Handheld Dc Resistance Tester

HTC™
INSTRUMENTS

5252
MANUAL

Directory

1、Safety rules and precautions

Thank you for purchasing our **Handheld DC resistance tester**. In order to avoid possible electric shock or personal injury before your first use of this tester, please be sure to read and strictly observe the safety rules and precautions set out in this manual.

Special attention should be paid to safety when using this instrument under any circumstances.

✧ This instrument according to IEC61010 safety specifications for design, production, inspection.

✧ Special attention should be paid to safety when using this instrument under any circumstances.

✧ When measuring, please do not use the high frequency signal generator such as mobile phone near the instrument, so as not to cause error.

✧ Pay attention to the label and symbol of the instrument body.

✧ Before use, make sure that the instrument and accessories are in good condition and the instrument and test line insulation layer are not damaged, exposed or broken before use.

✧ During the measurement, do not contact the bare conductor and the circuit being measured.

✧ Make sure the connector plugs of the wires are tightly inserted into the instrument interface.

✧ Do not measure in inflammable place, spark may cause explosion.

✧ When the instrument is in use, the casing or test line is broken and the metal is exposed, please stop using it.

✧ Do not place or store the instrument in hot, humid, dewy places or under direct sunlight for a long time.

✧ When replacing the battery of the meter, please confirm that the test line has been removed from the meter and the meter is in shutdown state.

✧ Instrument display battery low voltage symbol "  ", should replace the battery in time, otherwise it will cause error.

✧ Do not measure when the battery cover is open or when it thunders.

✧ Pay attention to the measuring range and operating environment specified in this instrument.

✧ The use, disassembly, calibration and maintenance of this instrument must be operated by authorized personnel.

✧ If the instrument is in danger due to its continued use, it shall be stopped immediately and sealed up for immediate disposal by an authorized agency.

✧ The instrument and the " ⚠ " safety warning sign in the manual, the user must strictly follow the contents of this manual for safe operation.

2、Introduction

Handheld DC resistance tester, also known as transformer DC resistance tester, DC resistance rapid tester, grounding conductivity tester, adopts microprocessor technology, four-wire test, safe, precise and reliable.Is mainly used for measurement of transformer winding resistance, transformer winding resistance, ground down lead conduction testing, the wire resistance of the cable, switch, socket, relay contact resistance, winding, motor, shell and equipment, lightning protection zone, ground beam, structure, rack, steel, pipe, Windows, fence, radiator, pipeline connection between objects such as metal components resistance test.It is widely used in telecommunication, electric power, meteorology, machine room, oil field, electric power distribution line, tower transmission

line, gas station, factory grounding grid, lightning rod and so on.

Handheld DC resistance tester is composed of a host, monitoring software, test line and communication line.Host handheld portable design is convenient for field application, with charging function without on-site power search, full-color large LCD display, clear at a glance, easy to use touch screen operation, port overload protection function.Large capacity storage 500 groups of data, resistance measurement range: 10.0 u Ω 50.00 K Ω, measuring accuracy: ±0.2%FS±10dgt.The upper computer software has the functions of reading, consulting, saving and reporting historical data.

3、Range and accuracy

Measuring current	Range	Precision	Resolution
10A	10.0uΩ~1000.0uΩ	±0.2%FS±10dgt	0.1uΩ
	1.00mΩ~100.00mΩ	±0.2%FS±10dgt	0.01mΩ
5A	100.0mΩ~1000.0mΩ	±0.2%FS±10dgt	0.1mΩ
1A	1.000Ω~10.000Ω	±0.2%FS±10dgt	0.001Ω
0.1A	10.00Ω~100.00Ω	±0.2%FS±10dgt	0.01Ω
10mA	100.0Ω~1000.0Ω	±0.2%FS±10dgt	0.1Ω
1mA	1.000KΩ~10.000KΩ	±0.2%FS±10dgt	0.001KΩ
	10.00KΩ~50.00KΩ	±0.2%FS±20dgt	0.01KΩ
Note: the standard condition of error range in the above table is 25℃±5℃, and the maximum error in the working environment is 0.5%FS±10dgt.			

4、Technical specifications

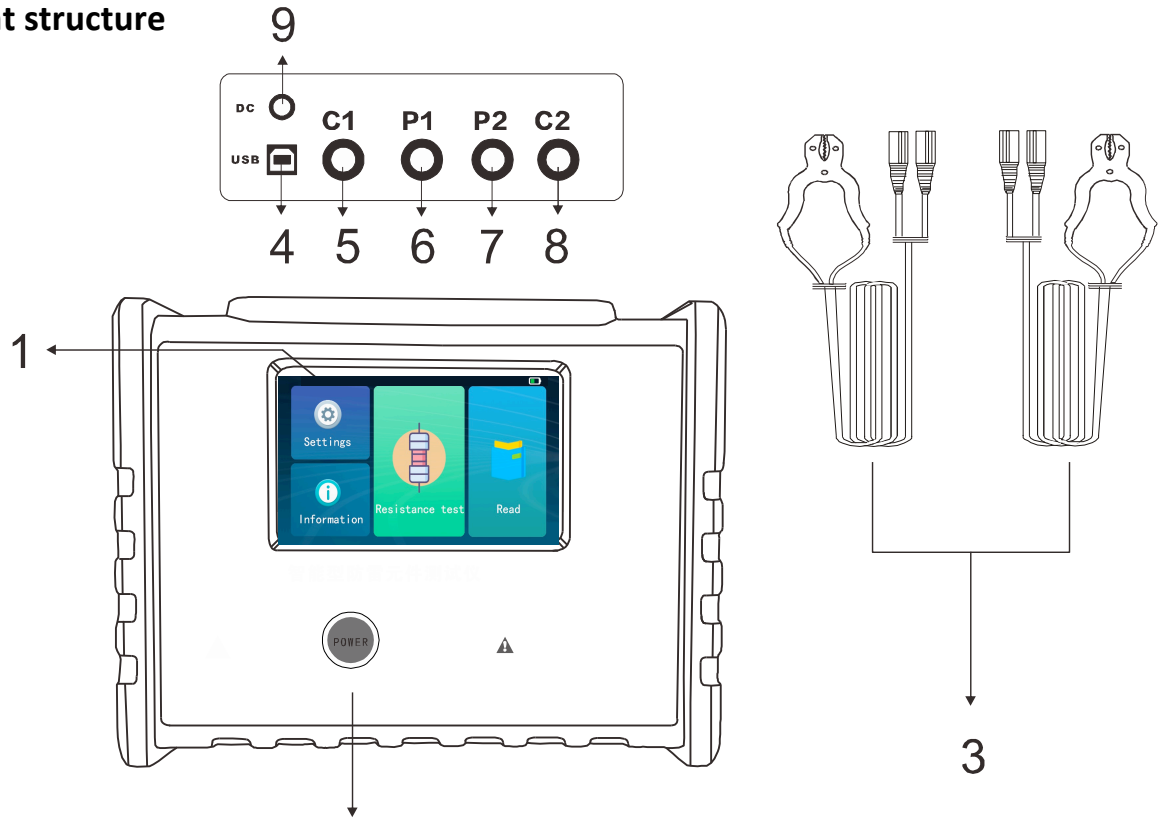
Function	Is mainly used for measurement of transformer dc resistance, transformer winding resistance, network connectivity, cable conductor resistance, contact resistance of switches, connectors, relays, winding, motor, transformer winding

	resistance and metal riveting resistance, metal component coupling between resistance test, low resistance testing, contact resistance testing, etc.
Resistance range	10.0uΩ-50.00KΩ
Resolution ratio	0.1 uΩ
Precision	±0.2%FS±10dgt
Detection method	The four-wire test
Measuring current	10A、5A、1A、0.1A、10mA、1mA
Maximum short circuit current	10A
overload protection	Yes
Self discharge	Yes
Power	DC12.6v 2500mAh large-capacity lithium battery
Charging function	Yes
Back light	Yes, suitable for dark places
Display mode	LCD Full-color display
Overflow shows	The "OL" symbol is displayed when the overrange overflow occurs
Touch screen operation	Yes

The LCD size	Length and width: 108mm×65mm
Size of instrument	Length, width and height: 240mm×188mm×85mm
The test line length	5 meters, 1 red, 1 black
USB interface	With USB interface
Line of communication	1 USB communication cable
Data storage	500 groups
View Data	Data access function
Cell voltage	The battery power is displayed in real time, indicating that the battery should be charged in time when the battery voltage is low
Auto power-off	Turn off the meter after no operation for about 15 minutes
Power dissipation	Standby: approx. 116mA (20% brightness)
	Measurement: 27W Max
Weight	Instrument: 1100g(including batteries)
	Test line: 850g
Operating temperature and humidity	- 10℃~40℃,Below 70%rh
Storage temperature and humidity	-20℃~60℃,Below 70%rh

Insulation resistance	More than 10 m Ω (circuit between the shell and 500 V)
Withstand voltage	AC 3700V/ RMS (between circuit and housing)
Electromagnetic property	IEC61010-4-3, wireless frequency electromagnetic field ≤1V/m
Suitable for safety	IEC61010-1、CAT Ⅲ 600V、Pollution level 2、JJG724-1991 <<VERIFICATION Regulation of DC Digital Ohmmeter>>, JJG166-1993 <<Verification Regulation of DC Resistor>>, <<VERIFICATION Regulation of DL/T967-2005 Circuit Resistance Tester and DC Resistance Rapid Tester>>

5、Instrument structure



1. LCD **2. Power** **3. P-wire**

4.USB **5.C1** **6.P1**

7. P2 **8. C2** **9. Charging mouth**

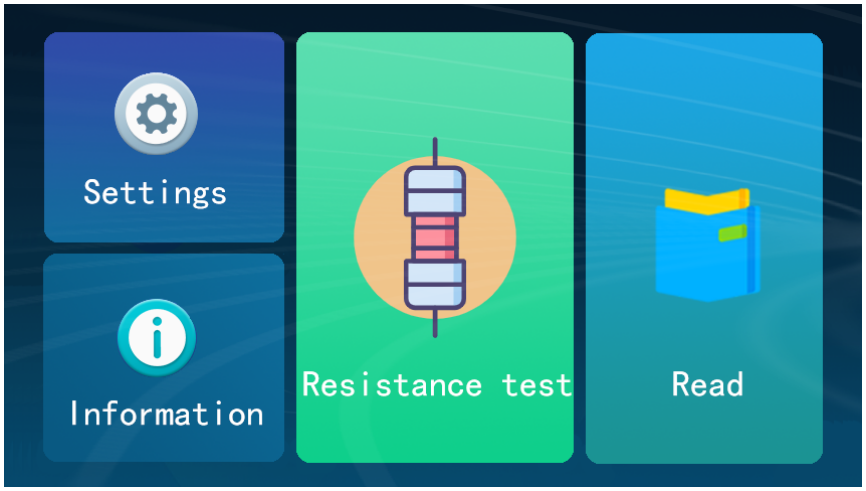
6、Operational approach

6.1、Startup & Shutdown

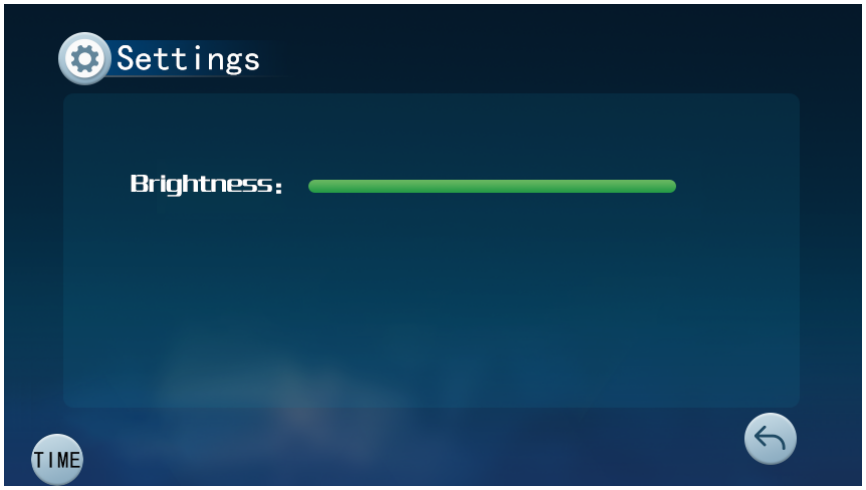
Press the "Power" button to start the machine, and press the "Power" button to shut down the machine.

6.2、Interface is introduced

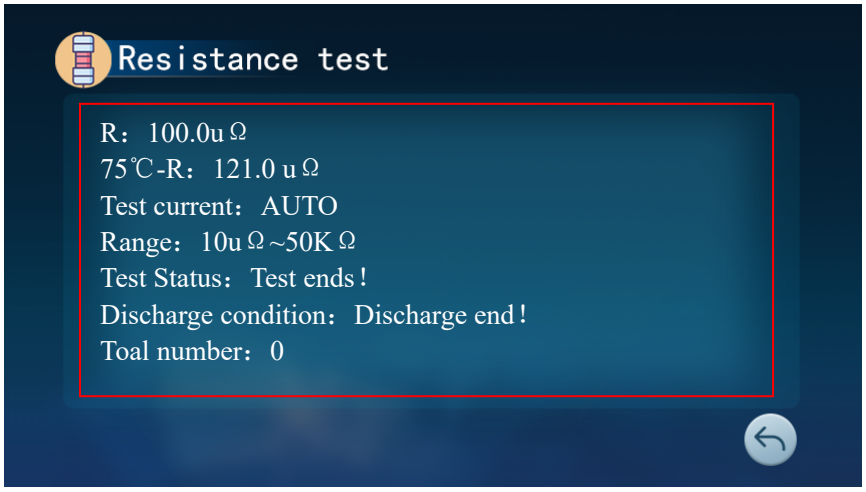
6.2.1、Main Interface



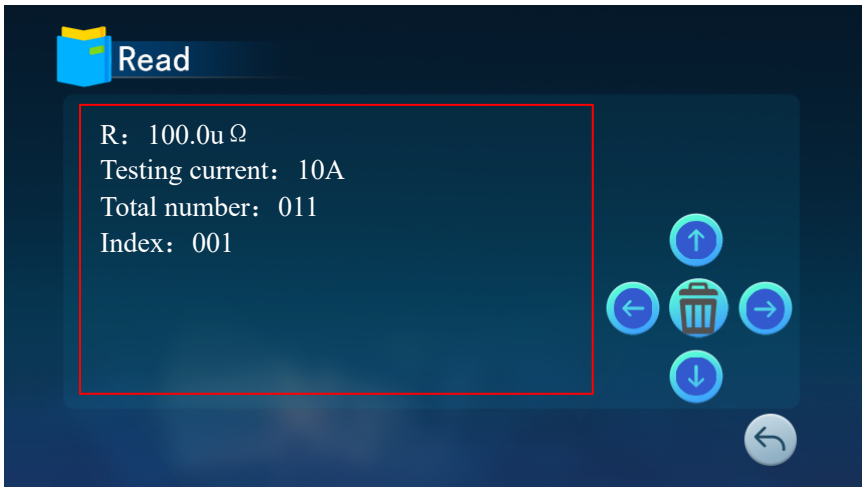
6.2.2、Set interface



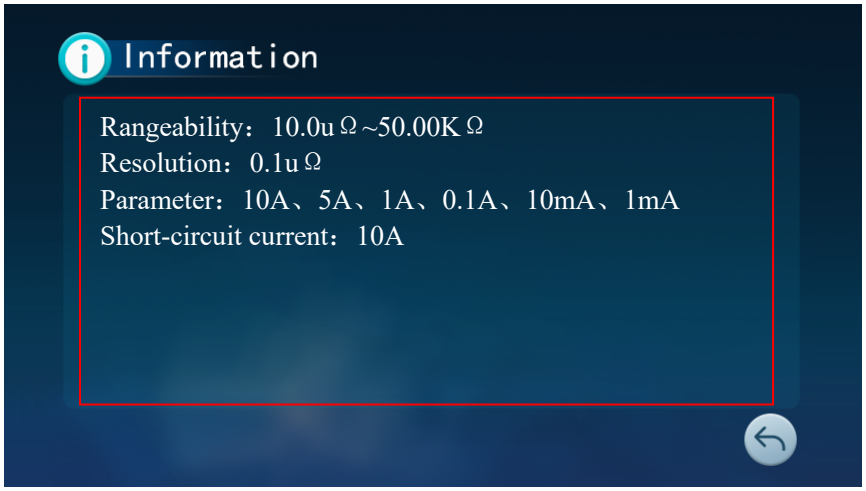
6.2.3、Resistance test interface



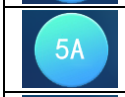
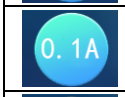
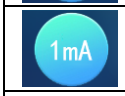
6.2.4、Reading interface



6.2.5、Product information interface



6.3、Icon shows

	The test switch		Brightness control
	Automatic shift test		return
	Manually test current 10A		Enter the delete
	Manually test current 5A		Confirm the deletion
	Manually test current 1A		delete
	Manually test current 0.1A		Minus 1 step to consult
	Manually test current 10mA		Add 1 step to consult
	Manually test current 1mA		Add 10 steps to review
	Save the data		Subtract 10 steps to check
	Indicates that the data was saved successfully		Test the stop time Settings

6.4、Battery check

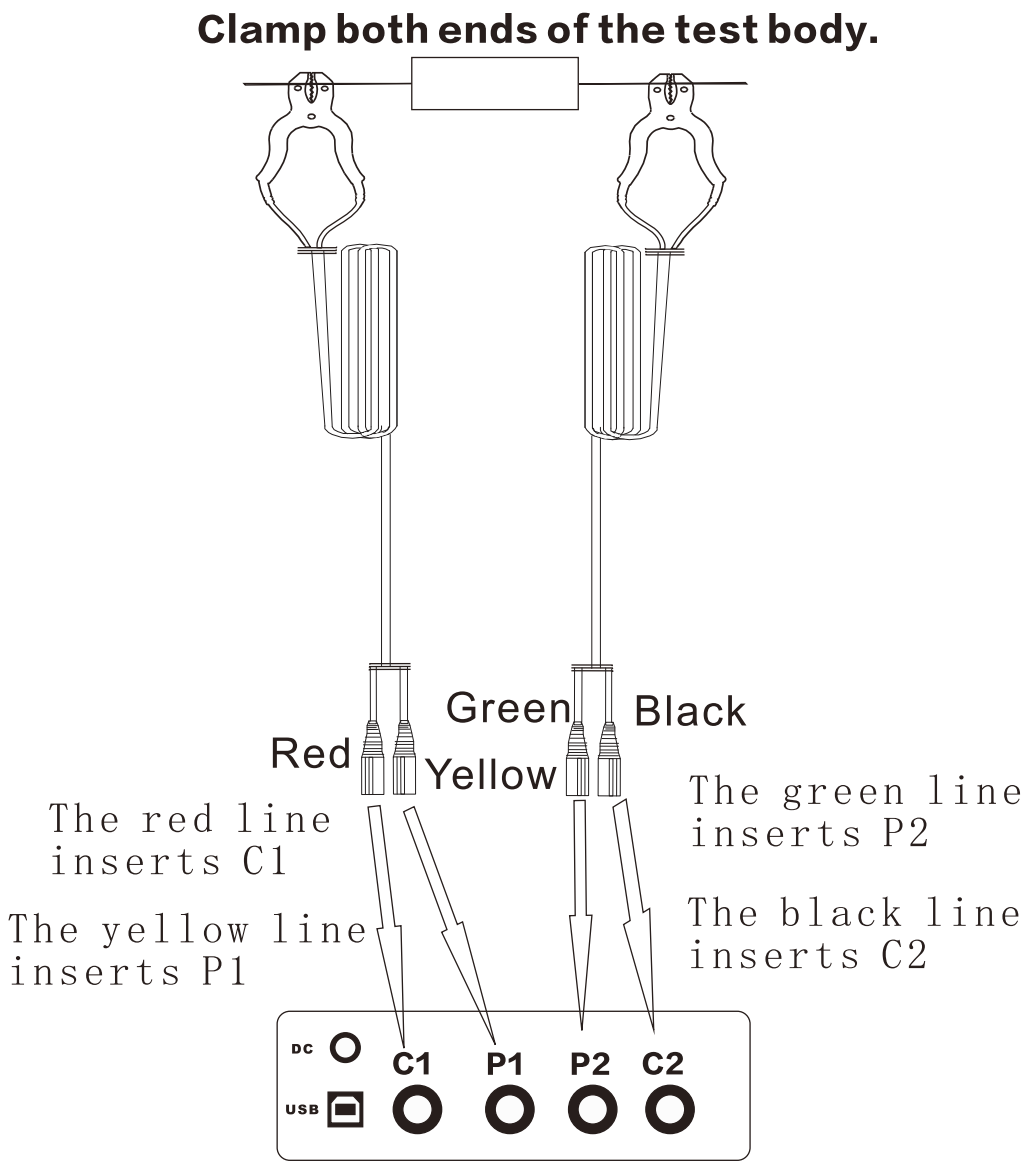
1、After starting up, if the LCD upper right corner shows the battery low symbol "  ", indicating the battery is low, please charge in time.Only sufficient battery power can ensure the accuracy of measurement.

2、During the test, the power consumption is higher than standby. If the LCD displays the battery low voltage symbol "  " during the test, indicating that the battery is about to run low, please charge the battery timely.In order to ensure the accuracy of the test.

3、When the battery is not enough to support the test, it will shut down automatically. Please charge it before the test.

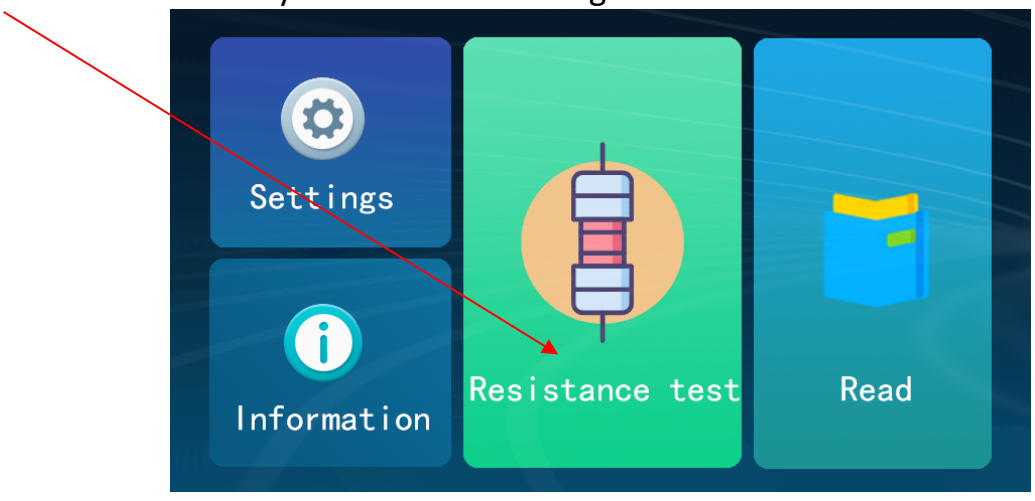
6.5、Resistance test

6.5.1、Connection method

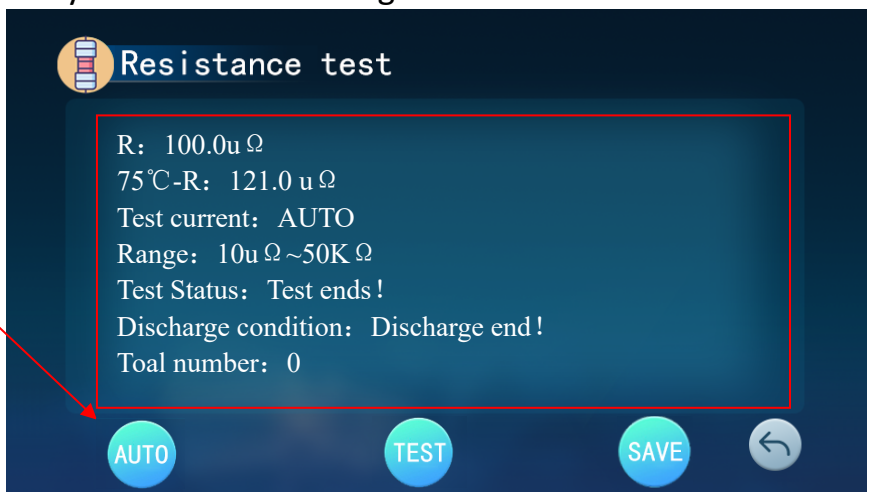


6.5.2、The test operation

On the main interface, click the "Resistance Test" icon to enter the resistance test interface.As indicated by the arrows in the figure below：



It will automatically test the current shift mode every time you start the machine. If you need to test the current shift manually, please click the icon in the lower left corner to switch to the corresponding current shift mode or to the automatic test current shift mode.As indicated by the arrows in the figure below：



Click the " 

" icon to test. During the test, the buzzerwill sound and the icon" 

"and" 

"will flicker alternately. The test status of the display area will show "Testing。。。。。。。 ".

At the end of the test, the instrument will discharge automatically. During the discharge process, the operation cannot be carried out. Please wait for the discharge to end before proceeding with the next operation.

During the test, the test mode cannot be switched, nor can data be saved, nor can it be returned to other interfaces. Please finish the test before the operation.

Please pay attention to the LCD display and prompt for specific conditions during use.

6.6、Backlight control

In the main interface, click the "Settings" icon to enter the Settings interface, and drag the "  " icon left or right to adjust the brightness.As indicated by the arrows in the figure below：

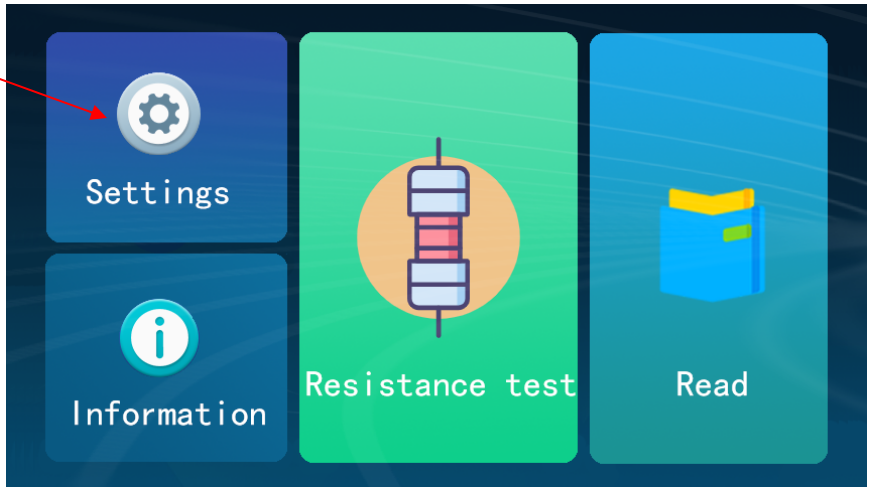


Figure 6-6-1 Enter the setting interface

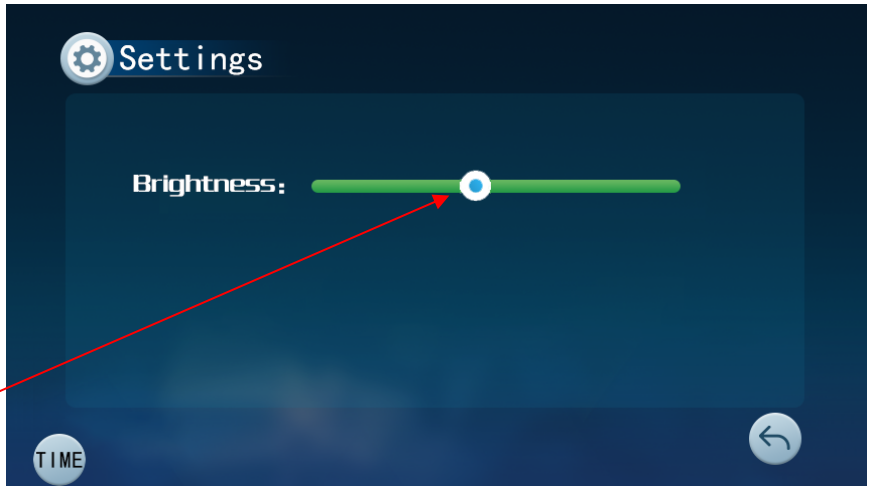


Figure 6-6-2 Brightness

6.7、Data is stored

In the resistance test interface, after each test, click the " 

Save" icon to save the current test data (as indicated by the arrow in the figure below).The " 

" icon will become the" 

"icon if you save successfully.

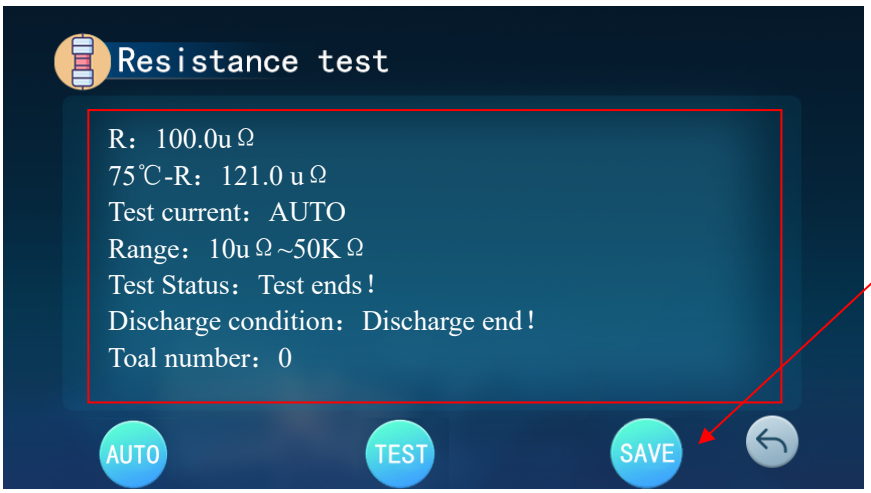


Figure 6-7-1 Save the data

6.8、Data access/deletion

On the main interface, click the "Consult" icon to enter the interface for data searching and deletion (as indicated by the arrows in the figure below).If the instrument does not save any data, the interface will prompt "No data saved yet!".

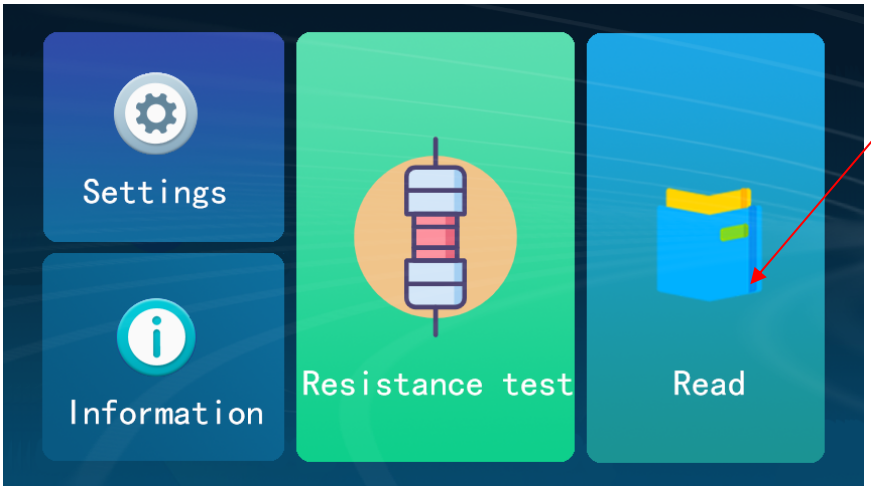


Figure 6-8-1 Enter the search interface

If the total number of saved data groups is no more than 10, you can click the "  " icon to add 1 step to see the data, or click the"  "icon to subtract 1 step to see the data.

If the total number of saved data groups is more than 10, you can click the "  " icon to add 1 step to see the data, or click the"  "icon to subtract 1 step to see the data.You can also view the data by clicking "  "add 10 steps or clicking"  "Subtract 10 steps.

To delete data, click the "  " icon to enter the deletion state, and then select the"  "icon to confirm the deletion of total data, or select the"  "icon to cancel the deletion of total data.

6.9、Product information consulting

On the main interface, click the "Product Information" icon to enter the product information interface to view the technical specifications of the product.

6.10、Overload protection

Before starting and testing the resistance, the instrument will be checked for overload. If it is found to be overloaded, overload protection will be carried out and a prompt will be given. Please shut down and ensure that the test body is not charged before starting the test.

After overload protection, disconnect the connection and restart the instrument to start normally.

6.11、Test the stop time Settings

If the instrument cannot normally measure large inductive load within the default test stop time of 60 minutes, click the " 

" icon in the lower left corner of the setting interface to enter the test stop time setting state to modify the time.The default time for

each reboot will be restored to 60 minutes.

The test time will be within 60 minutes. The test process will make an intelligent judgment, then display and wait for the data to stabilize before the test is finished.The data shows that the test does not mean the end of the test. In case of major interference, the test will not stop, and the end of the test needs to be determined by yourself.If the modification time is more than 60 minutes, it will not stop intelligently, and the test can only finish when the set time is reached.

7、Packing

Instrument	1 set
Test Wire	2 pieces (1 red, 1 black)
Disk	1 piece
USB cable	1 piece
Charger	1 set
Specification and warranty certificate	1 set
Instrument box	1 set