Huazheng®

HZ-5100S
Portable Contact Resistance Tester

Huazheng Electric Manufacturing (Baoding) Co., Ltd

Dear user:

Thank you for choosing HZ-5100SPortable Contact Resistance Tester.

We hope that this instrument can make your work easier and more enjoyable, so that you can get the feeling of office automation in the test and analysis work.

Before using the instrument, please read this manual, and operate and maintain the instrument according to the manual to prolong its service life. "Just a light press, the test will be completed automatically" is the operating characteristics of this instrument.

If you are satisfied with this instrument, please tell your colleagues; if you are not satisfied with this instrument, please call (0312) 6775656 to tell you to serve you at all times-Baoding Huazheng Electric Manufacturing Co., Ltd., our company will definitely make you satisfied !

Important Note

If the instrument is not in use, please turn off the power in time.

If the instrument is not used for a long time, please charge and discharge regularly. Batteries should be charged and discharged at least once a month.

It is strictly forbidden to use power shortage, which will severely shorten the battery life and even make the battery scrap. When the instrument is short of power, the power supply should be switched off and charged immediately. Avoid battery failure due to excessive battery discharge time.

Charging lamp: the charging lamp on the charger is bright red during charging and bright green after charging.

Users must not disassemble the instrument and replace the battery without authorization. When the instrument or battery fails, please return to the factory.

Contents

I.Introduction

The hand-held Circuit resistance tester is an innovative product. The product is compact, hand-held operation, battery power supply, easy to carry.

The product is mainly used in the measurement of contact resistance and other micro-Euclidean resistance of switch contacts. The test speed is fast and the accuracy is high.

II.Packaging Content

After receiving the packing box, open the packing box and check if there is any damage. If the freight packing box is damaged or the liner material is indented, please inform the freight company or our salesman immediately.

Please check if you have received the following items in the product package：

√1 Hand-held Circuit resistance tester

√1 sets of test lines (red and black each)

√1 charger

√1 user manual

√1 copy of certificate and factory test report

√1 standard resistor

√1 external printer（optional）

III.Features

- Lithium battery power supply, a charge can be continuously tested more than 600 times, the test process is simple and convenient.
- The maximum output current is 100 A, multi-stage current is optional, and the test range is wide.
- When doing 100A test, the longest test time can be up to 60 seconds, which can satisfy various field applications.
- The measuring range is wide and the precision is high. At 100A, it can

reach 2000μΩ.

- Has the open circuit protection, overheating protection and so on perfect protection function.
- 5. 6 inch super-industrial-grade high-brightness color LCD screen, in strong sunlight display is still clearly visible.
- Equipped with external printer, easy to print data.
- With native storage and USB disk storage, easy to save data.

IV.Technical Index

Measuring Range			
Output Current	100A、80A、50A、30A		
Measuring Range	100A 0~2000μΩ		
	80A 0~5mΩ		
	50A 0~10mΩ		
	30A 0~20mΩ		
Technical Index			
Accuracy	±（Reading×0.5%+1μΩ）		
Resolution Ratio	0.1μΩ		
Display Digit	Four and a half		
Test Power Supply	Constant current limit voltage，about 2V		
Input Voltage	Maximum 5V		
Measuring Time	Quick、10~60 seconds optional		
Testing Times	More than 600 times（full charge, fast measurement mode）		
Test Line	Resistance less than 10mΩ		
Conditions Of Use and Shape			
working Power Supply	Built-in lithium battery or external charger，Charger input 100~240VAC，50HZ/60HZ		
Charging Voltage	12.6V	Charging Current	≤3A
Charging Time	Abour 3 hrs	Auto Shut Off	5 minutes automatic shutdown without operation
Instrument Weight	1.7kg（exclude test lines）	Instrument Dimension	246mm（L）×156mm（W）×62mm（H）
Environment Temperature	-10℃~50℃	Relative Humidity	≤90%，no dew

V.Adjust The Wristband

For better grip, strip the belt and adjust the adhesive tape as shown in the following figure.

VI.Battery Charging

When the battery is low after long storage or before the first use of the hand-held device, please use the charger attached to it to charge the battery for at least 3 hours, and continue to use the hand-held tester when charging. When the battery is fully charged, the charger light changes from red to green.

VII.Tilt Hand-held Tester

In order to take the instrument or expose the side interface during operation, the hand-held tester can be tilted, as shown in the figure below.

Lift the tilt seat and pull outward

VIII.Product Appearance

Top view

Front View

Side View

Function module	Instructions
I+、 I-	Current output terminal, maximum output 100A.
U+、U-	Voltage input jack, maximum input 5V.
Display	5.6 inch large industrial high brightness color LCD screen, display operation menu and test results.
Button 	Operate instruments. “↑↓” is the "up and down" key, select to move or modify data; “←→” is the "left and right" key, select to move or modify data; "Enter" key, confirm the current operation; "Cancel" key, abandon the current operation. Instrument power key. Short press to turn on the power supply, long press to turn off the power supply. If there is no key operation, the instrument will shut down automatically after 5 minutes.
RS 232	Connect external printer.

interface	
Charging interface	Use instrument charger to recharge
USB interface	External USB disk is used to store test data, please use FAT or FAT32 format U disk; in the storage process, it is strictly prohibited to dial out the USB disk.

IX.Operation Instructions

- **Test wiring**

  Two test clamps are clamped to switch contacts or test ends. I+/U+terminals are connected with red test lines, I-/U-terminals are connected with black test lines, in which the thick-wire inserts are connected with current terminal I+/I-, and the thin-wire rods are inserted into voltage terminal U+/U-.

  It is necessary to use the special low resistance test line matched with the instrument, tighten the current connection pole, and firmly clamp the test clamp to reduce the lead resistance and save the battery power.

  If the test line contacts badly and the current cannot reach the set value, the instrument will stop testing and alarm.

- **Test grounding**

  In live environment, it is necessary to ensure that one end of the sample has been grounded.

- **Intelligent Power Management**

  When the instrument is not operated for a long time, it shuts down automatically to save electricity; the instrument has low charge prompt function and over-discharge protection function.

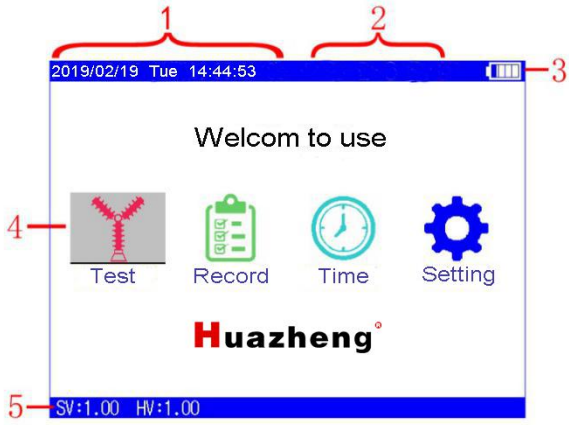
- **Instructions for use of printer**

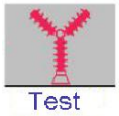
  The key of the printer and the indicator of the printer are integrated. When the printer is powered on, the indicator light is normally on, and it flashes when the paper is missing. Press the button once and the printer passes the paper.

Printer change paper: take out the rotating spanner and open the paper cover; Load the printer paper and pull out a piece of printer paper (tear the teeth out a little bit). Close the cover and press the print head to the print head. Press the print head back to the print head with a bit of force.

◆ **Operation instruction**

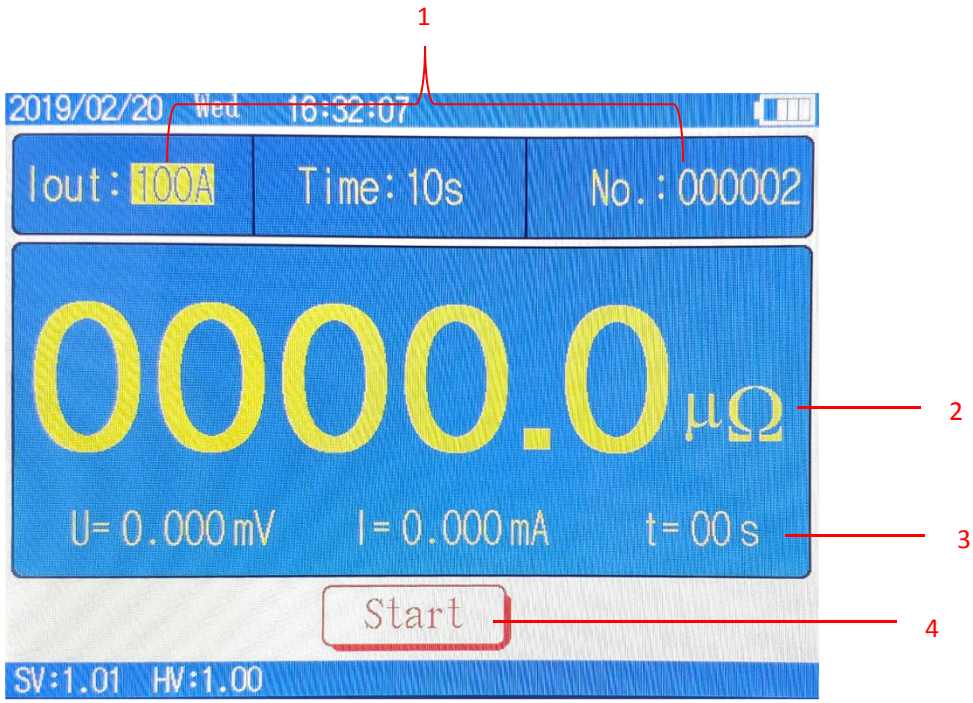
After all the test wires are connected, turn on the power switch and enter the "main menu" screen after the instrument is initialized, as shown in the figure below.



No.	Instruction
1	Display date and time.
2	Displays the peripheral and current operation status
	This icon is displayed when you insert a USB drive.
	This icon is displayed when the printer is inserted.
	This icon is displayed when a Bluetooth device is connected.
 	This icon is displayed when storing information queries. This icon is displayed when instrument temperature is too high.
3	Instrument power display, low power when this icon flashes.
No.	Instruction
4	In the main menu operation area of the instrument, the corresponding function is selected by the direction key, and the corresponding function menu is entered by pressing the "Enter" key.
	Circuit resistance test is carried out for low resistance test products such as switch contacts
	Query saved in the process of testing data; In the interface can detect data printing and archived USB flash drive operation.

 Time	Set date and time of the instrument.
 Setting	Need a password operation, it is not open to the user
5	SV：Display software current version number； HV：Display hardware current version number.

Select "Circuit Test" and press "Enter" to enter "Circuit Test" screen, as shown below.



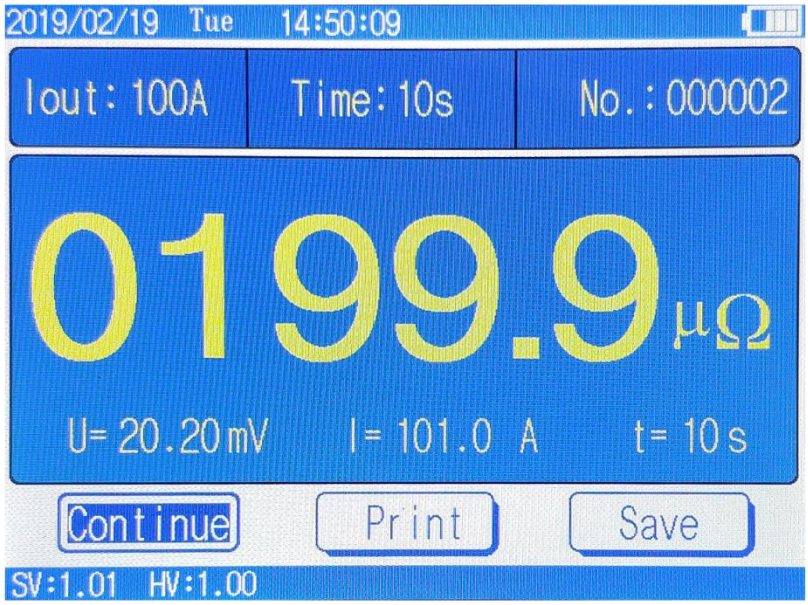
No.	Instruction
1	Parameter setting area. Select these parameters through the “←”→” key. When these parameters are selected, press the “↑”↓”key to modify the corresponding parameters. To modify the number, press the "Enter" key to enter the modification state, press the “←”→” key to move the cursor, press the “↑”↓” key to modify, and press the "Enter" or "cancel" key to complete the modification.  In the "current" or "time" option, press the "Enter" button to quickly jump the cursor to the 开始测量 button to start measurement.

Current	The output current of this test can be set at 30A/50A/80A/100A. If the circuit resistance exceeds the range of the corresponding gear measurement, the current may not reach the set current. The low resistance test line matched with the instrument should be used in the test, and the connecting pole should be tightened and the test clamp clamped to reduce the lead resistance.
Time	Setting the test time of this test, you can choose "Quick or "10/20/30/40/50/60 seconds". "Quick": Quick test after startup and display data after measurement. "10-60 seconds": stop the test after the start-up time reaches the set time. During the test process, you can press the "Enter" key or "cancel" key to stop the test at any time. Tip: "quick" measurements are recommended to save battery power
No.	Set the sample number of this test.
2	The main display area shows the measured circuit resistance. The minimum resolution is 0.1μΩ, the display digit is 4.5 bits, and the unitμΩ/mΩis switched automatically.
No.	Instruction
3	The sub-display area shows the voltage value and current value of the tested product and the test time.
U I t	Displays the voltage between U+/U-and automatically switches unit mV/V. Display the current between I+/I-and switch the unit mA/A automatically. Displays the actual test time, in seconds.
4	When the cursor is here, press the "Enter" button to start the measurement.

In the process of testing, if the instrument detects the bad contact fault of the test line, it pops up the fault alarm box and stops measuring.

If the instrument detects that the internal temperature is too high, a fault alarm box will pop up, but the measurement will not stop.

The "Test Results" screen is shown below. Press the left and right key to move the cursor and press the “Enter” key to perform the selected operation.



No.	Instruction
Continue	Continue to measure the circuit resistance according to the current setting parameters.
Print	Print the current test results by connecting the external printer.
Save	Save the current test results to the local computer or save it to the external USB disk. Tip: the data saved to the USB is in WORD format, and can be directly edited or printed with OFFICE.