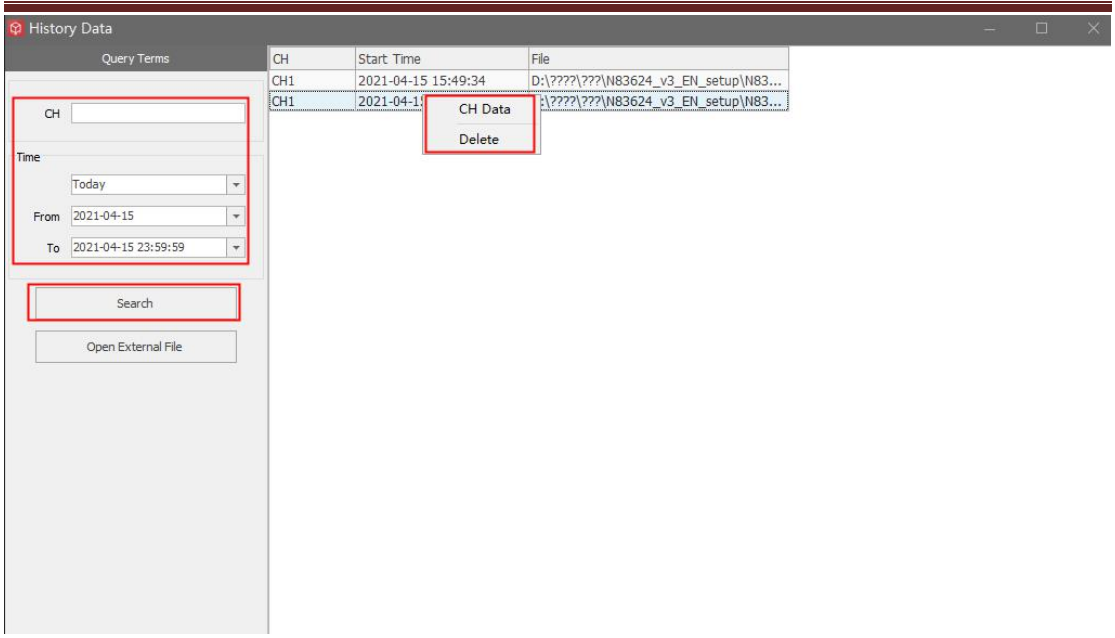

Figure 37 History Data