

Dear Client,

Thank you for Purchasing our HTFDK-300V/100A Wide Voltage Battery Discharge Tester. Please read the manual in detail prior to first use, which will help you use the equipment skillfully.



Our aim is to improve and perfect the company's products continually, so there may be slight differences between your purchase equipment and its instruction manual. You can find the changes in the appendix. Sorry for the inconvenience. If you have further questions, welcome to contact with our service department.



The input/output terminals and the test column may bring voltage, when you plug/draw the test wire or power outlet, they will cause electric spark. PLEASE CAUTION RISK OF ELECTRICAL SHOCK!

◆ **SERIOUS COMMITMENT**

All products of our company carry one year limited warranty from the date of shipment. If any such product proves defective during this warranty period we will maintain it for free. Meanwhile we implement lifetime service. Except otherwise agreed by contract.

◆ **SAFETY REQUIREMENTS**

Please read the following safety precautions carefully to avoid body injury and prevent the product or other relevant subassembly damage. In order to avoid possible danger, this product can only be used within the prescribed scope.

Only qualified technician can carry out maintenance or repair work.

--To avoid fire and personal injury:

Use Proper Power Cord

Only use the power wire supplied by the product or meet the specification of this produce.

Connect and Disconnect Correctly

When the test wire is connected to the live terminal, please do not connect or disconnect the test wire.

Grounding

The product is grounded through the power wire; besides, the ground pole of the shell must be grounded. To prevent electric

shock, the grounding conductor must be connected to the ground.

Make sure the product has been grounded correctly before connecting with the input/output port.

Pay Attention to the Ratings of All Terminals

To prevent the fire hazard or electric shock, please be care of all ratings and labels/marks of this product. Before connecting, please read the instruction manual to acquire information about the ratings.

Do Not Operate without Covers

Do not operate this product when covers or panels removed.

Use Proper Fuse

Only use the fuse with type and rating specified for the product.

Avoid Touching Bare Circuit and Charged Metal.

Do not touch the bare connection points and parts of energized equipment.

Do Not Operate with Suspicious Failures

If you encounter operating failure, do not continue. Please contact with our maintenance staff.

Do Not Operate in Wet/Damp Conditions.

Do Not Operate in Explosive Atmospheres.

Ensure Product Surfaces Clean and Dry

—Security Terms

Warning: indicates that death or severe personal injury may result if proper precautions are not taken

Caution: indicates that property damage may result if proper precautions are not taken.

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I. An overview

This product is a professional test instrument designed according to the national DL/T 1397.2-2014 power DC power supply system test equipment general technical conditions Part Battery capacity discharge tester test and maintenance regulations.

Applicable to substation, converter station, power plant and other power engineering, DC power supply, DC power supply equipment equipped with battery pack capacity testing.

This instrument and equipment is for the whole group of 10-300V battery series test, different specifications and parameter models have different requirements for the whole group, specific according to the actual purchase of instruments shall prevail. A special instrument for testing lead-acid batteries with a single cell voltage of 1.2V-12V. The instrument adopts the current advanced test technology principle, the equipment discharge power, small volume, light weight, host computer data management software complete functions, greatly reduce the battery daily test maintenance workload.

Product name: battery battery discharge tester, battery battery capacity tester, battery battery capacity fast tester,

battery load tester, etc.

II. Performance characteristics

Large screen: The instrument is operated by a 7-inch high-definition 1024*600 capacitor touch screen, and the interface can be operated directly by fingers.

2 Storage: Data can be stored in 8GB internal storage or external USB flash drive.

3. Protection function: over voltage, over current, over heat, under voltage and other protection functions.

4 Online monitoring function: Real-time monitoring of the battery pack and a single battery when the battery pack is in the state of online discharge, equalized charge, floating charge, etc. (optional)

5 Discharge test function: After the battery bank is detached from the system, the false load is used to discharge at constant current or constant power, set the current battery bank type, single cell type, overall node number, capacity and discharge current, terminate the setting of the whole group lower limit, single cell lower limit, time, discharge capacity and other parameters, and the tester will automatically perform discharge function. And real-time display real-time voltage, discharge

real-time current, battery capacity, single battery voltage, discharge time and other data;

6 Real-time protection: During the test, if the whole group or single battery is abnormal or the tester works abnormally, the tester will automatically terminate the test to protect the battery.

7 strong anti-interference ability: under severe interference conditions, the last bit of the LCD screen data can be stable in the range of ± 1 word, stable reading, good repeatability.

8 Long service life: all use high-precision PTC resistance, effectively eliminate the impact of ambient temperature on the measurement results, and the use of military connectors to enhance the anti-vibration performance.

9 Easy to carry: small size, light weight. The tester adopts the integrated design of monitoring part and power part, and the power part adopts new high-efficiency devices. User-friendly operation interface, simple operation, clear process, each step of the operation are simplified Chinese prompt.

10 Upper computer data management software has powerful functions, friendly interface, data management, printing, analysis, report statistics, automatic generation of test reports and other functions.

11 Advanced options: wireless mobile APP control, wireless

PC control, micro printer, Beidou GPS positioning.

III. Technical indicators

Applicable to battery string specifications	10V-300V
The whole range of voltage measurement	0 ~ 300V
Whole group voltage resolution	0.01V
Voltage test accuracy	0.5%
Constant current range	10-19V: 0 ~ 50A 19-180V: 0 ~ 100A 180-300V: 0-50A
Constant current voltage range	10-300V
Discharge current resolution	0.1A
Accuracy of current measurement	1%
Working voltage	AC 220V±15%, frequency:45 ~ 65Hz;
The cooling way	Forced air cooling
Communication methods	RS232 communication
Display mode	Capacitive touch 7 "1024*600 HD resolution
storage	8 GB internal storage and can be exported to a USB flash drive

Withstand voltage test	Input-enclosure: 2200Vdc 1min; Input-output: 2200Vdc 1min; Output - Enclosure: 700Vdc 1min
security	EN610950
The weight of the	about45KG
size	620x360x1050

IV. Instrument appearance



Different current, voltage, appearance volume slightly different

V. Operation Setting Method

1 Cable Connection Safety

5.1.1 Locate the positive and negative battery string terminals onsite, and turn off the battery string output switch.

5.1.2 Wiring before test should be done in the order of "instrument first, then battery", that is, connecting the connection of the instrument end first, then the connection of the battery end.

5.1.3 After the test, the user should remove the cable in the order of "battery first, then instrument", that is, the cable of the battery end should be removed first, and the connection of the instrument end should be removed later.

Note: Please check that the circuit breaker of the device is disconnected before wiring.

2 Connection of instrument discharge cables

5.2.1 Discharge The bright red and black cable connects the discharge current interface of the tester to the battery pack.

Note: "Discharge current positive" (red) connects to the positive terminal of the battery string, and "Discharge current negative" (black) connects to the negative terminal of the battery string. Do not take back! (The counter indicator light will come on, and the

built-in buzzer will sound)

5.2.2 Connect the "whole voltage" of the tester to the total positive and negative terminals of the battery string with the whole voltage collection line.

Note: The "positive" (red clip) of the whole battery line is connected to the positive terminal of the battery string, and the "negative" (black clip) is connected to the negative terminal of the battery string. Do not take back!

5.2.3 Inserting the AC220V power Cable, and inserting the antenna.

5.2.4 After the check is correct, switch on the power and start the tester

3. Prepare before testing

High-current WIRING: THE wiring should be connected to the high-current exile wire of the instrument first, first negative (black), then positive (red), and then connected to the battery. After the test, turn off the air switch. Remove the battery and test the high current line)

The whole set of voltage collection lines: connect the total positive and negative electrodes of the battery in the field first, and then connect the total positive and negative electrodes of the battery.

5.3.1 Parameter Settings (Default 48-V System sample)

Rear power button Power on to enter the main screen, the main setting screen of the device

Figure 5.3.1 Main Parameter setting interface

※**Group type**: Set this parameter based on the battery string voltage. (Multiple voltage types of test instruments, must be strictly according to the battery input selection)

※**Single type**: Nominal voltage of a single battery.

※**Single number**: Actual/monitored number of battery packs. (Number of battery packs x The number of batteries in each pack cannot be greater than 360)

※**Capacity**: Nominal capacity of a single battery.

※**Current**: Generally, it is one-tenth of the AH value of a single

battery.

※**Sort NO1:** The limit switch is disabled by default

※**Consistent:** The limit switch defaults to constant current.

※**To number:** The limit switch cannot be activated

※**Single switch:** The restriction function is disabled by default

Termination of the set

※**Group limit :** After discharge, the battery pack voltage lower limit terminates.

※**Group limit :** Unit voltage lower limit alarm/termination parameter.

※**Time:** Discharge duration Duration: Hour: minute; Minimum 1 minute; Maximum 99 hours and 59 minutes.

※**Discharge:** Lower battery string limit parameter.

※**Quantitv:** When the limit switch is used with the wireless acquisition box, the setting is generally 3. When the number of segments is reached, the alarm parameter or the upper limit of the voltage of the termination unit should be set.

※**Curve:** Voltage and current curve of the device

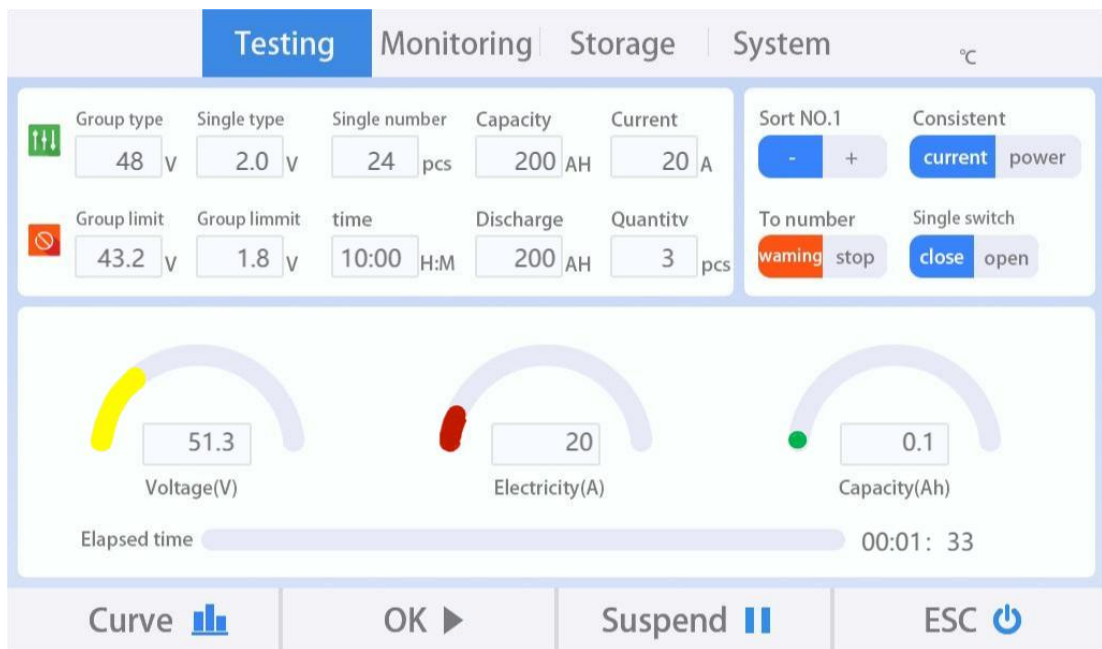
After the setting is complete and the wiring is correct, press OK to enter the online monitoring.

5.3.2Start test screen



Figure 5.3.2 Preparing the test data interface

After setting field parameters, check whether the cable connection is complete. Close the air switch and click the start button. The internal cooling fan starts to run. At this point, the pause button can be moved, and the end button can be moved. Limit switch online monitoring can not operate, real-time curve can be viewed.



※When the whole set of lower limit value reaches the set value, the machine will stop automatically.

5.3.3 Stop discharge state

※ Manual termination, section number or reach the termination condition, the tester to stop discharge (instrument fan for 20S heat dissipation, at this time do not turn off the power supply of the instrument, so as not to cause damage to the instrument)! The data view and return screen is displayed.

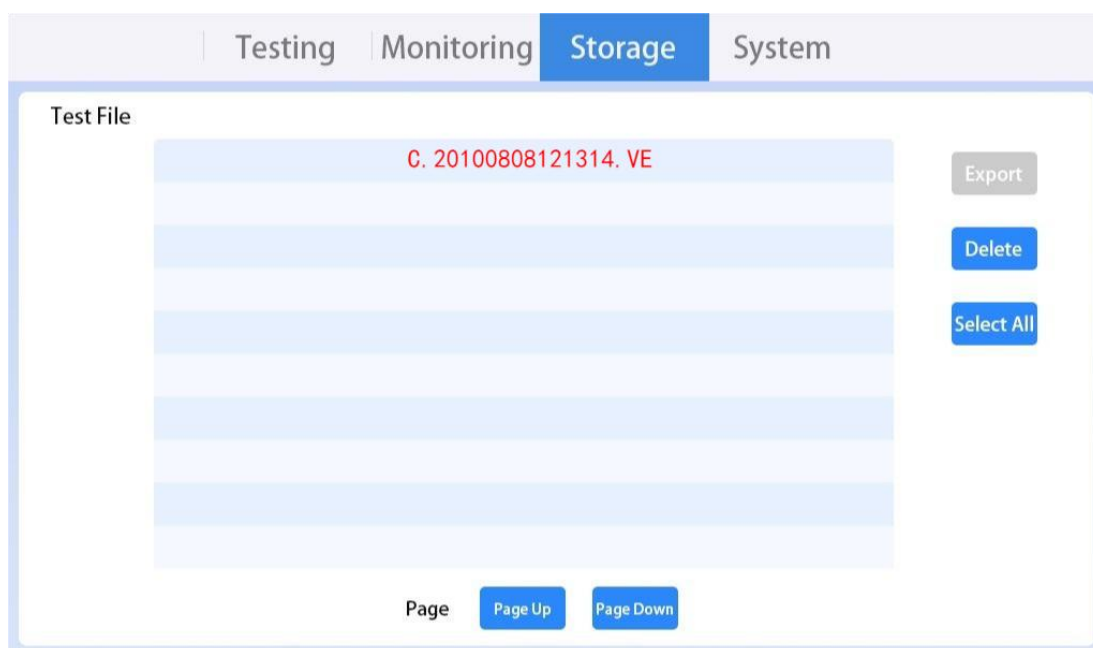


Figure 5.3.3 Entering the page for viewing Data

< Return

Battery pack information

Group type(V)	Single type(V)	Single num	Capacity (AH)	Current(A)
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Discharge parameter setting

Group limit(V)	Single limit(V)	Time(H:M)	Discharge(AH)	Quantity(#)
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Actual experimental data

Starting voltage(V)	End voltage(V)	End current(A)	Discharge(AH)	Time(H:M)
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Stop reason

Highest single

number	voltage(V)

Lowest single

number	voltage(V)

5.3.4 Demolition of wiring

※ Test completed, the first step air switch, turn off the main engine. Turn off the power supply of the tester and remove the cable connection. When removing the cable,

first remove the cable connection with the battery and then remove the cable connection with the instrument.

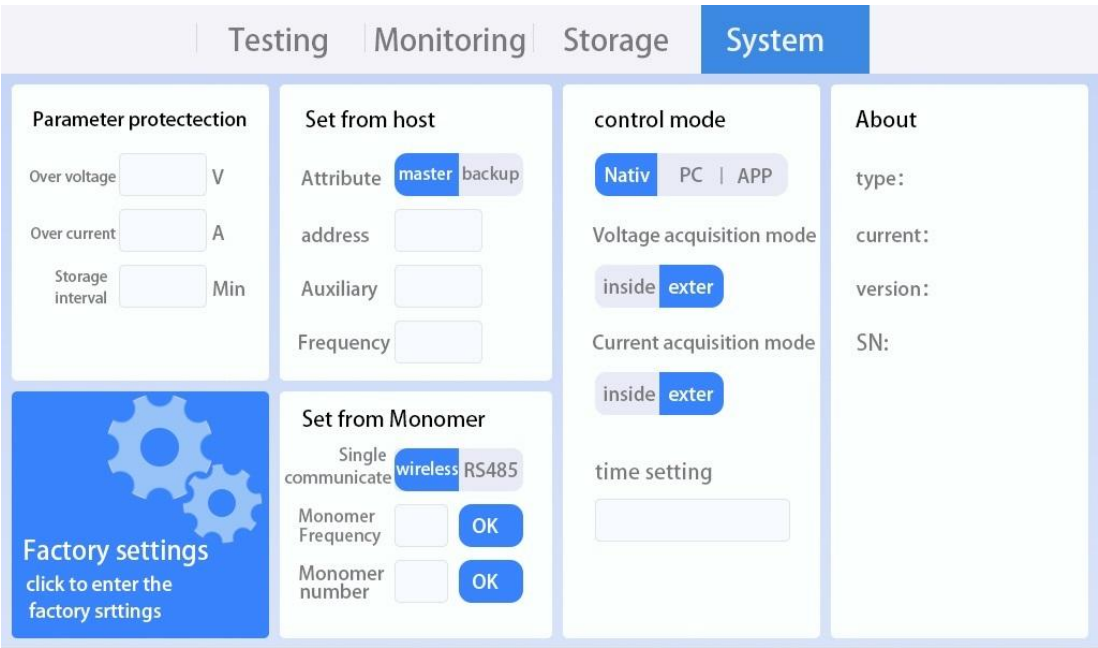
※ Field device recovery.

5.3.5Data export interface and desktop software

Before the test is shut down, if you need the software of the upper computer on the desktop of the computer to export the report, insert the standard USB disk, click data management to select the desired file or select all, and click the USB disk to export.

VI.This section describes the system management interface

6.1.The interface is shown in the figure.



6.2.Parameter protection

Over voltage:Generally, the device does not work beyond this voltage value by default.

Over current: Generally, it is the upper limit of current stabilization that is 10% higher than the sensor specifications in the device.

Storage interval: The storage interval of real-time discharge data is generally 1 minute.

6.3.Set from host: Set when two or more parallel machines are used. The default value is Number of hosts. The default value is 1.

address: The default value is 0. When multiple devices of the company are used in the same equipment room at the same time and equipped with a wireless collection box for data transmission, the frequency segment must be changed in order to distinguish data among them. At this time, the frequency band of the acquisition box should also be changed.

Auxiliary: Default No modification is required.

Frequency: Master/slave Settings

6.4 Set from Monomer

Single communicate , Others are optional. The collection box is wireless by default.

Monomer: The button is used to adjust the coding control of the

acquisition box.

Monomer number: Change the wireless acquisition box frequency band. (If the wireless single collection box is configured, it can be used in emergency situations but not in general)

6.5.About:

type: Voltage refers to a description of the range of voltage values available to the machine.

Current: Adjustable to this maximum current value.

Version: Device software version number

SN: Factory code of the machine.

VII. Maintenance and after-sales service

7.1Possible field faults

※ The voltage of the single unit on site is not consistent with that on site. Please check whether the acquisition box is incorrectly connected.

※ Voltage alarm After connecting the high-current wire, the machine will always alarm to check whether the positive and negative electrode type and voltage range are within the rated voltage range of the nameplate.

※ During discharge, "discharge current fault" is displayed. 1.

Check whether the discharge switch is closed.

※ The discharge current is normal during discharge, but the voltage does not drop. The battery is not separated from the UPS charging system.

The total voltage of the total voltage collection line is not connected, or is connected in reverse, or there is a broken line in the middle of the collection line.

7.2 After-sales service

1. The Company provides one-year warranty for the products sold (if the contract establishes another warranty, the contract shall prevail). Users need to repair please contact the company's after-sales service department.

2. Under any of the following circumstances during the warranty period, the maintenance cost shall be receivable:

1 Fault or damage caused by collision during user use or transportation.

2 The user does not properly store, resulting in water seepage, damp, impact or ignition of the instrument.

3 Failure or damage caused by the user's own or entrusted other units.

4 The device is faulty or damaged due to incorrect connection.

In case of failure or damage caused by force majeure (such as fire, flood, natural disaster, etc.).

Failure or damage caused by random connection of other equipment not according to the instructions.

7 Faulty products without product warranty card and unable to confirm that the instrument is within the warranty period.

Sound Ming

The company will be timely to the tester technical performance of the improvement and perfection. At the same time, with the upgrade and improvement of the product, this manual may be partially changed. Subject to change without prior notice.