HT-BCT05A55V/84V

Intelligent comprehensive battery tester
The entire group is below 55/84V
User Manual

Thank you for choosing series products. Bring convenience and efficiency to your battery capacity testing work. For the best user experience, please read this manual carefully before use and keep it properly for future reference.

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

1. Product Introduction

The HT-BCT5A55V/84V battery comprehensive intelligent tester adopts low-power computing chips from the United States and microchips from Taiwan. Suitable for use with batteries or battery packs ranging from 0 to 55V/84V, such as various lithium batteries, nickel batteries, portable power supplies, digital adapters, etc., it can be used to determine the status and performance of batteries. Equipped with two rows of 4-digit numbers to accurately display parameters such as voltage, current, resistance, capacity, etc., the test results are more powerful and accurate.

2. Product Features

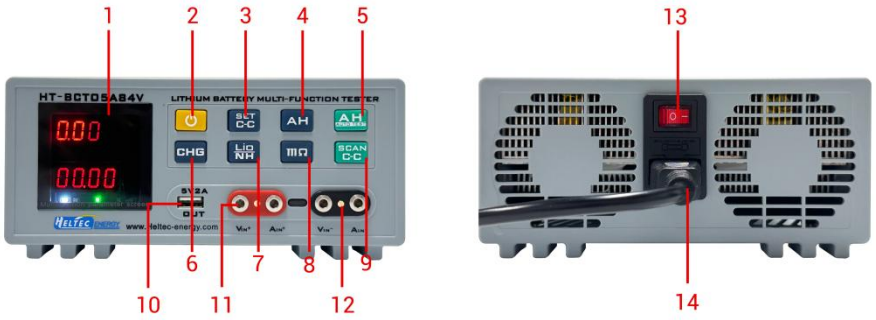
1) Using direct current to measure battery internal resistance, which can better reflect the working status of the battery than alternating current internal resistance, is suitable for battery maintenance.
2) Quickly measure the internal resistance of the battery for selecting the assembled battery pack.
3) Both aging testing and thermal stability testing can be conducted simultaneously.
4) Comprehensive functions, simple operation, clear parameter display, easy to get started.
5) Battery reverse connection display protection, battery reverse connection will forcibly stop working, protecting battery safety.
6) Equipped with charging current display function for mobile power banks, mobile phones, and laptops, and has undergone maintenance and inspection.

3. Product Parameters

Model	HT-BCT5A55V/84V
Power supply voltage	AC100~240V
Applicable voltage range	0~55V
Test resistance range	0~2000mΩ
Test capacity range	0~9999mah
Product dimensions	300x90x82mm
Battery current selection	The charging mode (effective for a single battery) is 0.5A/1A/2A. The discharge mode is the same. If the battery voltage exceeds 8.4V, it will become 1A, 2A, 5A. In the battery pack mode, the current will increase tenfold, and 0.5A will be 5A. If the device exceeds 10A, it will be protected, so only 5A can be selected
Display discharge current	0-5A
External USB output port	5V/2A

***Product application scope:** Suitable for manufacturers of lithium-ion batteries, nickel battery packs, and mobile power supplies, mainly used in research and development and quality control processes, and can also be used for quality monitoring and maintenance testing in operating stores

4. Product Appearance Diagram

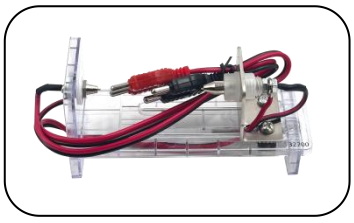


1) Display screen (showing specific parameters such as battery voltage, internal resistance, capacity, etc.)
2) Instrument power on/off button
3) Current setting button (charge and discharge 0.5A/1A/2A current selection, when the discharge voltage exceeds 8.4V, the selection changes to 1A/2A/5A)
4) Discharge mode （Test capacity）button
5) Charge-discharge mode (This mode is only applicable to individual cells.charging first, then discharging; requires pressing the charge button initially; automatically discharges to measure capacity once fully charged)
6) Charging mode button
7) Battery pack mode (lithium iron phosphate)/single cell battery mode (ternary lithium) switching button
8) Internal resistance measurement button
9) Overload test function button
10) 5V2A current output
11) Positive electrode (red) fixture socket
12) Negative (black) clamp socket
13) Power switch
14) Instrument power socket

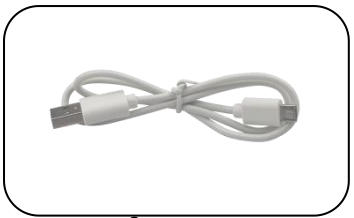
***Product List：**


Tester


Testing Clip


Testing Fixture


Power Cord


USB Date Wire


Manual Instruction

*Attention: When testing the current load capacity of a digital power supply or mobile phone adapter charger, the first step is to test the current and voltage drop of the data line, because the measured voltage value is the voltage value conducted through the data line, and the test value may be lower than the actual value. This is due to the voltage drop caused by the resistance of the data line.

⚠ Please note that B1 mode is used for discharging battery packs, with a discharge cut-off voltage of 7V. B2 mode is used for individual batteries, with a cut-off voltage of 2.7V. When the battery pack is connected to the tester, the charging function will be disabled, and the tester will automatically recognize the battery pack (the battery pack must be connected to the protection board during discharge).

5. Key functions and operation instructions

Test Voltage 

Turn on the tester. Pay attention to distinguishing between positive and negative electrodes. The testing clip and testing device should be connected to the corresponding electrodes. Please confirm if the battery being tested is within the testing range. The tester emits a "beep beep" sound. The monitor will display the current voltage of the battery. As shown in the figure, the voltage is 4.125 volts. Please note that before testing, connect the negative pole first and then the positive pole. After the test is completed, disconnect the positive pole first, and then disconnect the negative pole.

Mode Selection  

Press the button  to select the type of test battery. B1 "is used for battery packs. The terminal discharge voltage is 7 volts. B2 "is used for a single battery. The terminal discharge voltage is 2.75 volts. In battery pack testing, please select the "B1" mode and a protective board must be installed on the battery pack. Otherwise, the battery pack will be damaged.

Test Capacity  

Open the tester. Confirm the test battery mode. “B1”is used for battery pack testing. “B2” is used for testing individual batteries. Press the key  to switch modes. Press the key  to perform a capacity test. Press the key  to select the discharge current.There are several discharge currents available for selection, including 0.5A/1A/2A. Wait for 1-2 seconds after selecting discharge. The monitor will display the current discharge current. After the test is completed, the monitor will display the capacity of a single battery/battery pack. Please note that the battery/battery pack being tested must be fully charged before conducting the discharge test. The results of capacity testing will be more accurate. Please note that in battery pack mode, the current of 0.5A/1A/2A will change to discharge currents of 5A/10A/20A. Moving the decimal point backwards by 1 digit means that the discharge current increases by 10 times. The device supports a maximum discharge current of 10A, and selecting 10A will put the device into a protective state.

Internal Resistance Test  

Open the tester. When the tested battery is correctly connected to the tester, the tester will make a "beep beep" sound. When the“  ”key is pressed, the voltage of the battery/battery pack will be displayed, and then the display will show the resistance value of the battery. As shown in the figure, the resistance value is 23 milliohms. Please note that the test clip and fixture must be securely connected to the battery. Otherwise, the test results will be inaccurate.

Automatic Charging  

Open the tester. When the tested battery is correctly connected to the tester, the tester will make a "beep beep" sound.Press the“  ”key to start charging the battery. The red indicator light will light up. The voltage signal will flash. This is in the charging state. When the battery is fully charged, the tester will automatically stop charging. Please note that charging is in constant voltage and current mode. As the voltage increases, the charging current will decrease. Please be patient as the charging time is quite long. When the tester is connected to the battery pack, this charging function is invalid.

Test Capacity After Charging   

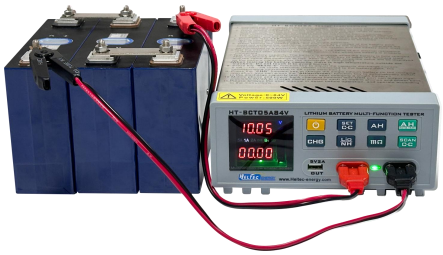
Open the tester. When the tested battery is correctly connected to the tester, the tester will make a "beep beep" sound. Press the “  ”key to charge the battery. Charging is set to constant voltage and current mode. As the voltage increases, the charging current will gradually decrease. Press the “  ” key again to perform capacity testing (this key is used to test capacity). The tester will fully charge the battery and automatically discharge it for capacity testing. As shown in the figure, the scene on the left is conducting capacity testing. Please note that this feature is only applicable to individual batteries and not to battery packs.

***Operation Manual**

1) Test lithium battery pack

(1) The battery pack must be connected to the protective board in order to be used. Please connect the negative pole of the battery pack first, and then connect the positive pole. If connected correctly, the tester will make a "beep beep" sound; Otherwise, the tester will sound an alarm.

(2) After connecting the tester to the battery pack, the decimal point on the display will move. As shown in the figure, the voltage of the battery pack is 10.05 volts. Click the“ LiO NA ”button to select the test battery mode. The "B1" mode is used for battery pack testing.



(3) After connecting the tester to the battery pack, the display will show the voltage of the battery. As shown in the figure, the voltage of this battery is 10.05 volts. This means that the voltage of the battery pack is normal.

(4) The function of automatic discharge after charging is completed does not work. There is no response when pressing these buttons.

(5) Discharge battery pack. Please release the current of the battery pack in "B1" mode and select the discharge current. Please note that moving the decimal point backwards by 1 digit means that the discharge current increases by 10 times. Press the key SET C-C to select a discharge current of 5 amperes. Attention: During the discharge process, there may be high temperatures on the surface of the tester. Do not touch the tester during the discharge process to avoid burns.

(6) And when the current exceeds 5 amperes, the tester will automatically shut down for protection. Please select 5 amperes for discharge. The specific capacity value will be displayed after discharging.

2) Test a single battery cell

(1) Firstly, connect the battery. Please make sure to connect the negative pole first, and then connect the positive pole. The black part represents the negative electrode, and the red part represents the positive electrode. Otherwise, the tester or battery may be damaged due to excessive current.

(2) After connecting the battery, the display will show "B2" mode. The "B2" mode is used to test the mode of a single battery. If the current mode is not "B2" mode, please press the LiO NA button to switch to "B2" mode. A single battery must be in "B2" mode for parameter testing.

(3) Testing the voltage of the battery. The monitor displays the voltage of the battery after the connection is completed. As shown in the figure, the voltage of this battery is 3.495 volts. This means that the voltage of the battery is normal.

(4) We are currently testing the battery's ability to withstand pressure. The tester needs to be restarted. Press the“ mΩ ”key to perform a resistance test. Please note that when conducting a resistance test, you need to press the "Resistance" button twice. As shown in the figure, the battery is in the testing resistance state.

(5) Testing the capacity of the battery. Please press the“ AH ”button to test the battery capacity. The battery being tested must be in a fully charged state. The standby display screen will show the discharged battery capacity.

(6) After the battery is fully charged, the capacity testing function will automatically start. Press the“ CHG ”key to start charging, then press the key“ AH ”.The indicator light is on. When the battery is fully charged, the discharge capacity function will automatically activate.

6. Attention to usage method

1) During the capacity testing process, due to internal exhaust, a certain amount of heat will definitely be generated. Please place the tester in a well ventilated environment for testing.
2) Do not press the start button during the testing process, otherwise the previous test results will be cleared.
3) During the testing period, please do not make phone calls near the testing device. To prevent radio frequency signals from mobile phones from interfering with the testing instrument.
4) Do not reverse the polarity of the battery when connecting it to the tester. If the battery polarity is reversed and connected to the tester, the tester will be damaged.
5) During the discharge process, there will be high temperatures on the surface of the tester. Please do not touch the tester during the discharge process to avoid burns.
6) The tester must be used in a dry environment. If it is in a water mist environment, it will cause deviation in the test results.
7) The resistance of a battery is the actual DC resistance value. It is the voltage change value during 1 ampere discharge. The result of DC resistance is greater than that of AC resistance. But the result of DC resistance is more meaningful than that of AC resistance.
8) The maximum input voltage of the tester is 55 volts. Do not test battery packs with voltages exceeding 55 volts.
9) Charging and discharging functions cannot be used simultaneously. Otherwise, the display of the test current will be inaccurate.

10) If the battery is reversed, the instrument will display 9999 and the port green light will not light up (if connected correctly, the green light will light up， and you will hear a beeping sound).

7. Safety Instructions

*All content of this product involves safety issues. Users must comply with these regulations. If not operated according to the instructions, there may be danger.
*The safety warning on this product is mainly to remind you to use the product correctly. The precautions therein explain the potential hazards, degree of harm, and related issues that may arise. Illegal operations may damage your belongings, property, and even endanger your personal safety.
1) Before using the tester, please read this manual carefully and store it properly for future use.

2) Without the manufacturer's permission, do not use other accessories, do not make modifications, and do not have non professional maintenance personnel disassemble and repair them, otherwise accidents such as fire, electric shock, and injury may occur.

3) After unpacking, please check whether the product is damaged, whether the accessories are intact, and pay attention to checking whether the plug and power cord are complete to avoid the risk of electric shock.

4) Please keep this product out of reach of children or individuals with disabilities. Children and individuals with disabilities should use this product under the supervision of a guardian.

5) If the device malfunctions, immediately unplug the power plug and do not let the faulty product continue to operate normally.

6) Before use: Please ensure that your power supply is sufficient to meet the voltage rating requirements of the product. The rated voltage is indicated on the product label. Users of this product should use 100-127 volts AC or 220-240 volts AC at a frequency of 50/60 hertz. Connect the power cord between the product and a grounded AC power outlet.

7) A single-phase fixed three-phase socket with reliable grounding function must be used. It is strictly prohibited to use mobile sockets with flexible wires, nor to share them with other electrical appliances.

8) When not in use, the power should be cut off to ensure safety.

9) Do not use this product in water mist environments, nor in flammable or explosive environments.

10) Please keep the power cord away from heat sources.

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.

There are no after-sales service stations in other countries except 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.