BMS PC Software

Working Instruction

产品名称/Product name：	Hengchi BMS Intelligent Management Software
软件名称/Product model：	BMS Manager V2
版本/Version：	V2.0.0
客户名称/Customer name：	
客户签名盖章/Signatures：	

珠海市希望电子有限公司

修订履历表/Revision History

修订日期 Revision date	版本 Version number	修订内容描述 Revised content

目录

BMS 上位机说明书 **1**

SPECIFICATION ..... **错误！未定义书签。**

珠海市希望电子有限公司 **1**

修订履历表/REVISION HISTORY **1**

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1. 概述（Overview）

本说明书适用于 BMS Manager V2，用于指导用户完成设备连接、参数配置、数据监控及系统维护等操作。软件可与 BCU 配套使用，实现电池管理系统（BMS）的数据采集、状态监控、远程控制及数据分析功能。

This manual applies to BMS Manager V2 and is intended to guide users through operations such as device connection, parameter configuration, data monitoring, and system maintenance. The software can be used in conjunction with the BCU to achieve the functions of the Battery Management System (BMS), including data collection, status monitoring, remote control, and data analysis.

2. 系统要求（System Requirement）

- 操作系统/Operating System：Windows 10/11
- 硬件配置/Hardware Configuration：

  CPU：Intel Core i5 or higher

  内存/Memory：8GB or higher

  存储/Storage：500MB of available space

  显示器分辨率/Monitor Resolution：1920*1080 or higher
- 通讯接口/Communication Interface：USB 2.0 or higher (for connecting CAN/RS-485 adapters)

3. 安装步骤（Installation steps）

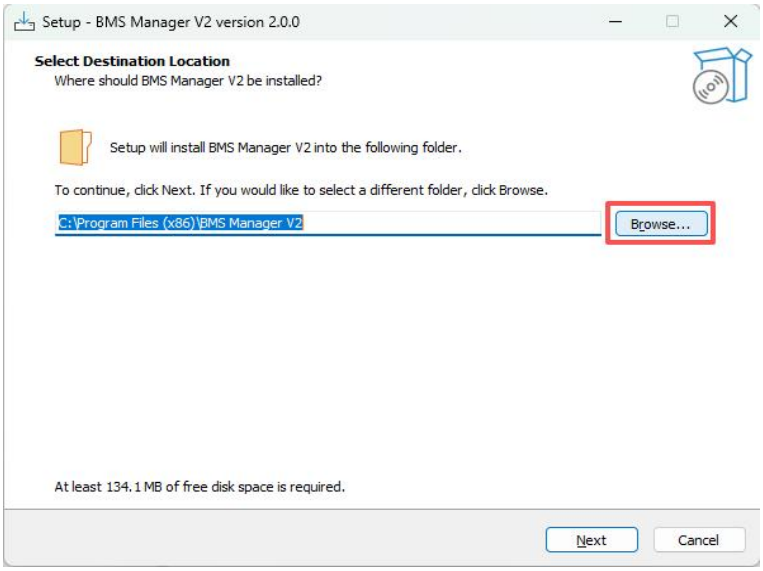
1. 安装运行/Install and run

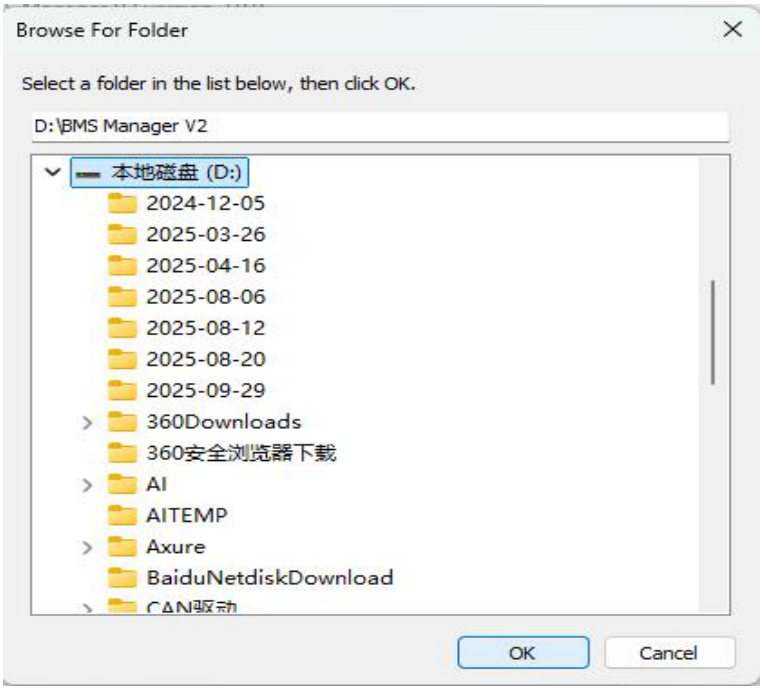
①找到下载的安装包（下载安装包时注意关闭杀毒软件，避免安装包找不到），双击打开→②③选择安装路径（不要包含中文）→④点击 Next→⑤可以勾选创建桌面快捷方式（方便使用）→⑤点击 Next→⑥⑦点击 Install→⑧首次安装需要勾选配置文件（Install Visual C++ Redist Library 2005/Install Visual C++ Redist Library 2008/Install USB CAN Driver/Install USB CAN 2E-U Driver/Launch BMS Manager V2）非首次安装可以不勾选安装配置文件，跳过以下步骤（⑨~⑮）→⑧点击 Finish→⑨点击 Next→⑩选择安装路径→⑩⑪点击 Install→⑫点击 Finish→⑬点击 Next→⑭选择安装路径→⑭点击 Install→⑮点击 Finish，完成安装。

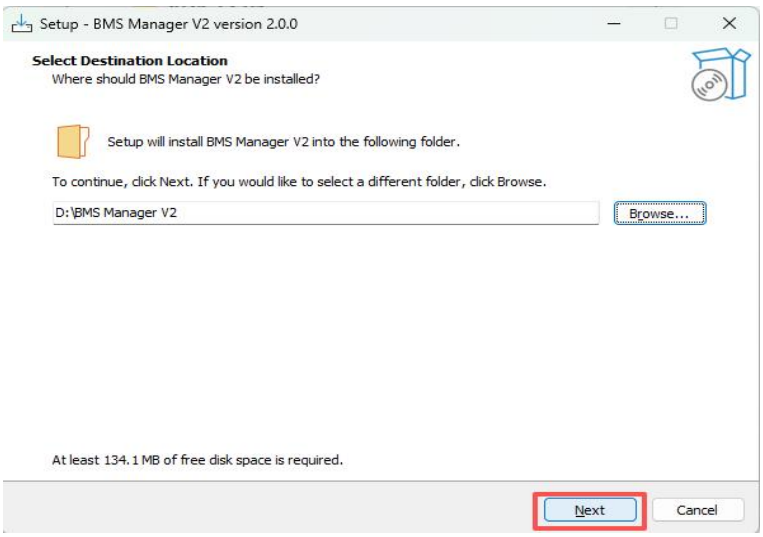
① Locate the downloaded installation package (note to disable your antivirus software during the package download to prevent the package from being unlocatable), then double-click to open it → ②③ Select the installation path (do not include Chinese characters) → ④ Click Next → ⑤ You can check the box for "Create Desktop Shortcut" (for easy access) → ⑤ Click Next → ⑥⑦ Click Install → ⑧ For the first installation, you

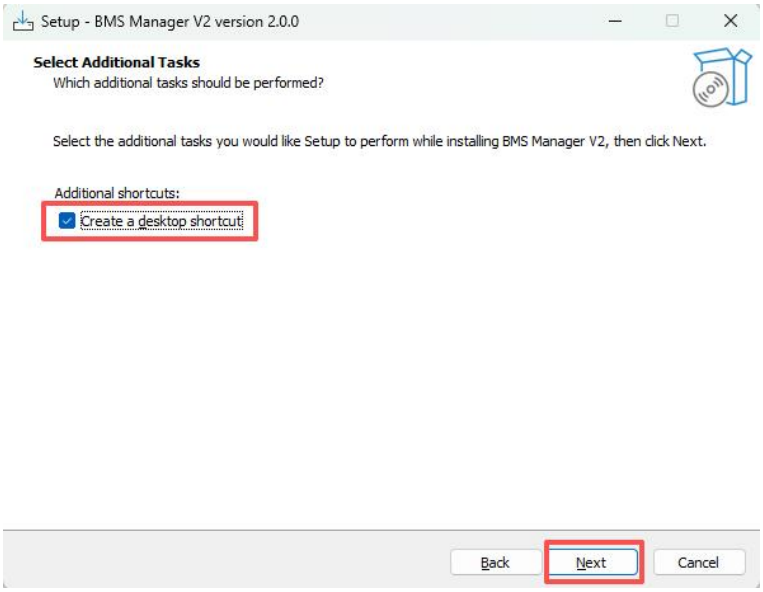
need to check the boxes for the configuration files (Install Visual C++ Redist Library 2005/Install Visual C++ Redist Library 2008/Install USB CAN Driver/Install USB CAN 2E-U Driver/Launch BMS Manager V2). For non-first installations, you can skip checking the boxes for installation configuration files and bypass the following steps (Steps ⑨~⑮) → ⑧ Click Finish → ⑨ Click Next → ⑩ Select the installation path → ⑩⑪ Click Install → ⑫ Click Finish → ⑬ Click Next → ⑭ Select the installation path → ⑭ Click Install → ⑮ Click Finish to complete the installation.

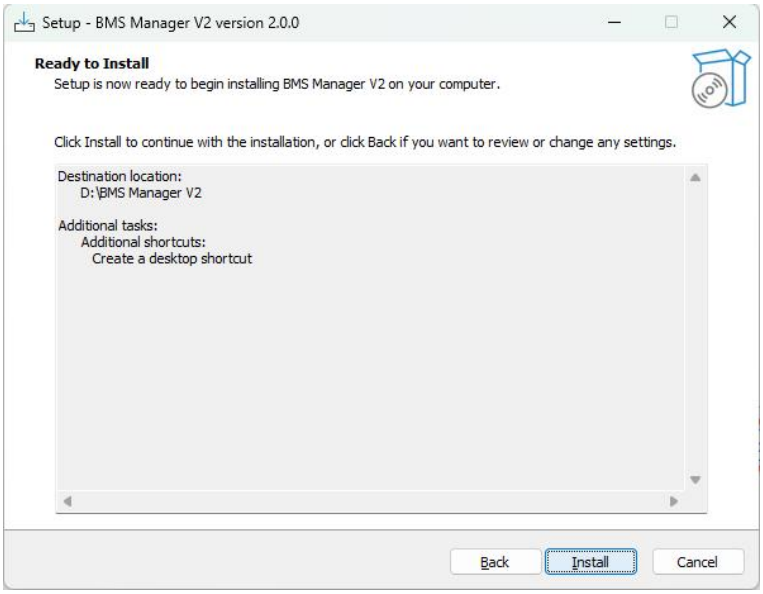


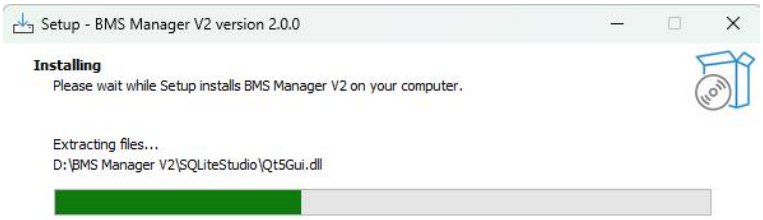




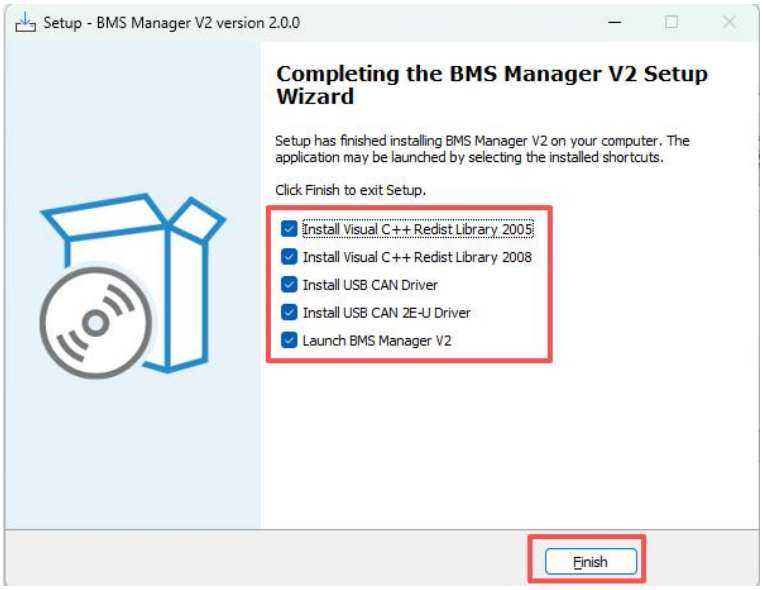

Setup - BMS Manager V2 version 2.0.0
Select Destination Location
Where should BMS Manager V2 be installed?
Setup will install BMS Manager V2 into the following folder.
To continue, click Next. If you would like to select a different folder, click Browse.
D:\BMS Manager V2
Browse...
At least 134.1 MB of free disk space is required.
Next
Cancel


Setup - BMS Manager V2 version 2.0.0
Select Additional Tasks
Which additional tasks should be performed?
Select the additional tasks you would like Setup to perform while installing BMS Manager V2, then click Next.
Additional shortcuts:
Create a desktop shortcut
Back
Next
Cancel

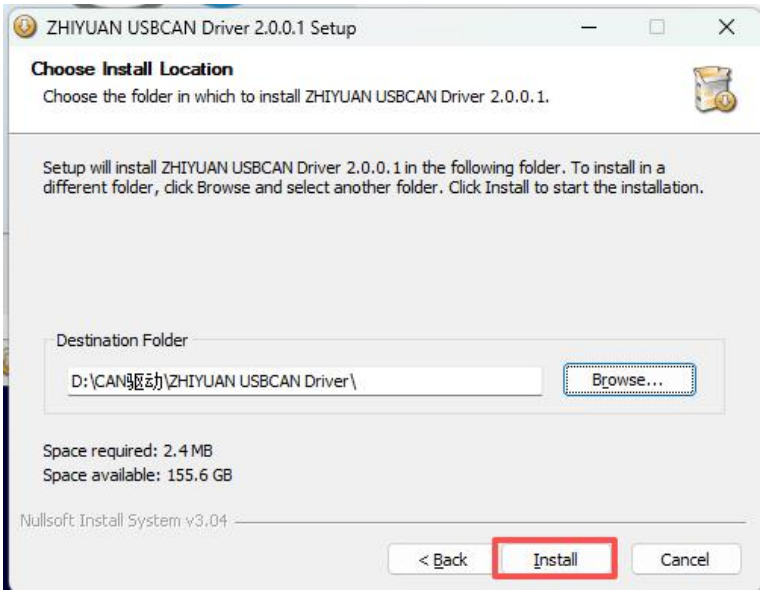

Setup - BMS Manager V2 version 2.0.0
Ready to Install
Setup is now ready to begin installing BMS Manager V2 on your computer.
Click Install to continue with the installation, or click Back if you want to review or change any settings.
Destination location:
D:\BMS Manager V2
Additional tasks:
Additional shortcuts:
Create a desktop shortcut
Back
Install
Cancel

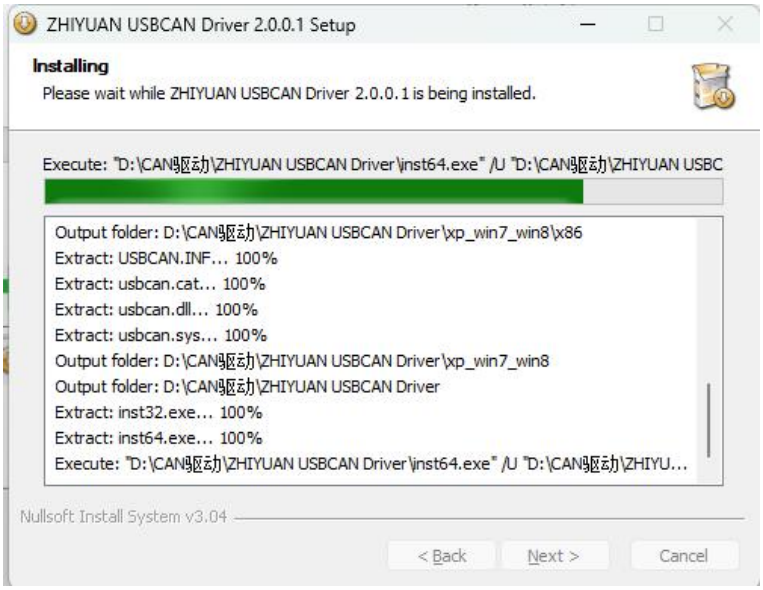

Setup - BMS Manager V2 version 2.0.0
Installing
Please wait while Setup installs BMS Manager V2 on your computer.
Extracting files...
D:\BMS Manager V2\SQLiteStudio\Qt5Gui.dll

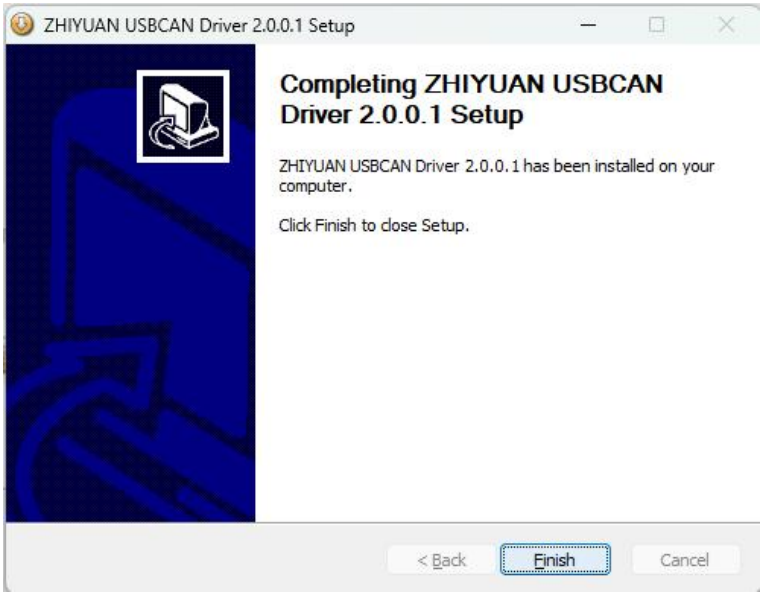

Cancel

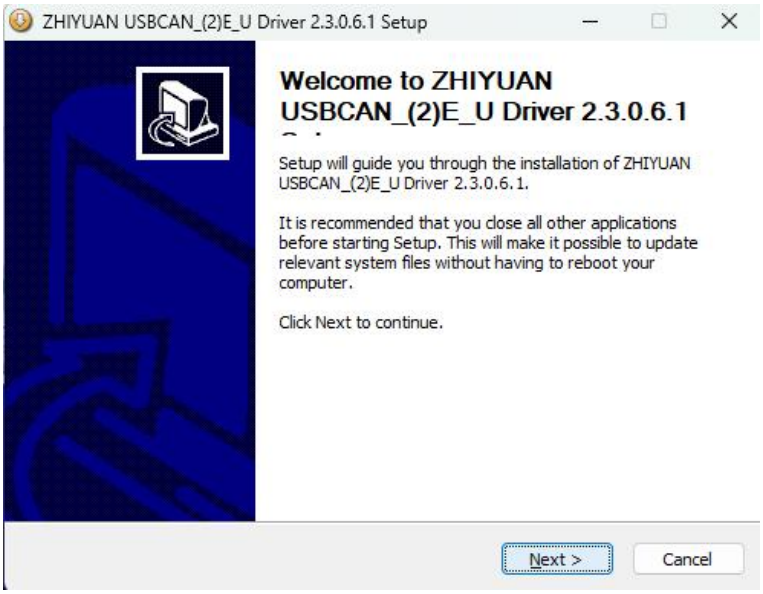

Setup - BMS Manager V2 version 2.0.0
Completing the BMS Manager V2 Setup Wizard
Setup has finished installing BMS Manager V2 on your computer. The application may be launched by selecting the installed shortcuts.
Click Finish to exit Setup.
Install Visual C++ Redist Library 2005
Install Visual C++ Redist Library 2008
Install USB CAN Driver
Install USB CAN 2E-U Driver
Launch BMS Manager V2
Finish

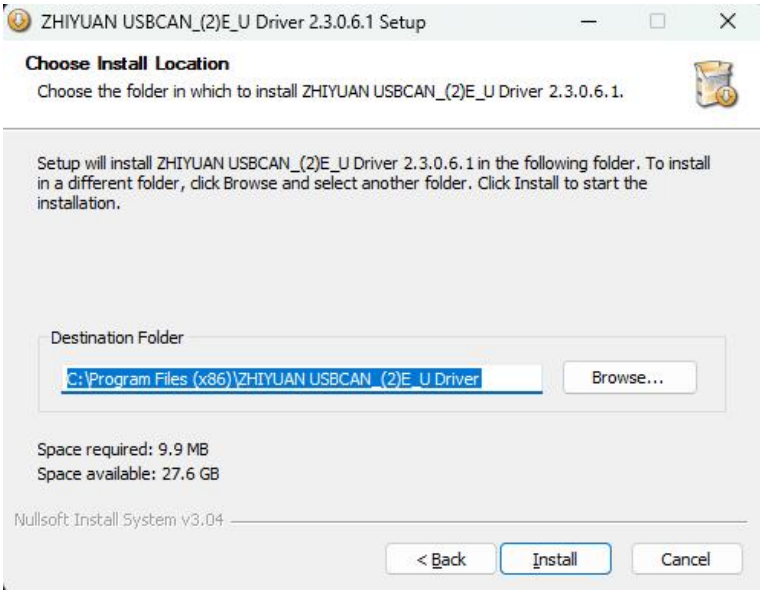

ZHIYUAN USBCAN Driver 2.0.0.1 Setup
Welcome to ZHIYUAN USBCAN Driver 2.0.0.1 Setup
Setup will guide you through the installation of ZHIYUAN USBCAN Driver 2.0.0.1.
It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.
Click Next to continue.
Next >
Cancel

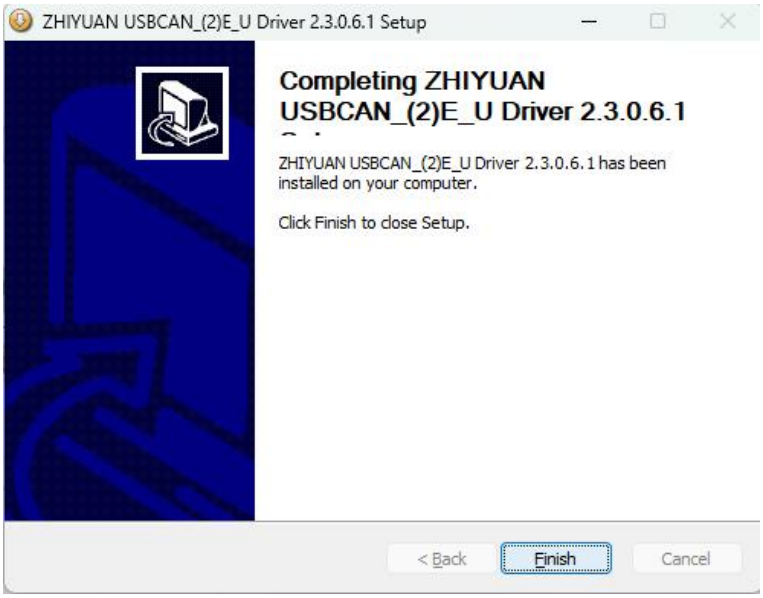

ZHIYUAN USBCAN Driver 2.0.0.1 Setup
Choose Install Location
Choose the folder in which to install ZHIYUAN USBCAN Driver 2.0.0.1.
Setup will install ZHIYUAN USBCAN Driver 2.0.0.1 in the following folder. To install in a different folder, click Browse and select another folder. Click Install to start the installation.
Destination Folder
D:\CAN驱动\ZHIYUAN USBCAN Driver\
Browse...
Space required: 2.4 MB
Space available: 155.6 GB
Nullsoft Install System v3.04
< Back
Install
Cancel


ZHIYUAN USBCAN Driver 2.0.0.1 Setup
Installing
Please wait while ZHIYUAN USBCAN Driver 2.0.0.1 is being installed.
Execute: "D:\CAN驱动\ZHIYUAN USBCAN Driver\inst64.exe" /U "D:\CAN驱动\ZHIYUAN USBC
Output folder: D:\CAN驱动\ZHIYUAN USBCAN Driver\xp_win7_win8\x86
Extract: USBCAN.INF... 100%
Extract: usbcan.cat... 100%
Extract: usbcan.dll... 100%
Extract: usbcan.sys... 100%
Output folder: D:\CAN驱动\ZHIYUAN USBCAN Driver\xp_win7_win8
Output folder: D:\CAN驱动\ZHIYUAN USBCAN Driver
Extract: inst32.exe... 100%
Extract: inst64.exe... 100%
Execute: "D:\CAN驱动\ZHIYUAN USBCAN Driver\inst64.exe" /U "D:\CAN驱动\ZHIYU...
Nullsoft Install System v3.04
< Back
Next >
Cancel

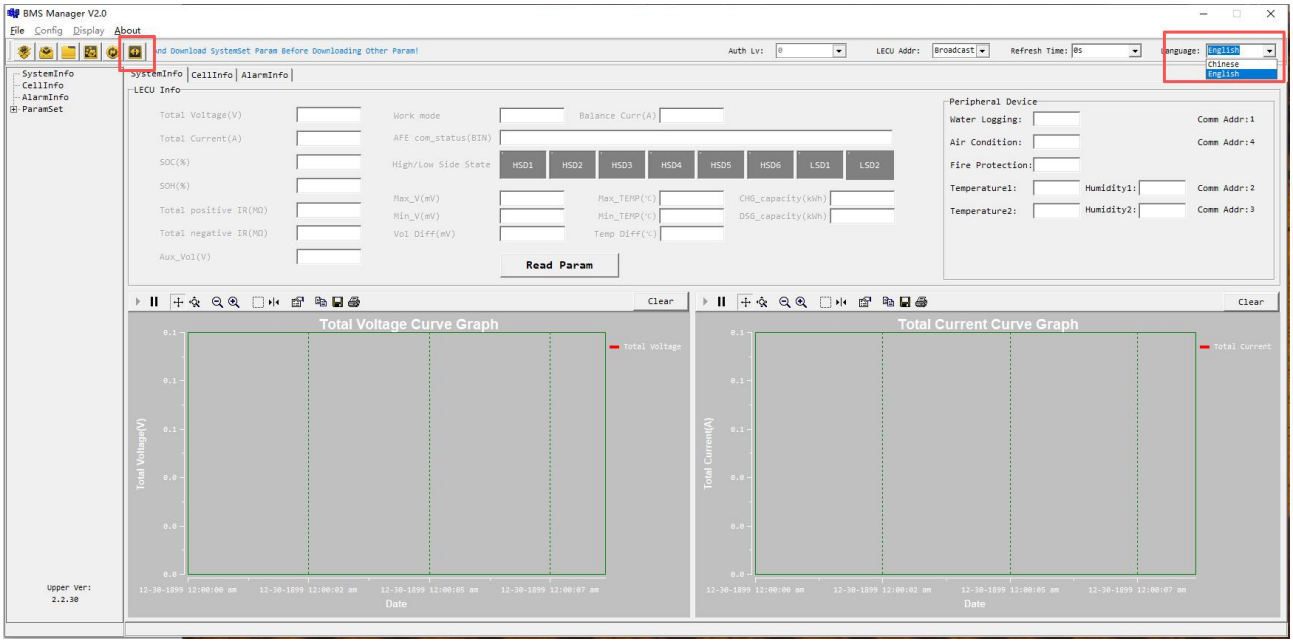

ZHIYUAN USBCAN Driver 2.0.0.1 Setup
Completing ZHIYUAN USBCAN Driver 2.0.0.1 Setup
ZHIYUAN USBCAN Driver 2.0.0.1 has been installed on your computer.
Click Finish to close Setup.
< Back
Finish
Cancel


ZHIYUAN USBCAN_(2)E_U Driver 2.3.0.6.1 Setup
Welcome to ZHIYUAN USBCAN_(2)E_U Driver 2.3.0.6.1
Setup will guide you through the installation of ZHIYUAN USBCAN_(2)E_U Driver 2.3.0.6.1.
It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.
Click Next to continue.
Next >
Cancel


ZHIYUAN USBCAN_(2)E_U Driver 2.3.0.6.1 Setup
Choose Install Location
Choose the folder in which to install ZHIYUAN USBCAN_(2)E_U Driver 2.3.0.6.1.
Setup will install ZHIYUAN USBCAN_(2)E_U Driver 2.3.0.6.1 in the following folder. To install in a different folder, click Browse and select another folder. Click Install to start the installation.
Destination Folder
C:\Program Files (x86)\ZHIYUAN USBCAN_(2)E_U Driver
Browse...
Space required: 9.9 MB
Space available: 27.6 GB
Nullsoft Install System v3.04
< Back
Install
Cancel


ZHIYUAN USBCAN_(2)E_U Driver 2.3.0.6.1 Setup
Completing ZHIYUAN USBCAN_(2)E_U Driver 2.3.0.6.1
ZHIYUAN USBCAN_(2)E_U Driver 2.3.0.6.1 has been installed on your computer.
Click Finish to close Setup.
< Back
Finish
Cancel

2. 语言切换/Language Switch



上位机软件安装成功后，打开软件是系统设置界面，在界面最上方右侧可以选择合适的语言（中文/英文），选好后会弹出语言设置成功的界面，点击“OK”。语言切换成功，需要点击右上角“X”或是左上角“Exit”按钮退出软件，重新进入页面，语言就切换成功了。

After the host computer software is installed successfully, you will enter the system settings interface upon opening the software. At the top-right corner of this interface, you can select the appropriate language (Chinese/English). Once selected, a prompt window titled "Language Settings Successful" will pop up; click "OK".

For the language switch to take effect, you need to exit the software by clicking either the "X" button in the top-right corner or the "Exit" button in the top-left corner. Relaunch the software, and the language switch will be fully applied.



4. 连接设备（Connecting devices）

4.1. CAN 总线连接设备（CAN Bus Connection）

1) 安全准备：断开所有设备电源，避免带电操作引发电气故障。

2) 线束识别：根据线束标签（如 CAN1_L、CAN1_H）对应连接 BCU 接口（见图 4-1）。

3) CAN 盒连接：将线束的 CAN1_L 和 CAN1_H 端口接入 CAN 盒对应接口（见图 4-3）。

4) 终端电阻检测：使用万用表在 CAN1_H 和 CAN1_L 之间测量电阻，标准值应为 60-120Ω（典型值 120Ω）。若阻值异常，检查终端电阻安装是否正确。

1) Safety Preparation: Disconnect the power supply of all devices to prevent electrical faults caused by live operation.

2) Harness Identification: According to the harness labels (e.g., CAN1_L, CAN1_H), connect them to the corresponding BCU interfaces (see Figure 4-1).

3) CAN Box Connection: Connect the CAN1_L and CAN1_H ports of the harness to the corresponding interfaces on the CAN box (see Figure 4-3).

4) Terminal Resistor Detection: Use a multimeter to measure the resistance between CAN1_H and CAN1_L. The standard value should be 60-120Ω (typical value: 120Ω). If the resistance value is abnormal, check whether the terminal resistor is installed correctly.

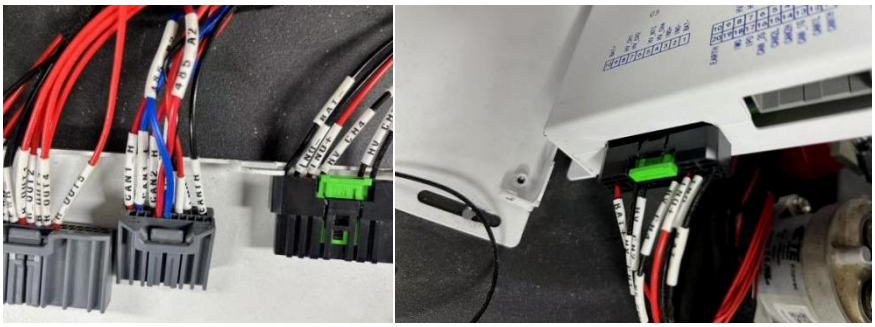


图 4-1 线束接口/Figure 4-1 Harness Interface

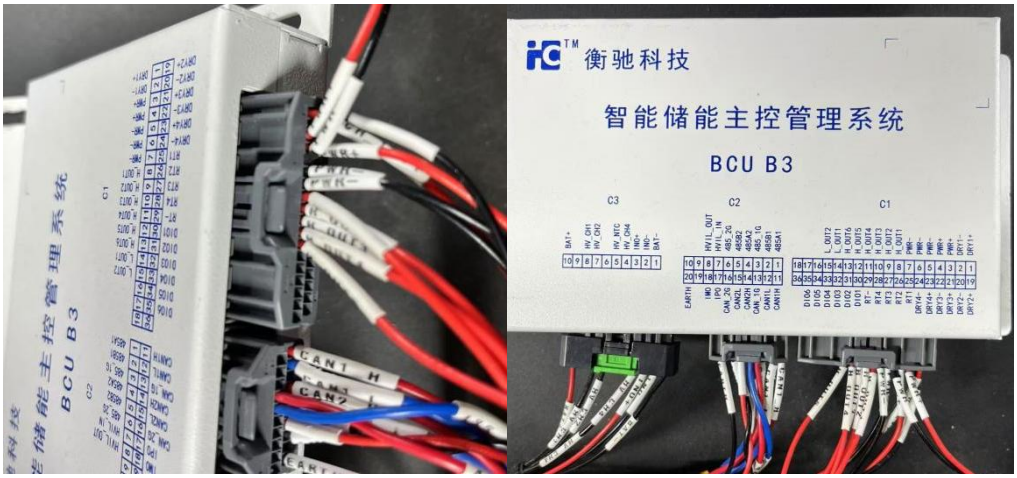


图 4-2 线束连接/Figure 4-2 Harness Connection



图 4-3 CAN 盒连接/Figure 4-3 CAN Box Connection

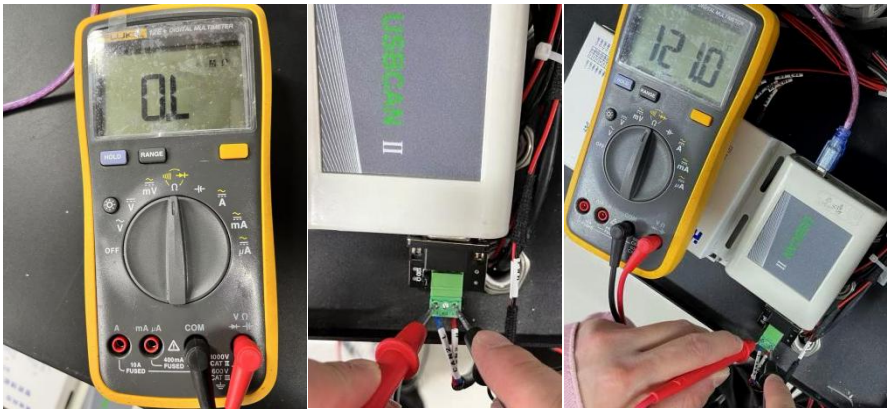


图 4-4 检测匹配电阻/Figure 4-4 Matching Resistor Detection

5) 参数配置

1、点击左上角“打开设备”按钮或是点击文件→打开设备，弹出 CAN 通讯配置界面；

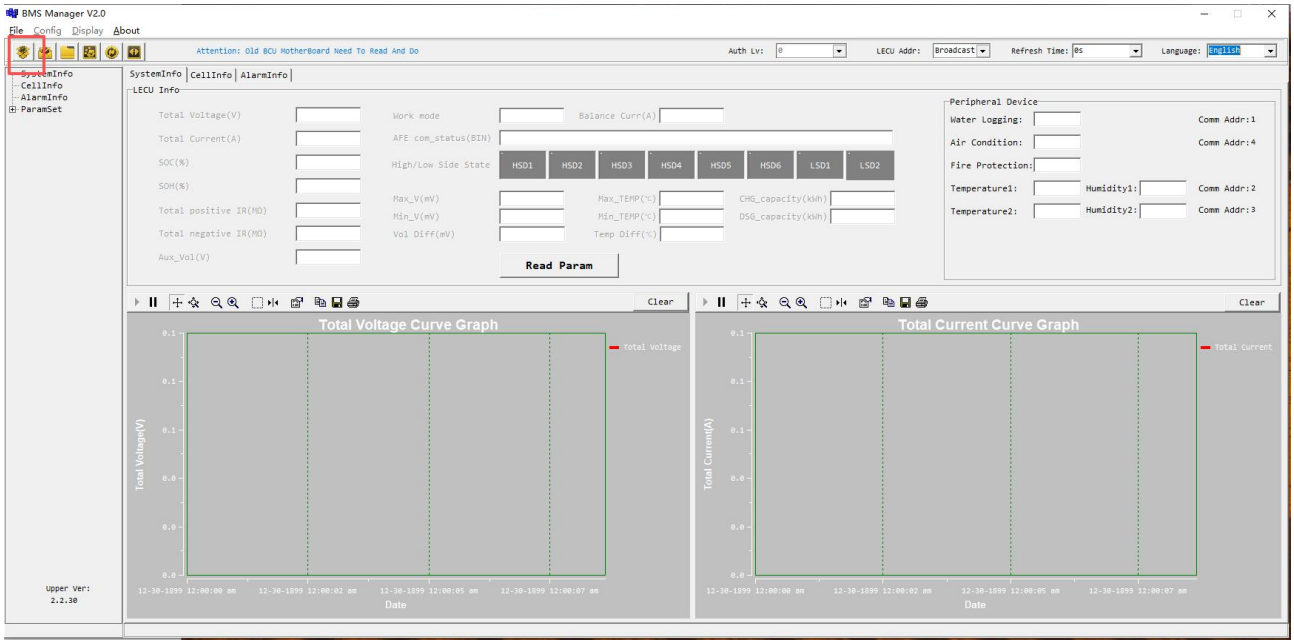
2、参数配置：“Type”选择“CAN”，其他参数默认无需修改 。

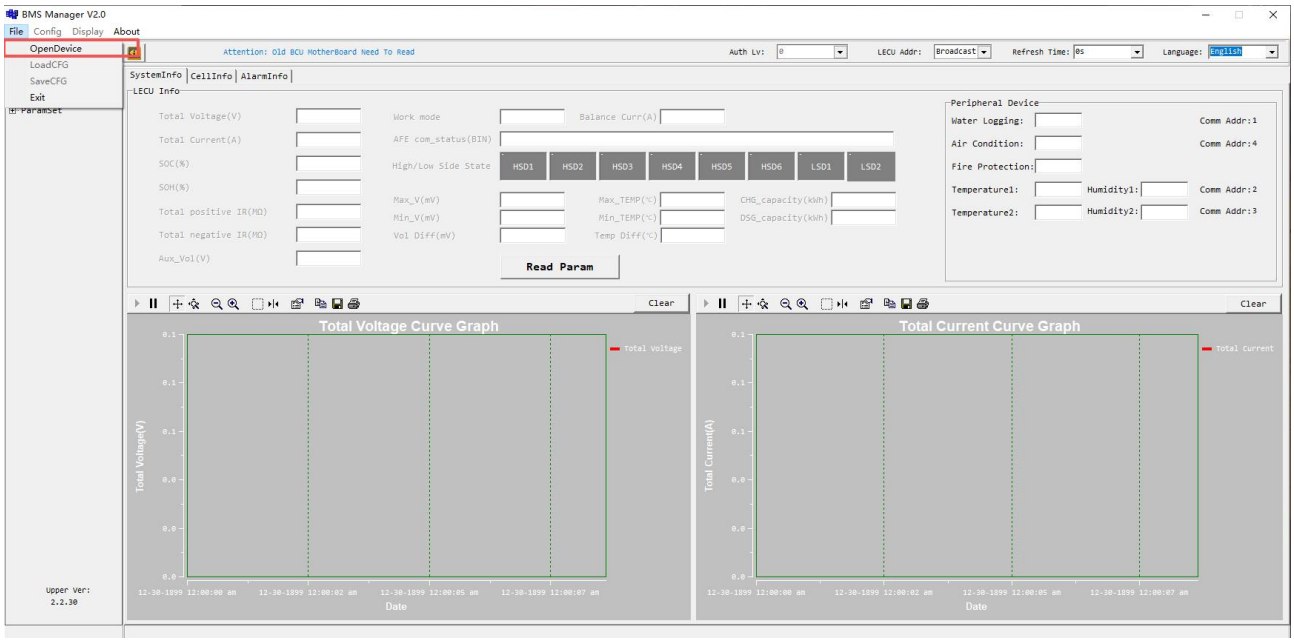
3、点击“Open”建立连接，等待弹窗提示打开成功。若打开失败请联系技术支持。

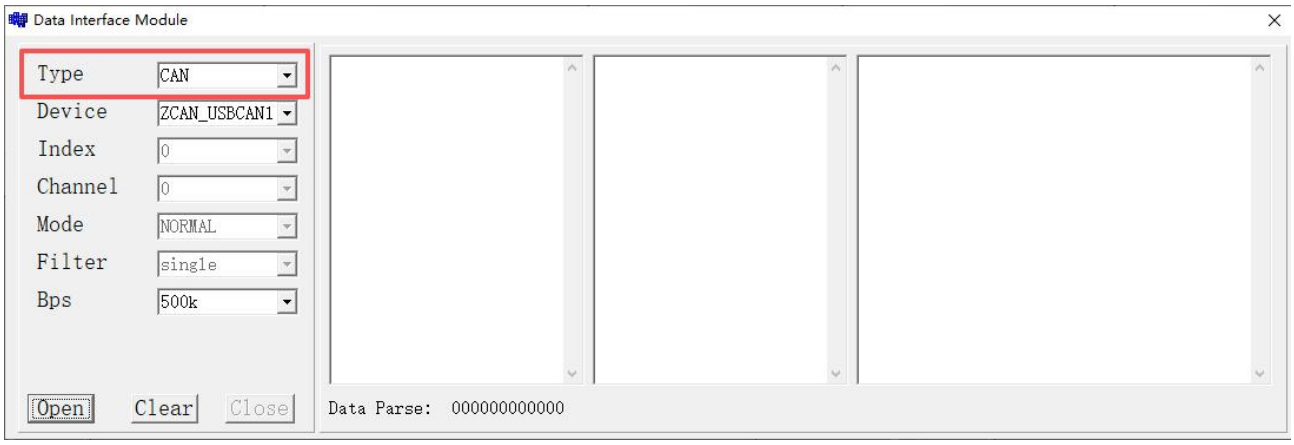
Parameter Configuration

1. Click the "Open Device" button in the top-left corner, or click File → Open Device; the CAN Communication Configuration interface will pop up.
2. Parameter configuration: Select "CAN" for "Type"; other parameters remain default and no modification is needed.

3. Click "Open" to establish the connection. Wait until the application shows open success dialog, or contact technology help.







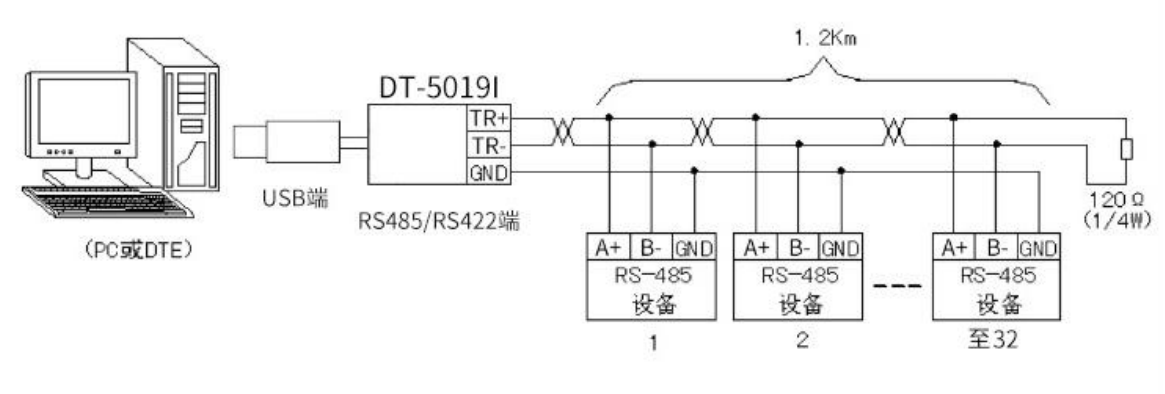
4.2. RS-485 连接设备（RS-485 Connection）

1) 将设备通讯线接入 RS-485 转 USB 适配器的 T/R+、T/R-端口。

2) 将适配器 USB 端插入电脑，确保接口牢固。

1) Connect the device communication cable to the T/R+ and T/R- ports of the RS-485 to USB adapter.

2) Plug the USB end of the adapter into the computer and ensure a secure connection at the interface.





3) 参数配置

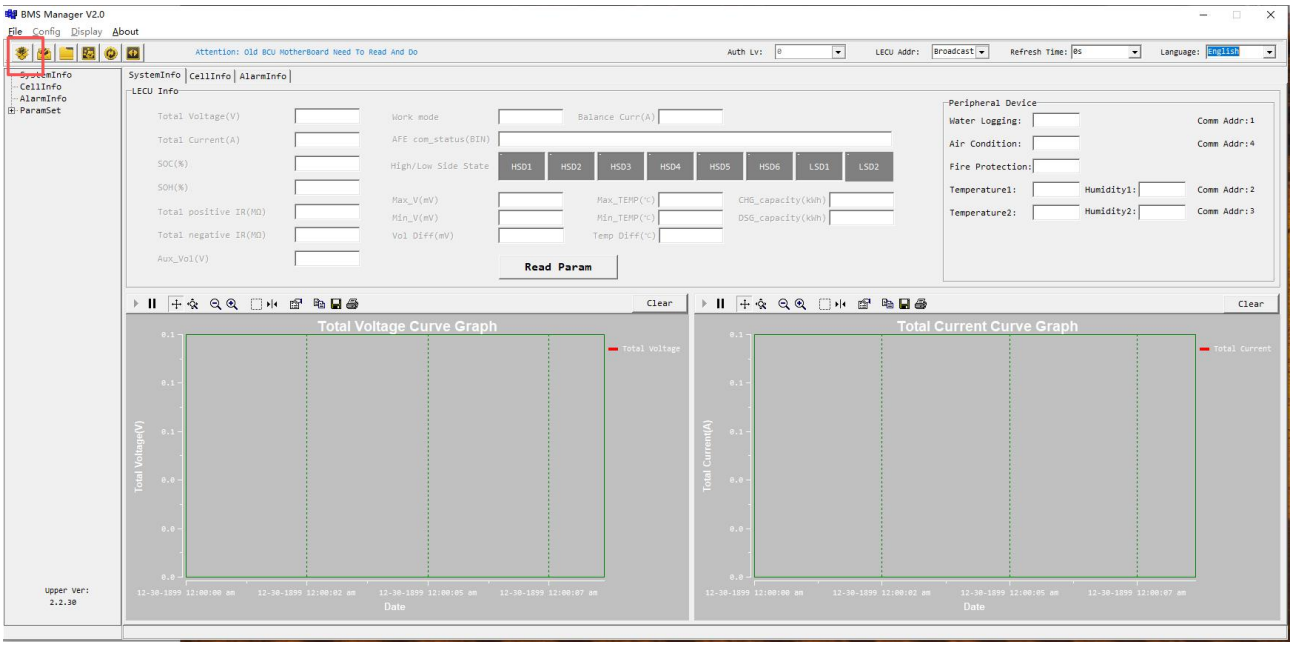
1、点击左上角“打开设备”按钮或是点击文件→打开设备，弹出 485 通讯配置界面；

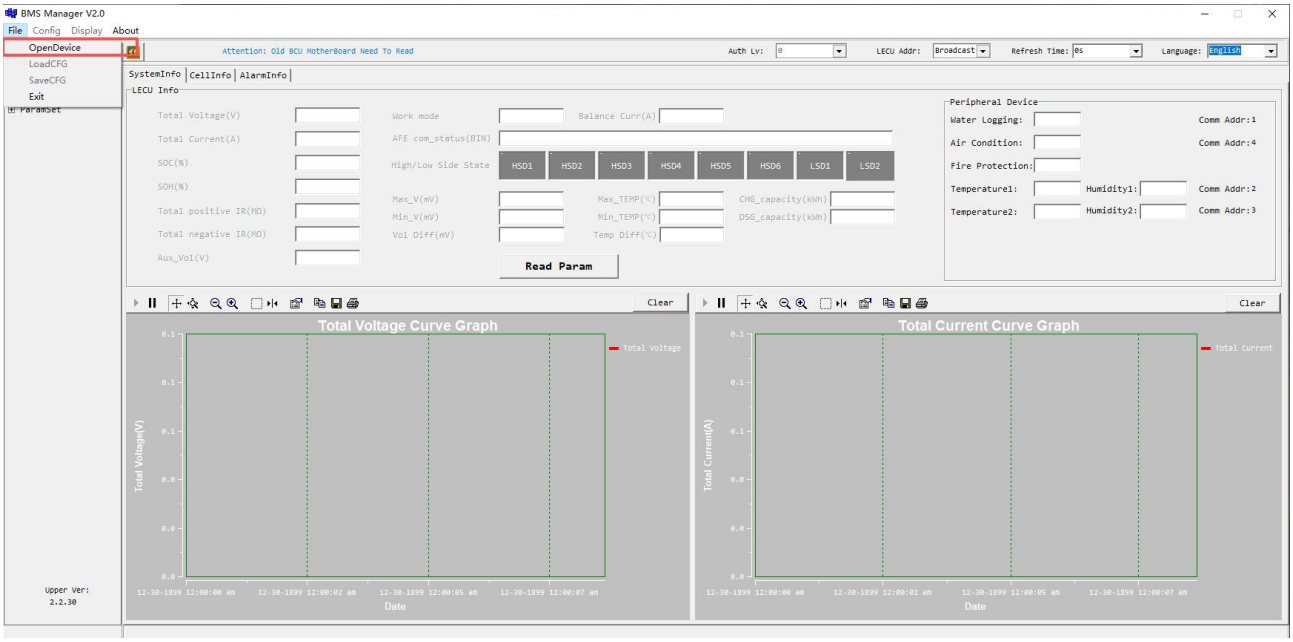
2、参数配置：“Type”选择“COM”，其他参数默认无需修改。

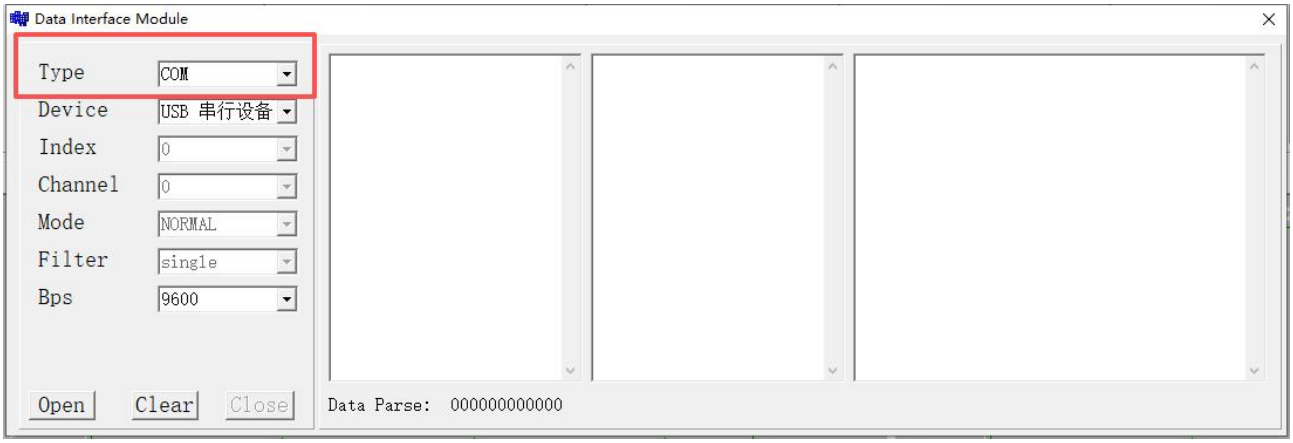
3、点击“Open”建立连接，等待弹窗提示打开成功。若打开失败请联系技术支持。

3) Parameter Configuration

1. Click the "Open Device" button in the top-left corner, or click File → Open Device; the 485 Communication Configuration interface will pop up.
2. Parameter configuration: Select "COM" for "Type"; other parameters remain default and no modification is needed.
3. Click "Open" to establish the connection. Wait until the application shows open success dialog, or contact technology help.


BMS Manager V2.0
File Config Display About
SystemInfo
CellInfo
AlarmInfo
ParamSet
LECU Info
Total Voltage(V)
Total Current(A)
SOC(%)
SOH(%)
Total positive IR(MΩ)
Total negative IR(MΩ)
Aux_Vol(V)
Work mode
AFE com_status(BIN)
High/Low Side State
HSD1 HSD2 HSD3 HSD4 HSD5 HSD6 LSD1 LSD2
Max_V(mV)
Min_V(mV)
Vol Diff(mV)
Max_TEMP(℃)
Min_TEMP(℃)
Temp Diff(℃)
Balance Curr(A)
CHG_capacity(kWh)
DSG_capacity(kWh)
Read Param
Peripheral Device
Water Logging:
Air Condition:
Fire Protection:
Temperature1:
Temperature2:
Humidity1:
Humidity2:
Comm Addr:1
Comm Addr:2
Comm Addr:3
Comm Addr:4
Clear
Total Voltage Curve Graph
Total Current Curve Graph
Total Voltage
Total Current
Date
Upper Ver:
2.2.30

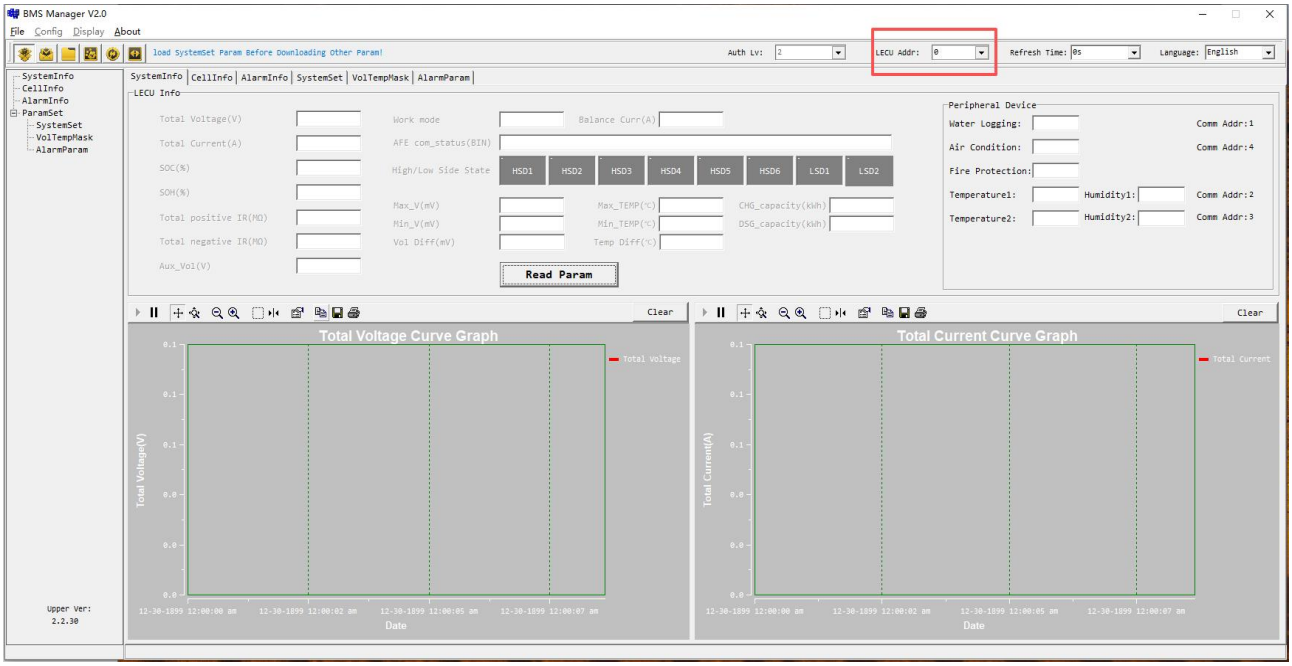

BMS Manager V2.0
File Config Display About
OpenDevice
LoadCFG
SaveCFG
Exit
SystemInfo
CellInfo
AlarmInfo
ParamSet
LECU Info
Read Param
Peripheral Device
Clear
Total Voltage Curve Graph
Total Current Curve Graph
Date
Upper Ver:
2.2.30


Data Interface Module
Type
COM
Device
USB 串行设备
Index
0
Channel
0
Mode
NORMAL
Filter
single
Bps
9600
Open
Clear
Close
Data Parse: 000000000000

5. 参数说明（Parameter Specifications）

5.1. 选择需要查看的设备地址/Choose Device Address

CAN 设备通信模式：软件会自动识别设备地址，若识别错误可手动指定。
CAN Device Communicate Mode : Application will detect device address, if address error, please select the right device address.
COM 设备通信模式：不支持自动识别设备地址。
COM Device Communicate Mode : Application should select the correct device address manually.

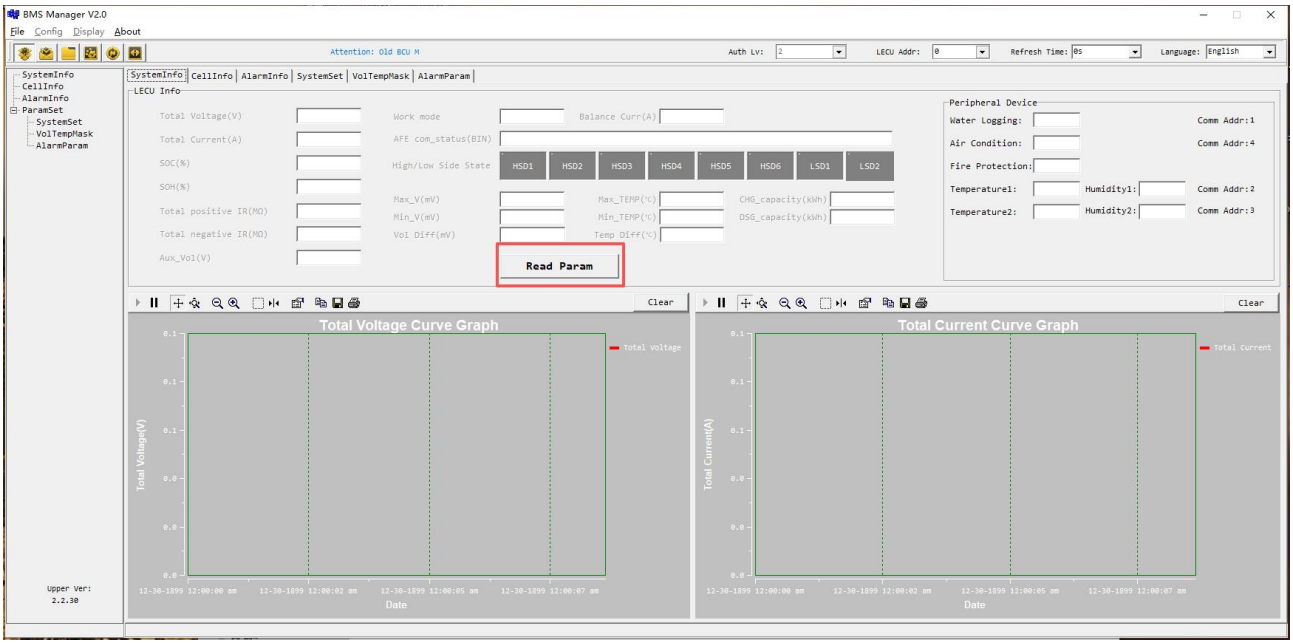


5.2. 授权控制/Access Level Control

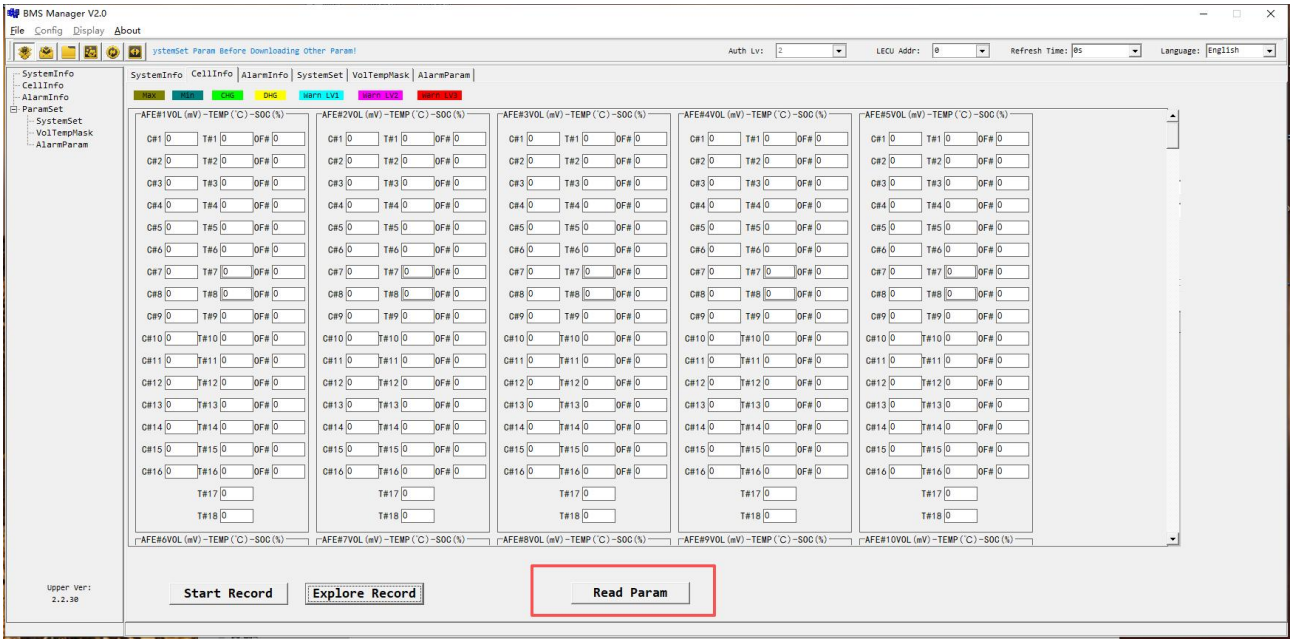
未经授权允许的操作：查看系统状态以及系统参数读取

Guest Mode Operates：Check system state And System Param Read

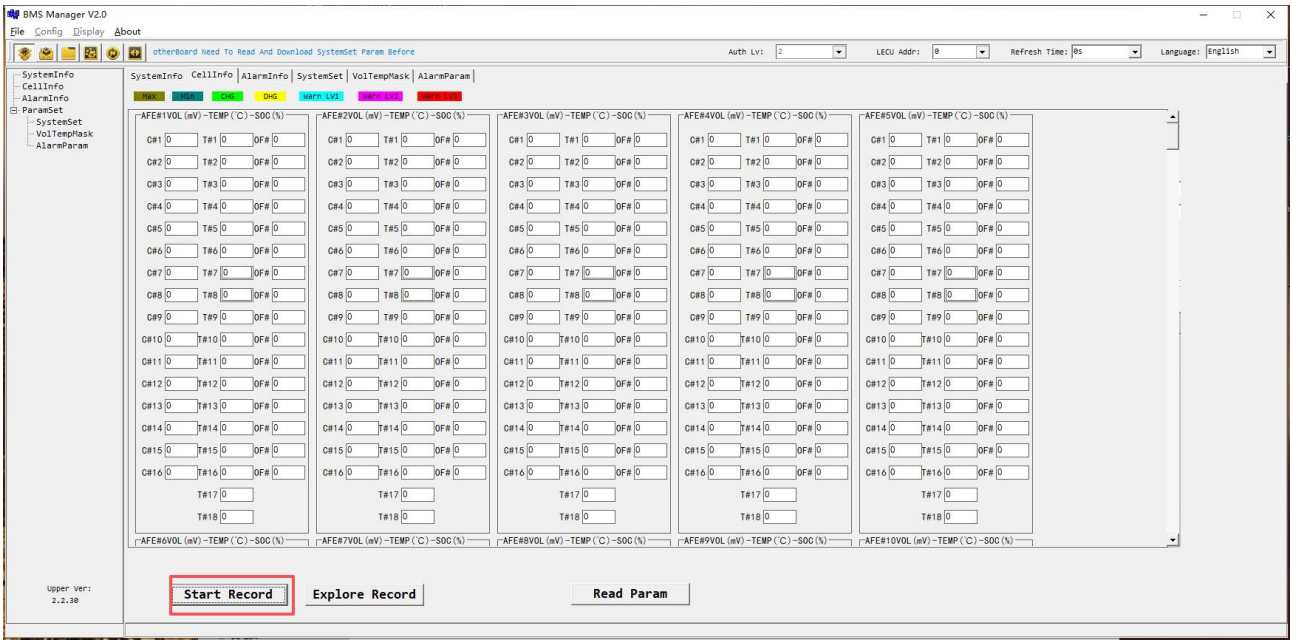
1.查看系统状态概览（Read System Information）



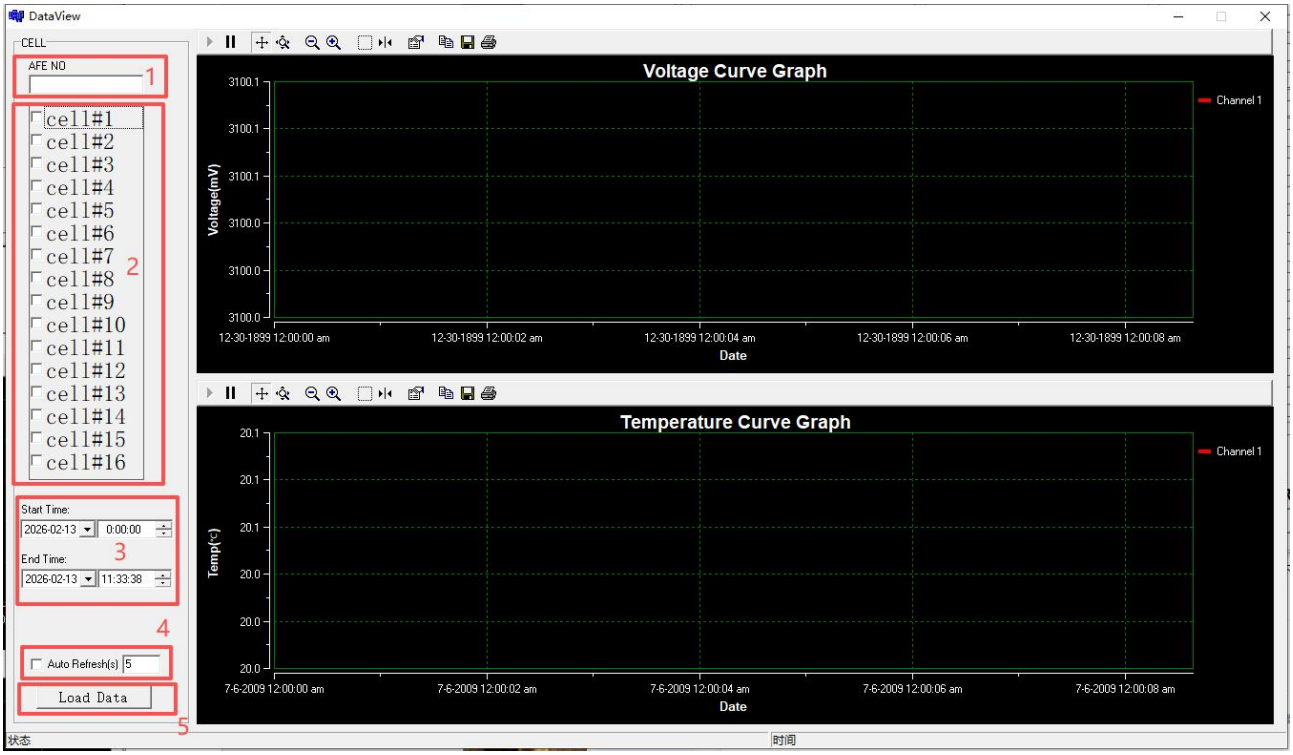
2.查看系统单体状态（Read Cells Information）



3.录制单体数据/Cells Information Record

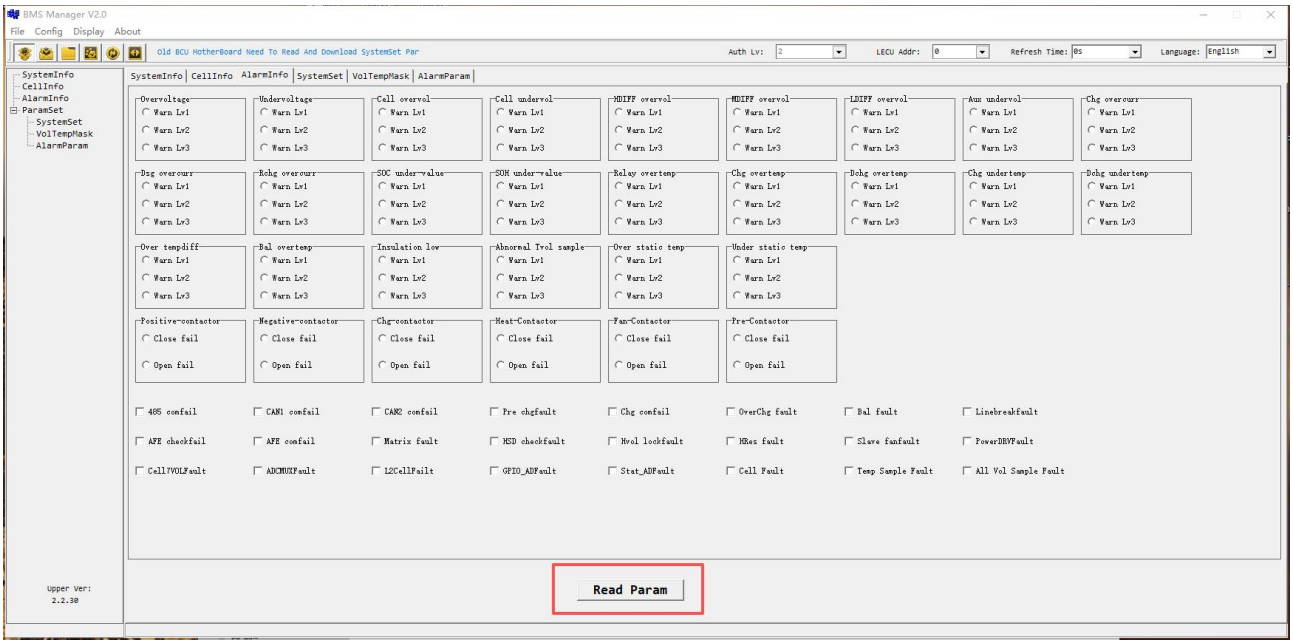


4.浏览单体历史数据

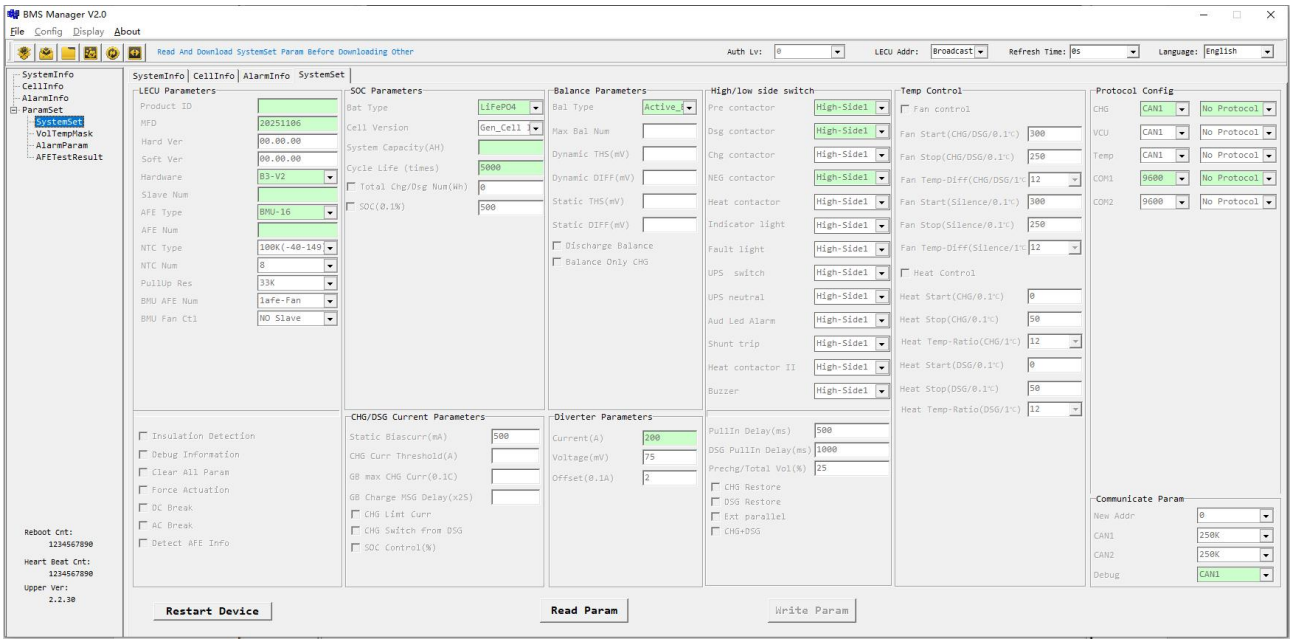


1. 输入需要查询的 AFE 编号/Input AFE NO
2. 选择需要查询的 AFE 单体/Choose Cell Number
3. 选择需要查询的时间段/Choose Start Time and End Time
4. 选择是否定时刷新数据/Choose Auto Refresh Data
5. 点击查询/Show Cells Data

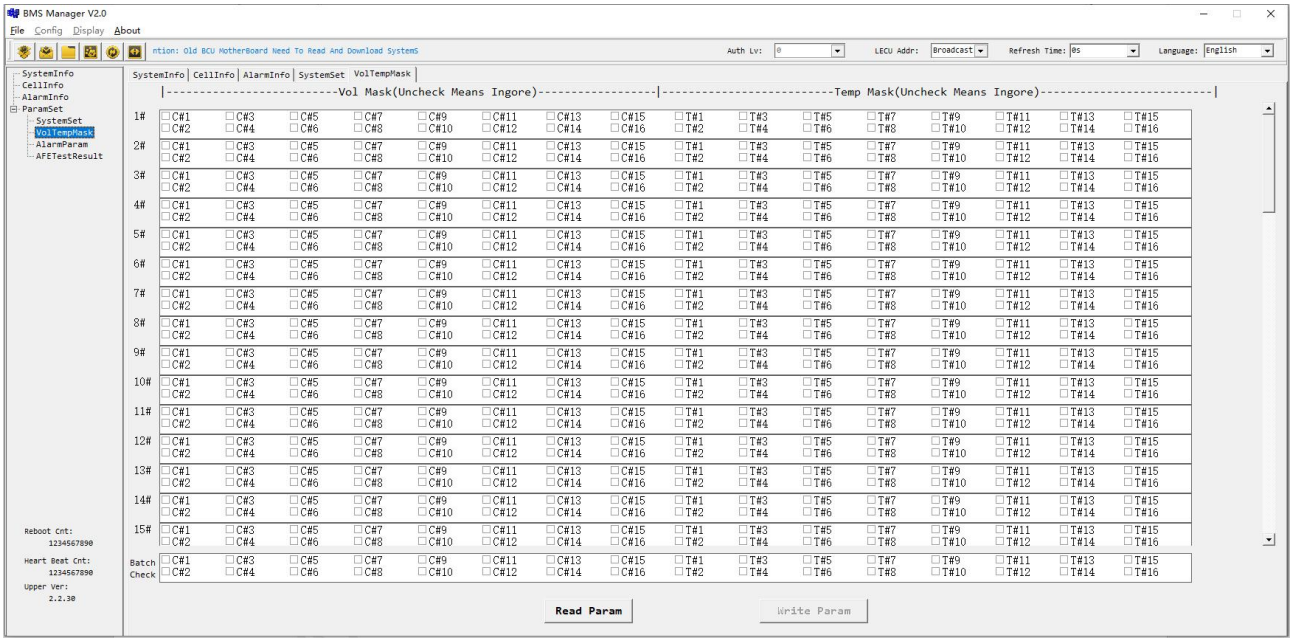
5.查看系统告警状态（Read alarm information）



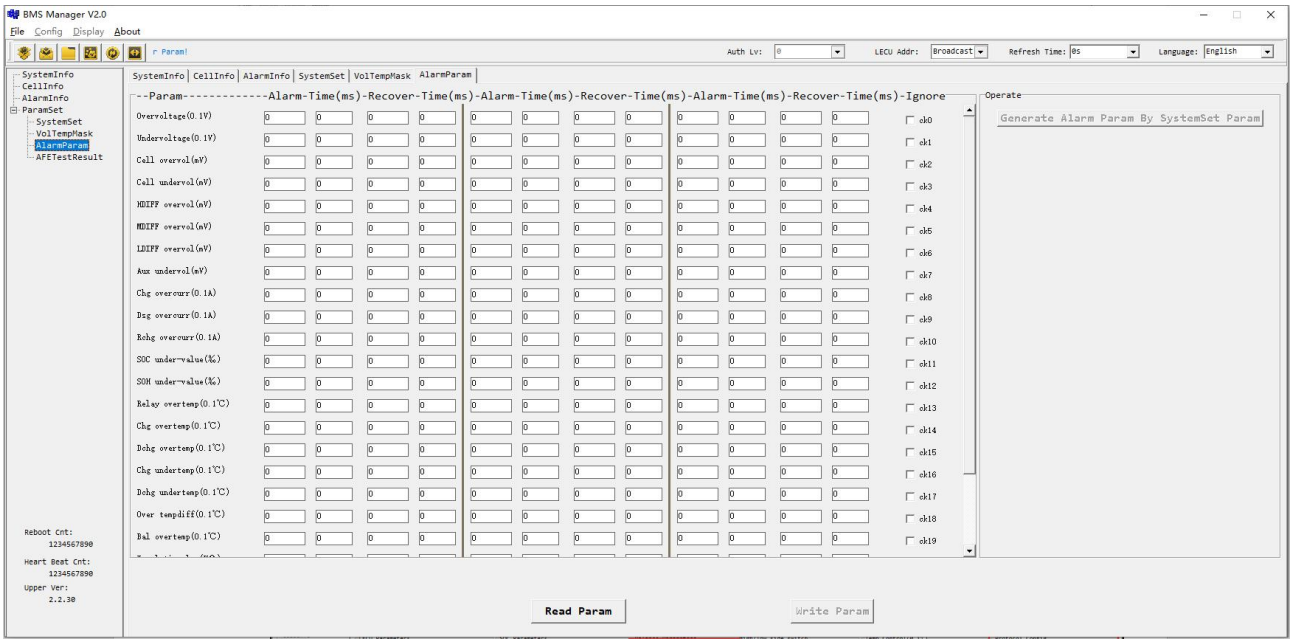
6.系统参数/System parameters



7. 单体分布配置/Cell distribution configuration



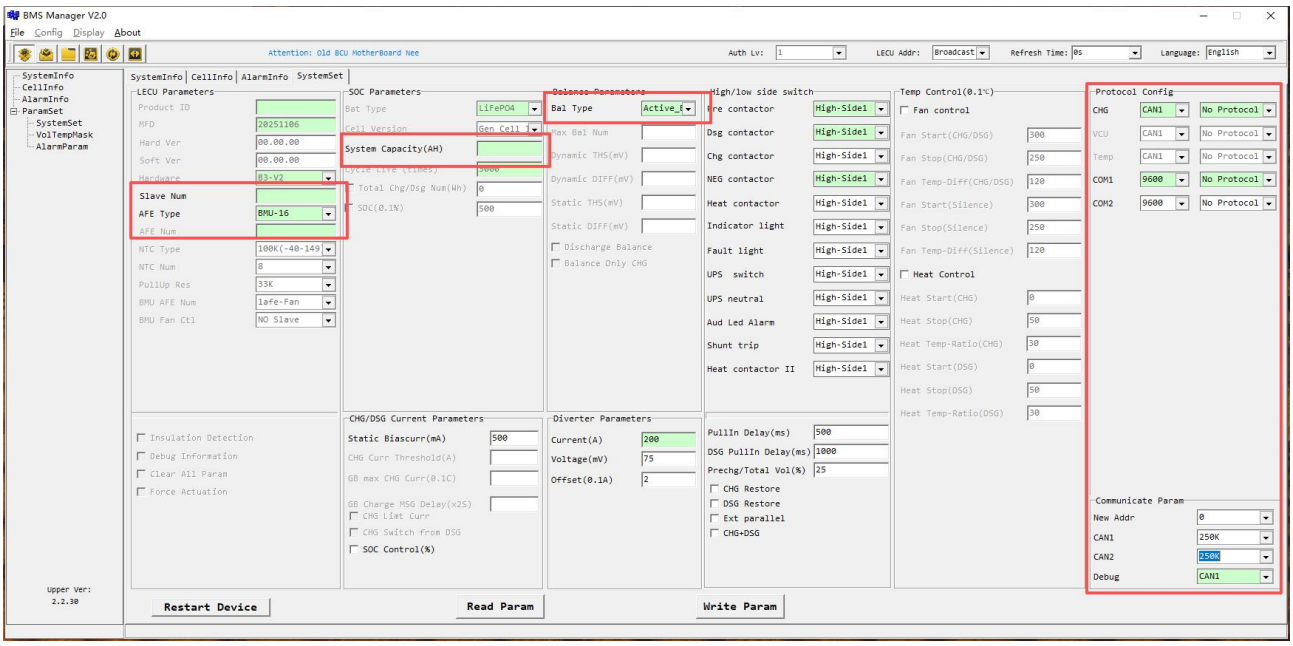
8. 告警参数配置/Alarm parameter configuration



一级授权允许的操作：部分基础参数修改

Access Level1 Mode Operates: Limited param modify

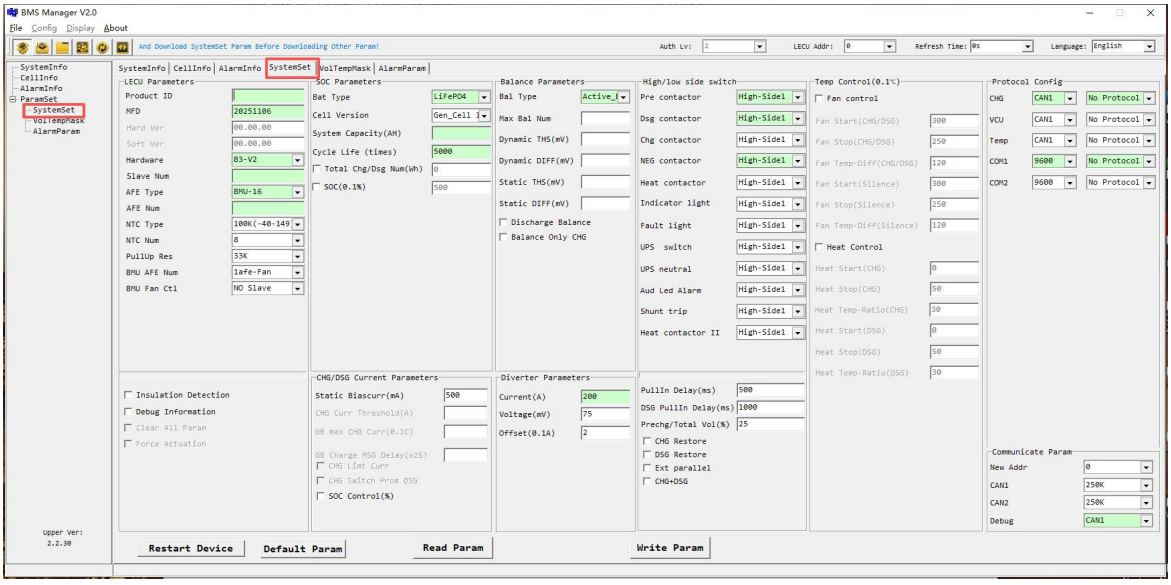
1、 系统参数/System parameters



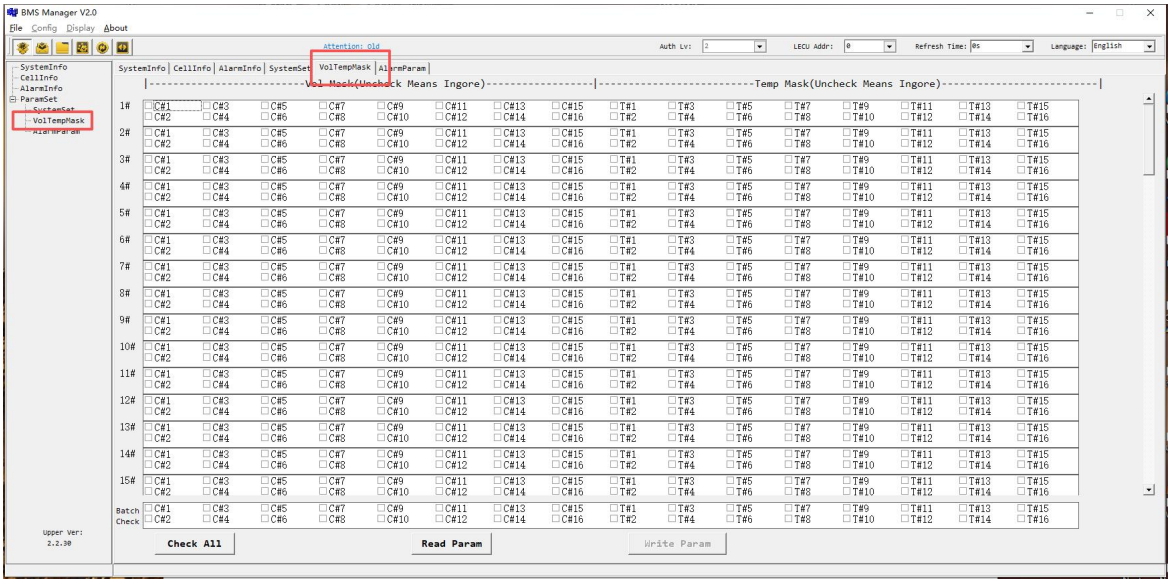
二级授权允许的操作：全量参数修改

Access Level2 Mode Operates: All param modify

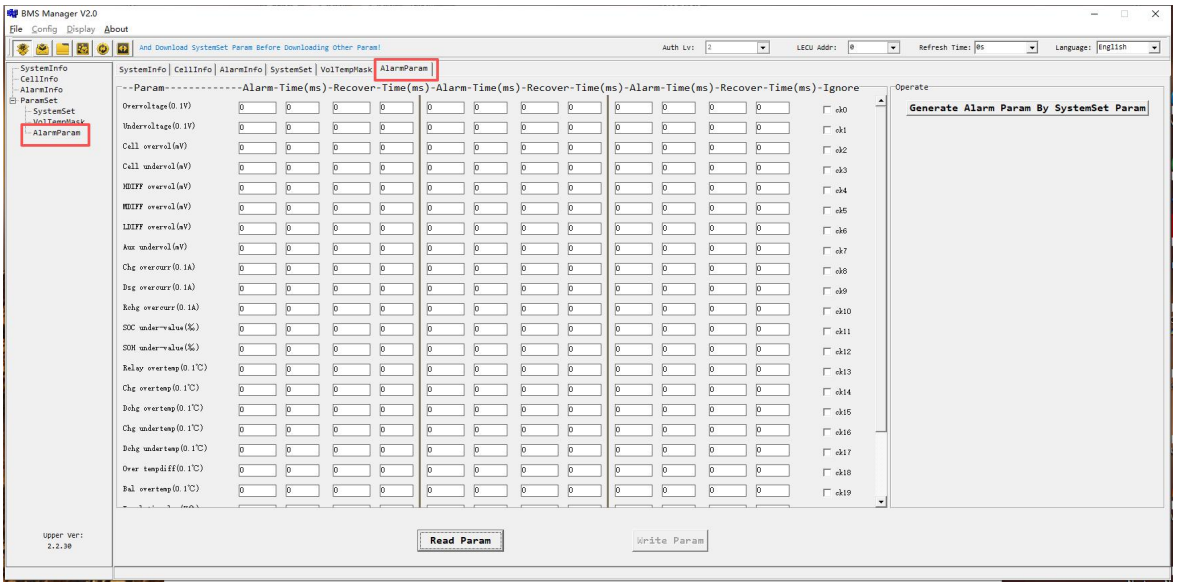
1. 系统参数/System parameters



2. 单体分布配置/Cell distribution configuration



3. 告警参数配置/Alarm parameter configuration



三级授权允许的操作：极限参数配置+回滚升级

Access Level3 Mode Operates: Extremity param modify and firmware downgrade

6. 常见问题与故障处理（Common Issues and Troubleshooting）

问题现象/Phenomenon	可能原因/Causes	解决措施/Solutions
设备数据读取无响应/No response from device	1. 通讯线缆接触不良 2. 端口配置错误 1. Poor contact of communication cable 2. Incorrect port configuration	1. 重新插拔线缆，检查接口 2. 在设备连接中确认 CAN/COM 口，修改软件端口设置 1. Replug the cable and check the interface 2. Confirm the CAN (Controller Area Network)/COM (Communication Port) in device connection, and modify the software port settings
数据显示异常/Abnormal data display	1. 传感器故障 2. 通讯干扰 1. Sensor failure 2. Communication interference	1. 更换传感器，测试硬件电路 2. 更换屏蔽线缆，远离强电磁源 1. Replace the sensor and test the hardware circuit 2. Replace with shielded cable and keep it away from strong electromagnetic sources
参数下传不成功/Failed parameter download	1. 用户权限不足 2. 密码输入错误 1. Insufficient user permissions 2. Wrong password input	1. 联系技术支持管理员，申请提升用户账号权限 2. 仔细核对密码，重新输入 1. Contact the technical support administrator to apply for enhanced user account permissions 2. Carefully verify the password and re-enter it
软件运行崩溃/Software crash	1. 系统资源不足 2. 版本兼容性问题 1. Insufficient system resources 2. Version compatibility issue	1. 关闭后台程序，升级硬件配置 2. 下载最新版本软件（联系技术支持） 1. Close background programs and upgrade hardware configuration 2. Download the latest version of the software (contact technical support)
均衡功能不启动/Balancing function not	1. 阈值设置过高 2. 硬件故障 1. Excessively high threshold	1. 降低 STHS 和 SDIFF 参数 2. 检查均衡电路连接线及芯片状态 1. Lower the STHS and SDIFF parameters

activating	setting 2. Hardware failure	2. Check the connecting wires and chip status of the balancing circuit
三级告警未解除/Level 3 alarm not cleared	1. 硬件故障未排除 2. 未手动重启 1. Unresolved hardware failure 2. No manual restart performed	1. 排查接触器、绝缘检测模块等硬件 2. 断电 5 分钟后重新上电 1. Troubleshoot hardware such as contactors and insulation detection modules 2. Power off for 5 minutes, then power on again

7. 维护与升级（Maintenance and Upgrade）

7.1. 日常维护/Daily Maintenance

1. 通讯线缆接口是否松动/Check if the communication cable interface is loose；
2. 备份系统配置文件/Back up the system configuration files。

7.2. 在线升级/Online Upgrade

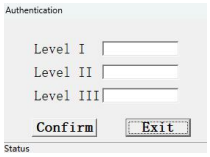
1. 准备工作/Preparation：

1) 下载最新固件（.bin 格式）到本地/Download the latest firmware (.bin format) to your local device；

2) 确保设备供电稳定，避免升级中断/Ensure stable power supply to the device to prevent upgrade interruptions。

2. 操作步骤/Procedure：

1) 点击“Upgrade”按钮或是点击“About”→“Upgrade”，会弹出

，需要先获取二级或三级权限（联系 TOPBMS 技术人员），点击“Authentication”按钮或是点击“About”→“Author”中

输入授权密码(从高版本退到低版本只有三级授权权限可以操作)，然后点击 Read Param → Write Param，打开在线升级界面；

2) 点击“Open File”会弹出选择固件文件，点击升级文件（.bin 格式）（联系厂家获取）；

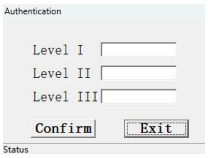
3) Hardware 选择对应的硬件类型，Upgrade ID 选择对应设备 ID；

4) 点击 Start Upgrade，等待进度条完成（约 5 分钟）。

！ 注意：升级过程中严禁断电或关闭软件，否则可能导致设备损坏！

1) Click the "Upgrade" button, or click "About" → "Upgrade". A prompt will appear

, requiring you to first obtain Level 2 or Level 3 permissions (contact technical personnel of Hengchi Technology). Click the

"Authentication" button, or click "About" → "Author" 

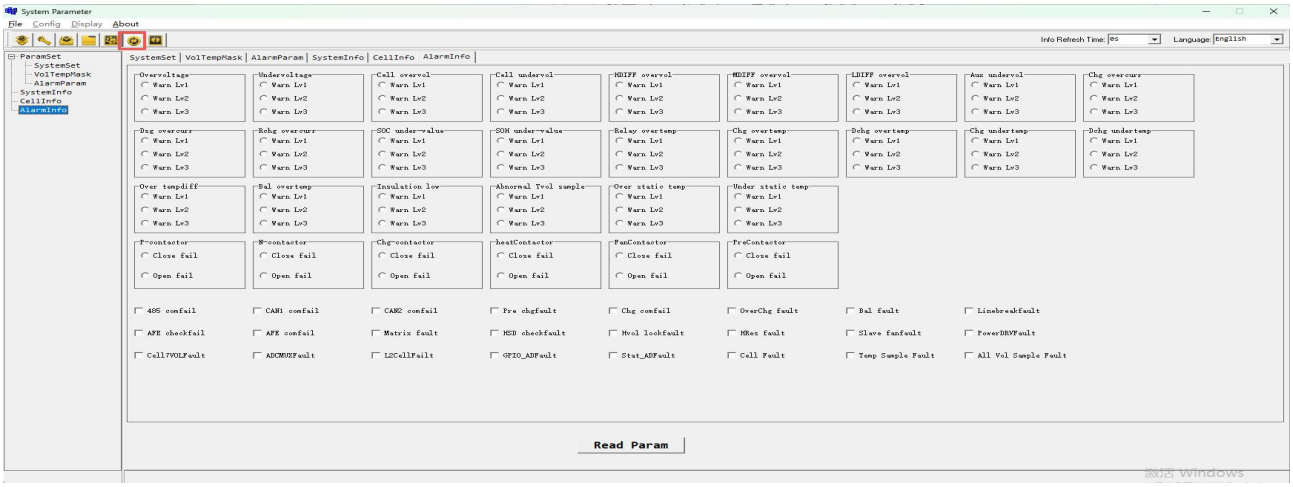
and enter the authorization password. Note that only Level 3 authorization permissions allow downgrading from a higher version to a lower one. Then click the Read Param → Write Param button to open the online upgrade interface.

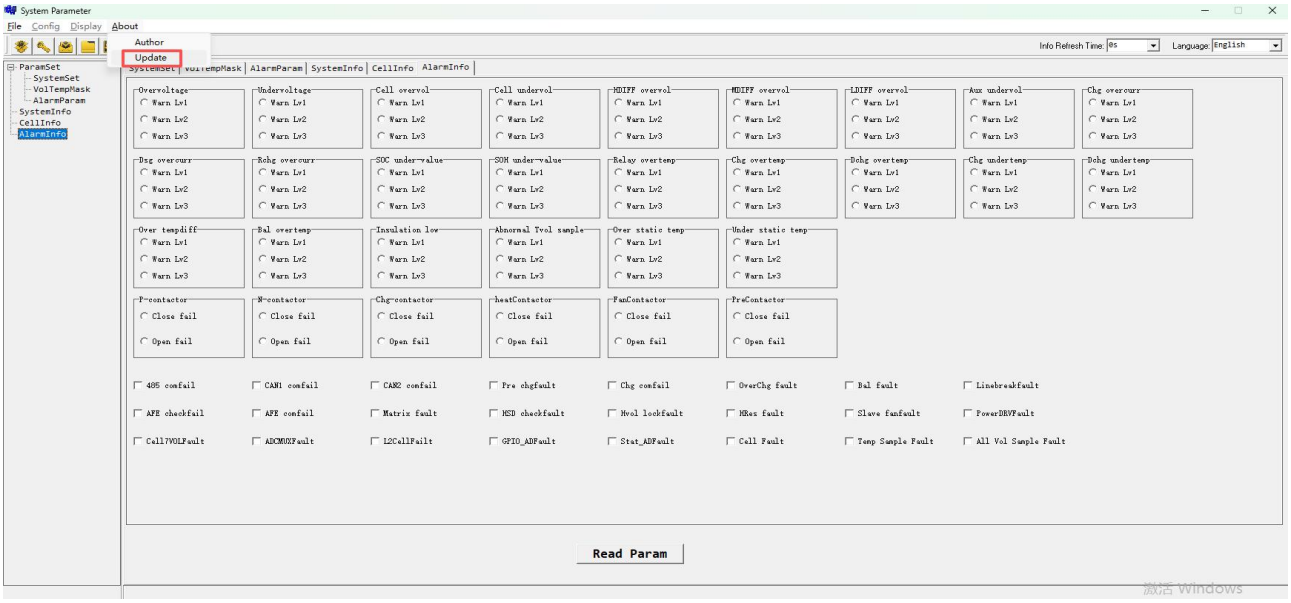
2) Click "Open File" and a prompt to select a firmware file will appear. Click the upgrade file (in .bin format, obtain from the manufacturer).

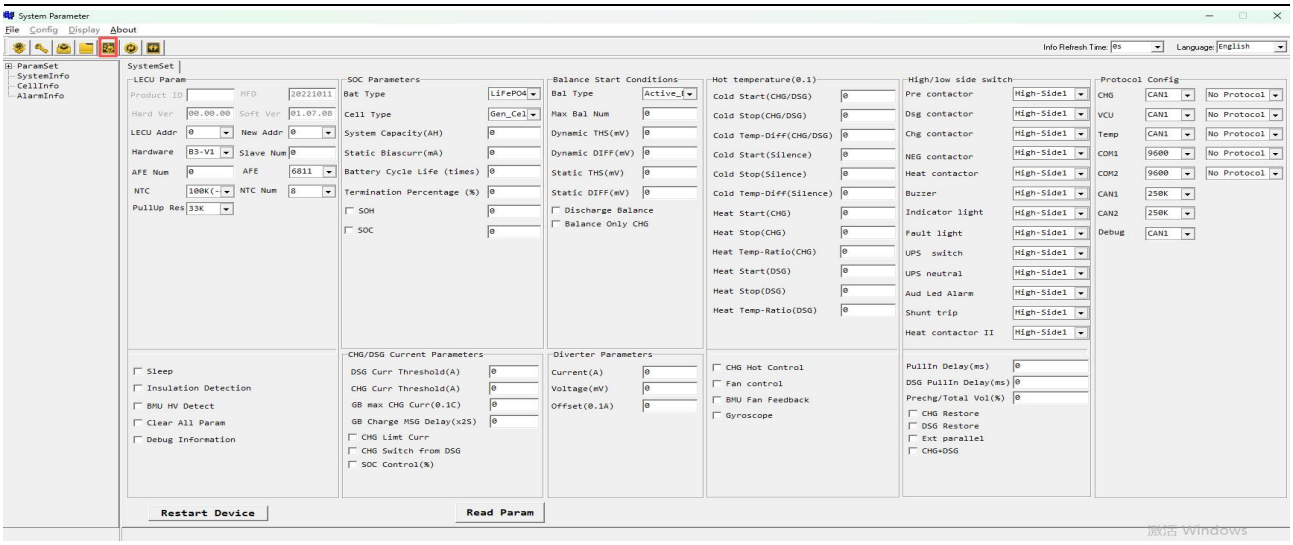
3) For "Hardware", select the corresponding hardware type; for "Upgrade ID", select the corresponding device ID.

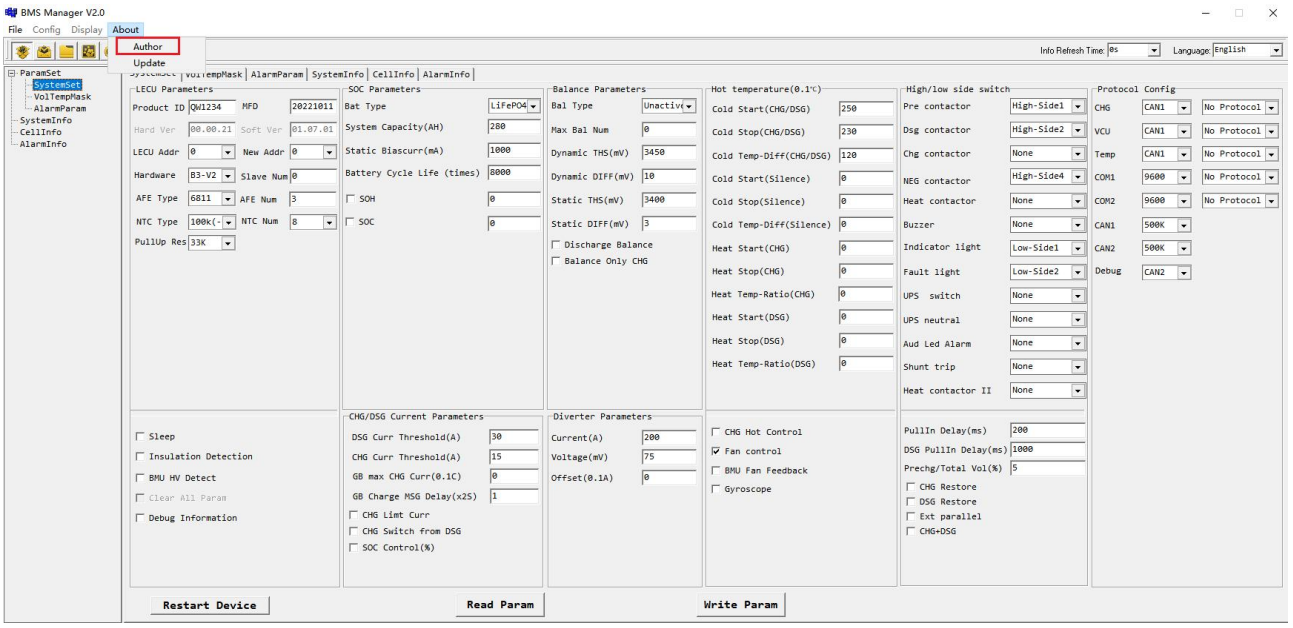
4) Click "Start Upgrade" and wait for the progress bar to complete (approximately 5 minutes).

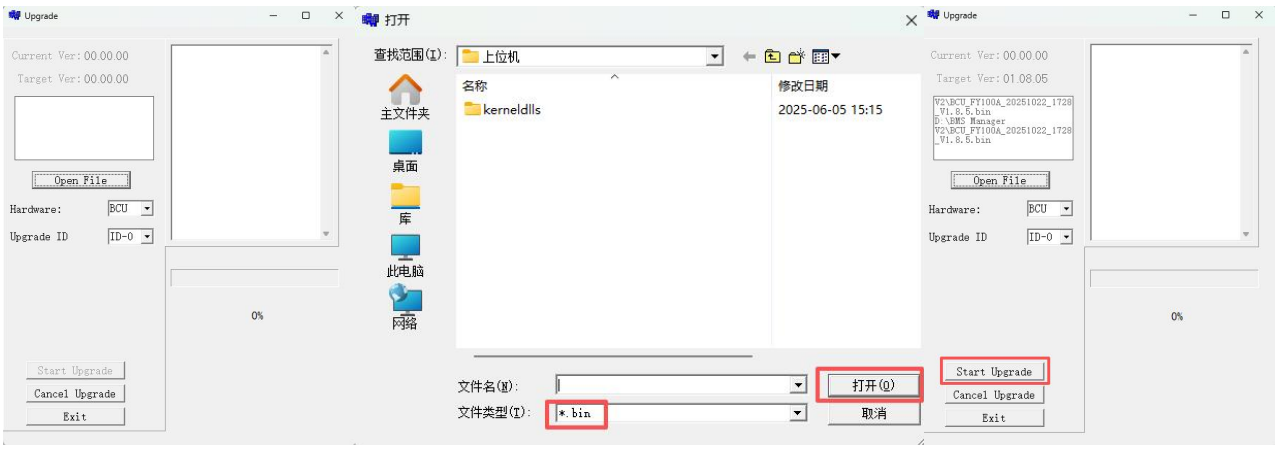
! Note: Strictly prohibit powering off the device or closing the software during the upgrade process, otherwise it may cause device damage!






System Parameter
File Config Display About
ParamSet
SystemInfo
CellInfo
AlarmInfo
SystemSet
LECU Param
SOC Parameters
Balance Start Conditions
Hot temperature(0.1)
High/low side switch
Protocol Config
CHG/DSG Current Parameters
Diverter Parameters
Sleep
Insulation Detection
BMU HV Detect
Clear All Param
Debug Information
CHG Hot Control
Fan control
BMU Fan Feedback
Gyroscope
Restart Device
Read Param


BMS Manager V2.0
File Config Display About
Author
Update
ParamSet
SystemSet
VolTempMask
AlarmParam
SystemInfo
CellInfo
AlarmInfo
LECU Parameters
SOC Parameters
Balance Parameters
Hot temperature(0.1℃)
High/low side switch
Protocol Config
CHG/DSG Current Parameters
Diverter Parameters
Sleep
Insulation Detection
BMU HV Detect
Clear All Param
Debug Information
CHG Hot Control
Fan control
BMU Fan Feedback
Gyroscope
Restart Device
Read Param
Write Param


Upgrade
Open File
Hardware:
Upgrade ID
Start Upgrade
Cancel Upgrade
Exit
打开
查找范围(I):
上位机
名称
修改日期
kernelldls
2025-06-05 15:15
主文件夹
桌面
库
此电脑
网络
文件名(N):
文件类型(T):
*.bin
打开(O)
取消

8. 技术支持与服务（Technical Support and Services）

8.1. 联系方式/Contact Information

- 技术支持热线/Technical support hotline：18967117392
- 服务邮箱/Service email：serves@i-hc.com
- 官方网站/Official website：https://www.i-hc.cn

8.2. 服务说明/Service Description

1. 保修期：软件自发布之日起提供 1 年免费维护；
2. 付费服务：超出保修期或人为故障，需收取技术服务费；
3. 远程支持：支持通过 TeamViewer 等工具远程协助调试。

1. Warranty period: 1-year free maintenance for software from the release date.
2. Paid services: Technical service fees apply for out-of-warranty or human-induced failures.
3. Remote support: Remote debugging via tools like TeamViewer is supported.

8.3. 安全声明/Safety Statement

1. 严禁擅自修改系统核心参数（如极限电压、电流阈值）；
2. 设备维修需由专业技术人员操作，避免触电或设备损坏；
3. 若发现冒烟、异响等异常情况，立即断开电源并联系厂家。

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1. Strictly prohibited to modify system core parameters (e.g., limit voltage and current thresholds).
2. Device maintenance must be performed by professional technicians to avoid electric shock or equipment damage.
3. In case of abnormal conditions such as smoking or unusual noises, disconnect the power immediately and contact the manufacturer.

Hangzhou Hengchi Technology Co., Ltd. reserves the right to the final interpretation of this manual. The document will be updated simultaneously with product upgrades.