HT-ED05AC8V20

8 Channel Hybrid Vehicle Battery Charge/Discharge＆Equalization Repair Instrument

Single-channel 20V 5A

User Manual

Thanks for choosing HELTEC ENERGY series produces.It will bring you convenience and efficiency for battery capacity testing work.For optimal user experience,please read the manual carefully before using and store it properly for future reference.

HELTEC ENERGY has the right to upgrade the machine and modify the manual without prior notice.Thanks for understanding!

1.product overview

HT-ED05AC8V20 hybrid vehicle battery charge/discharge&equalization repair instrument ,Using imported chips, this is a battery tester that integrates charging and discharging, capacity testing, battery balancing, and battery capacity sorting functions. It can test single cells of Toyota hybrid batteries, nickel-metal hydride (NiMH) batteries, or other hybrid batteries within the voltage range of 2-20V. It has strong timeliness, simple operation, and is practical and reliable.

2.Product Features

① Each test channel is fully isolated from one another, and they do not affect each other. Parameters can be set independently for each channel, and they can be started separately. Each channel can test different batteries.

② It can perform battery capacity sorting, test internal resistance, have equalization function, provide supplementary power, and conduct cycle tests to determine battery lifespan.

③It is possible to support multi-host expansion and platform software to enable communication and real-time monitoring among multiple battery groups.

④The computer host software features a simplified user interface, available in both Chinese and English versions.

⑤It can save up to 100 sets of test data. It supports historical data query and the export of reports in PDF format, facilitating data archiving and analysis.

3. Product model parameters

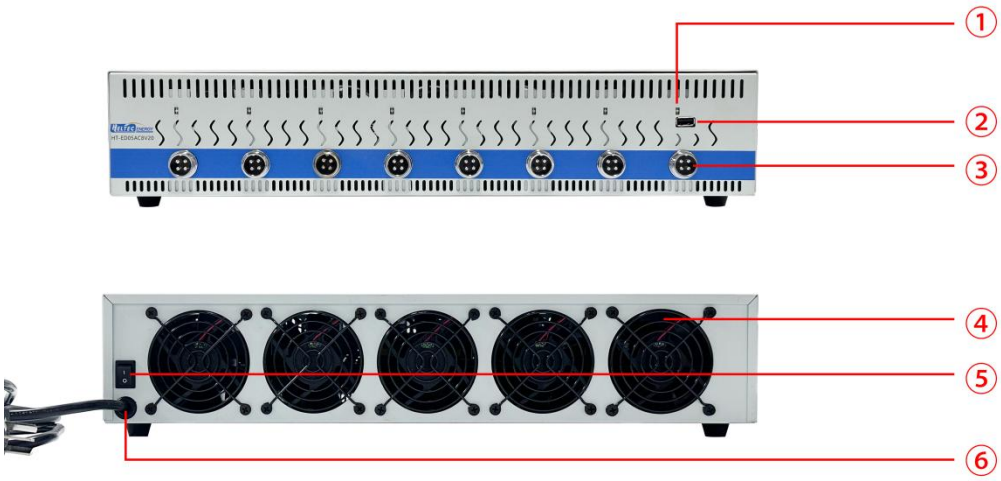
Product Name	HT-ED05AC8V20
Input voltage	AC220V50Hz+-15%
Input current	AC0.1-2.5A（8 channels）
Overall power consumption	25W during standby and discharge, 550W at full load during charging
Available batteries	Toyota Hybrid Series, nickel-metal hydride (NiMH) batteries, 4-cell/6-cell/8-cell/12-cell and other hybrid battery cells within the specified voltage range
Battery input voltage	2---20V
Battery connection method	Professional battery clamps
Charge current range	0.2---5A
Discharge current range	0.2---5A

Compatible battery types	Nickel-metal hybrid(NiMH) battery，04/06/08/012
Voltage display range	0.01---20V
Current display range	0---10A
Charge termination voltage	5---18V
Discharge termination voltage	5---18V
Capacity test range	0.01-99999.9Ah
Voltage accuracy	0.01---0.05V
Current accuracy	0.01---0.05A
Capacity accuracy	0.01---0.1Ah
Communication mode	Connect to the computer via USB interface
Computer requirements	Windows XP and above, resolution 1600×900 or higher
Ambient temperature	-10---40℃
Relative humidity	≤75%
Overall dimensions	495*235*110mm
Weight	9.5 kg
Packaging	wooden case

4. System Application Scenarios

Suitable for electric vehicle dealers, various battery manufacturers, and scenarios involving battery charging and discharging, capacity testing, or battery balancing for small electric equipment.

5. Product appearance schematic diagram

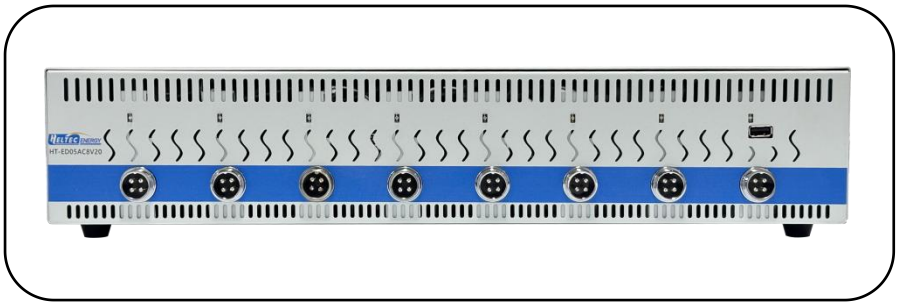


① Status display light
② USB data connection port
③ Data acquisition cable connection port
④ cooling Fan
⑤ Main switch
⑥ Power cord

Indicator light status and meaning

Signal light	Status	Meaning
Blue light	Intermittent flashing	Unconnected
	Persistent flashing	Connection successful
Red light	Intermittent flashing	Waiting for charging
	Persistent flashing	Charging
Green light	Intermittent flashing	Waiting for discharge
	Persistent flashing	Discharging

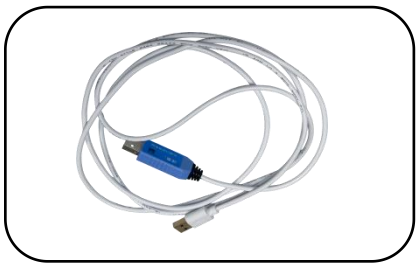
5. Product list



Machine



Data acquisition cable

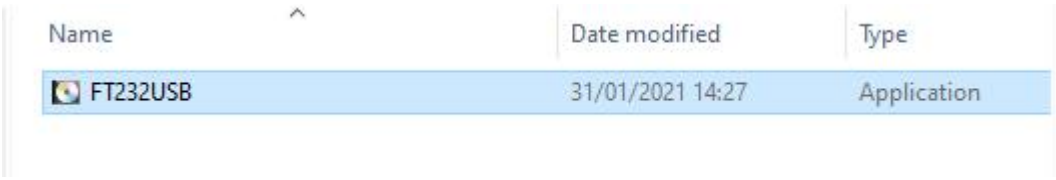


USB connection line

6. Computer drivers and software installation

You may download the PC software via the QR code or contact customer service for the software link.

Extract the compressed archive（PC software ）. Click on "Communication Line Driver", click "Install", click "Next", and then click "Finish".

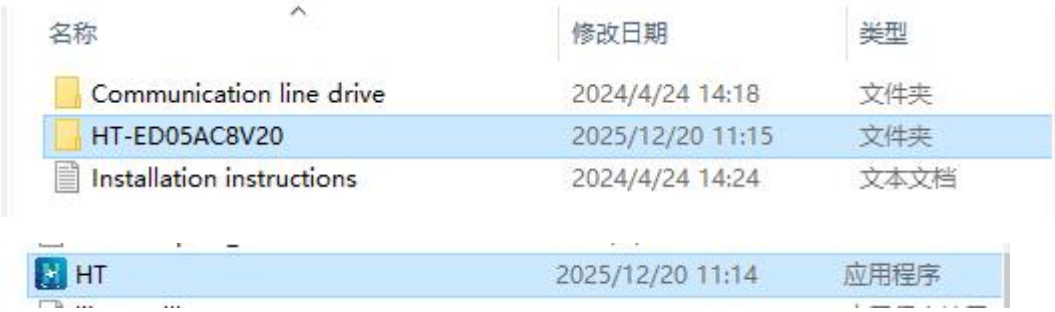

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FT232USB
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Application


WinRAR 自解压文件
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www.DrvSky.com
目标文件夹(D)
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安装
取消


Driver Install Tools
驱动天空
WWW.DRVSKY.COM
Welcome to the Drvsky Driver Installer!
This wizard will walk you through updating the driver.
To continue, click Next.
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Click to open the folder named "HT-ED05AC8V20", find the "HT" application with the icon below, select it and right-click on it --- Send to --- Desktop shortcut. Then return to the desktop and open the software.



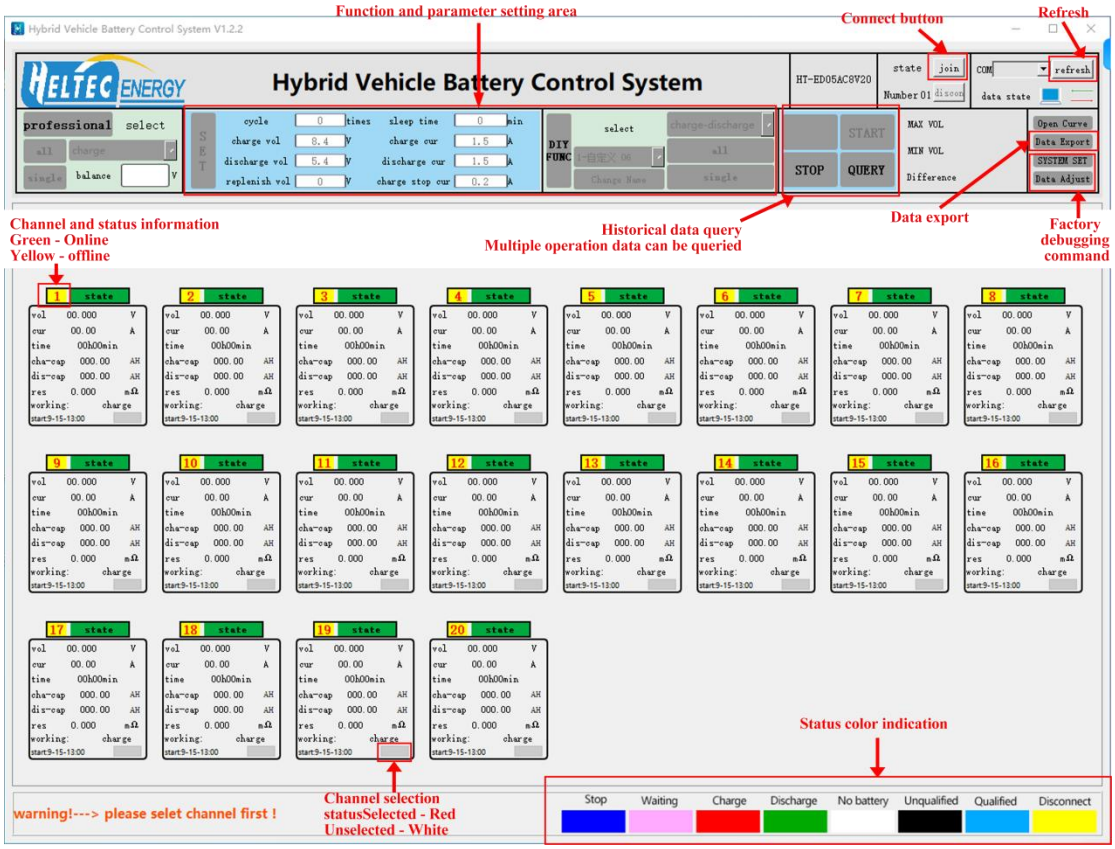
7. Software Usage and Functionality Guide

Unpack and place on a work surface. Ensure adequate clearance at the rear for heat dissipation. Insert the 220V power cable. Switch on the unit; an audible beep indicates power-up. Blue indicator lights on each channel will flash rapidly, indicating readiness for connection. Connect the communication cable between the unit and computer. Note: The communication cable (blue port) connects to the computer end. Launch the ‘HT’ software.

Note:When connecting the device to the computer, ensure the blue end of the communication cable is connected to the computer and the white end to the machine. Failure to do so will result in an unsuccessful connection.

7.1 Explanation of the software interface

Click “Refresh” within the connection area; the port number will appear under “Current Interface” on the left. Click “Connect”. The device indicator light will now display a steady blue glow, indicating a successful connection. If the battery is already connected, the channel below will display information confirming the battery connection. If the battery is not connected, no channel information will be displayed.

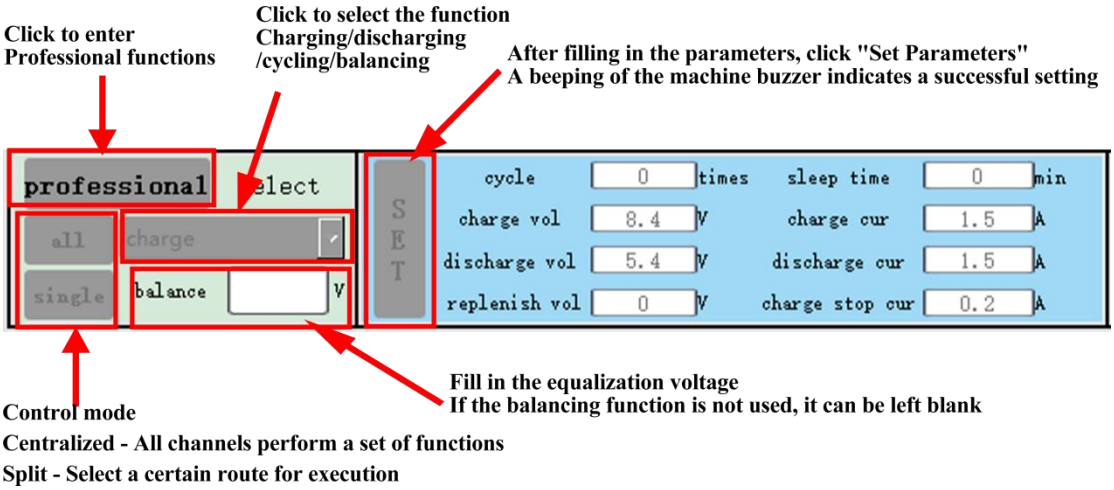


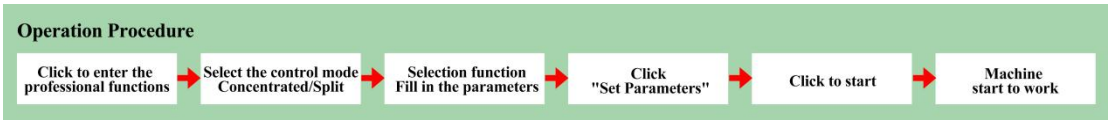
7.2 Function Explanation

7.2.1 Professional features

Professional Function: For specialist users, freely configurable charging and discharging parameters.Charge/discharge termination voltage,current, and cut-off current (when setting parameters, adhere strictly to battery specifications; standard charge/discharge voltage settings must not exceed rated limits).

Note: During cycle operation, a five-minute standby period occurs between charge and discharge transitions.





Parameter Definitions

Charge termination: The voltage at which the battery should be charged to.

Discharge termination: The voltage at which the battery should be discharged to.

Supplemental voltage: A customised cycle function; after completing the charge-to-discharge cycle, the voltage to which the battery should be supplemented.

Charge current: The current used for charging.

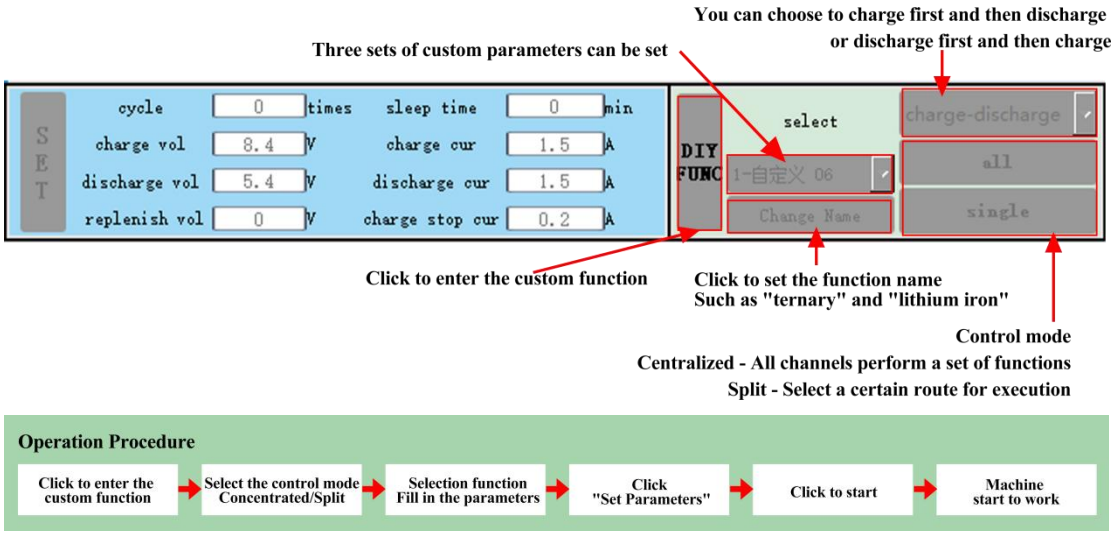
Discharge current: The current used for discharging.

Termination current: The current level at which charging ceases when the preset voltage is reached.

7.2.2 Custom function

Custom Function: For custom save-type operations, you can directly click the name to start each time. You can set three sets of custom function parameters, such as battery specification parameters.A set of six-cell, eight-cell and twelve-cell batteries is provided. There is no need for repeated settings. Just click to start directly.

Note: If the total number of cycles is less than one, the supplementary voltage for charging must be higher than the discharge voltage; otherwise, the function cannot be activated. The supplementary voltage during the transition from charging to discharging is effective, while the supplementary voltage during the transition from discharging to charging is ineffective. For the total number of cycles, it is recommended that each group of batteries does not exceed 20 cycles.



Parameter Definitions

Charge termination: The voltage at which the battery should be charged to.

Discharge termination: The voltage at which the battery should be discharged to.

Supplemental voltage: A customised cycle function; after completing the charge-to-discharge cycle, the voltage to which the battery should be supplemented.

Charge current: The current used for charging.

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Termination current: The current level at which charging ceases when the preset voltage is reached.

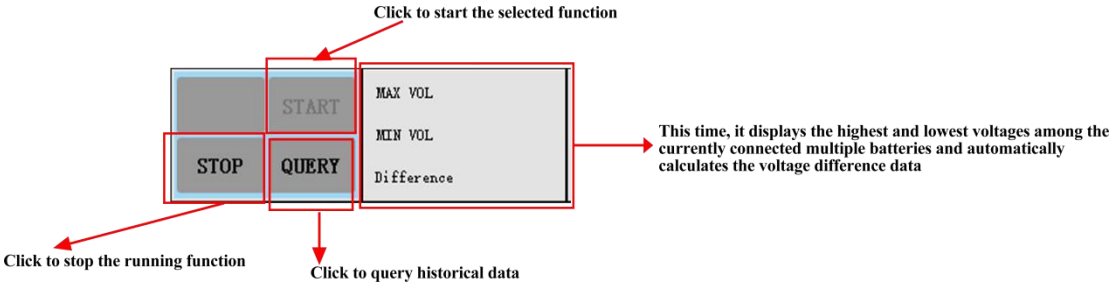
Continuous cycling: The number of charge-discharge cycles.

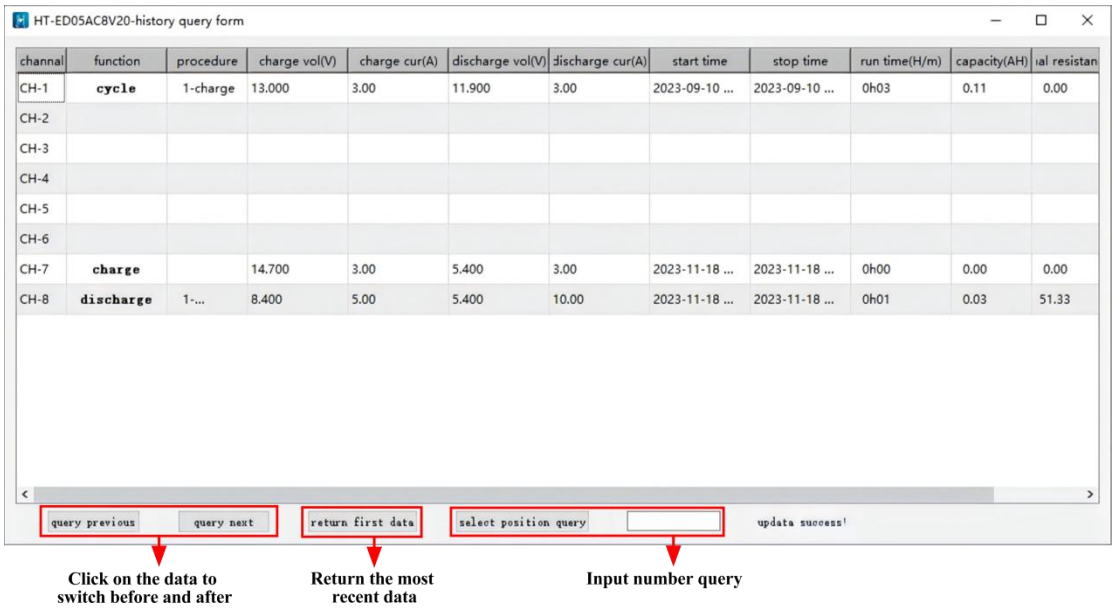
Standing time: The time of stationary state during the function conversion process. Minimum one minute.

7.2.3 Query and export

A. Historical data query

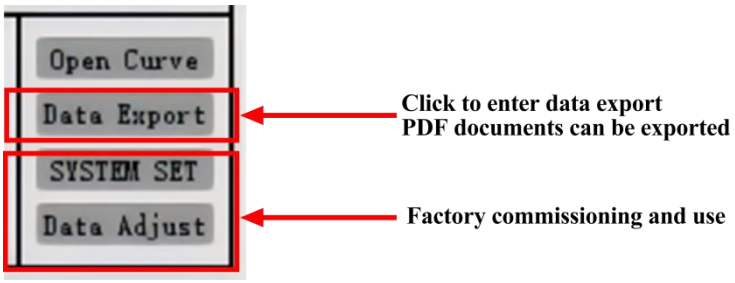
The function can save up to 100 sets of charge and discharge data. Click to enter the "Historical Data Query" page, at which point the data of the last run is displayed. Click "Query Forward" or "Query Backward" to switch to the data of the previous run. Click "Return First Data" to jump to the most recent set of running data. Fill in the number of runs and click "select position query" to quickly jump to the number of runs.



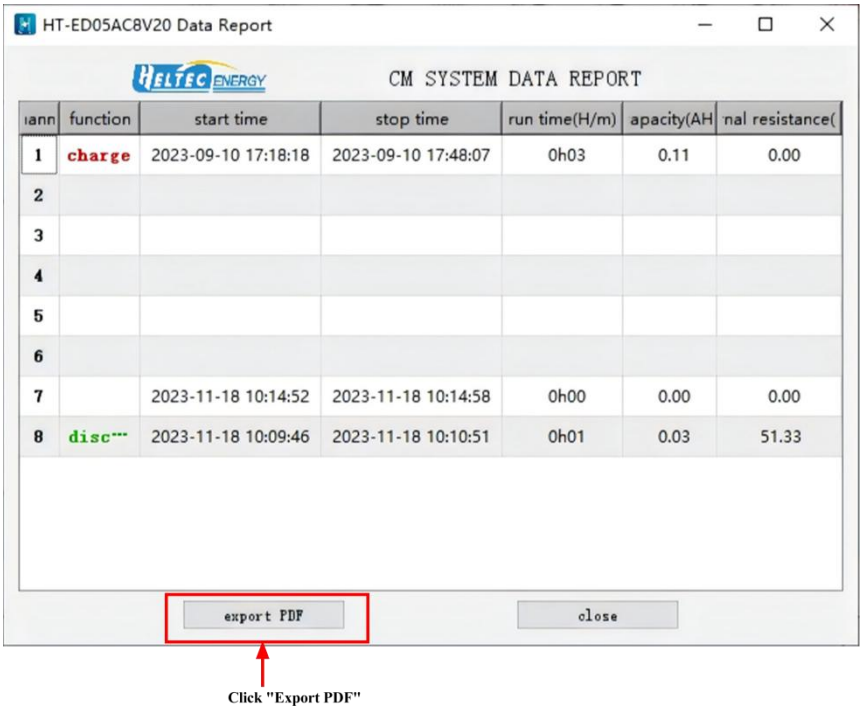


B. Data export

At this point, the page displays the last completed operation data. Click "Export PDF" to jump to the file save page. Select the file save location, click to enter the file name, and then click Save.



Note: "System Settings" and "Data Calibration" are for factory debugging purposes only. Users should not click on them.





8.Precautions for Use

1. Ensure the entire unit is protected against water ingress and moisture, and avoid subjecting it to severe vibrations.
2. After connecting to a computer, to guarantee data synchronisation, please disable the computer's automatic screen-off function, screen saver, automatic standby mode, and automatic hibernation.
3. The USB communication cable connection must be maintained.
4. Battery clips must be securely fastened, with contact surfaces properly connected to battery terminals. Faulty contact will compromise data accuracy.
5. This is a professional-grade device. Operation must be conducted by qualified personnel with thorough knowledge of lithium-ion battery characteristics.
6. NMC lithium batteries have stringent charging and discharging requirements. Operation beyond specified limits is strictly prohibited; voltage and current must be set within the cell's acceptable charging/discharging range.
7. When battery voltage falls below 1V or exceeds 4.5V, the machine will enter protective mode and cannot be started or configured.
8. If set parameters exceed permissible ranges, the machine will fail to start.
9. Internal resistance data is only calculated when current load reaches the set value and voltage has not attained the termination voltage.
10. Avoid frequent insertion and removal of the USB interface to prevent poor contact. The maximum supported cable length is approximately 30 meters.

Warranty Regulations

Warranty service period is 1 year.

The warranty service is limited to normal use: man-made damage, self-disassembly, modification and repair, use not in accordance with the instructions, and damage caused by external force majeure factors are not within the scope of free warranty.

Accessories such as test fixtures are consumables without warranty.

When you need warranty service, please contact your dealer for processing. If you cannot contact the dealer, you can contact our company by email or phone.

Currently, our after-sales service stations are located only in China. If you need warranty service, please send the product to us for free repair, but you need to pay the freight for the round trip.