



Transformer DC Resistance Tester

User's Manual

Statement

Copyright Statement

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Ver1.00。

Dear users,

Thank you for choosing our testing products. I hope this manual may provide all necessary information and avail you in using them.

Please read this manual carefully before officially using this product for safe and correct use of it. You are always welcome to contact our sales or technical staff if you have any doubts about any content in this manual, or if you are in need of any business consultation or technical support. You can rest assured that we will serve you wholeheartedly until your satisfaction. Please keep it properly after reading it in case of future use.

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1 Overview

As transformer is the core equipment in power system, its long-term reliable operation is of high significance to the stability and reliability of the whole system.

The DC resistance of transformers must be tested for their delivery, installation and handover, regardless they're semi-finished or finished transformers. It's also indispensable in preventive tests for power sector. In this way, manufacturing defects like coil material, welding, loose connection, lack of strands and disconnection as well as hidden dangers after it's put into use can be detected. This DC resistance tester is developed by taking full use of our technical advantages in order to meet the needs of fast measurement of transformer DC resistance. Boasting a large true color high-resolution LCD screen and adopting touch control and jog dial, it's convenient to use on site. Featuring Chinese menu prompts, it's simple and intuitive to operate. It's fast to test with high accuracy and wide measurement range.

2 Packaging

Open the packaging box to check if it's damaged after receiving the delivery. If the box is damaged or its inner padding is indented, please contact authorities of the shipping company and the nearest sales office of our company.

Please check if the following items are delivered:

Standard Version:

- √ 1 tester
- √ 1 set of test wires (1 red, 1 black)
- √ 1 three-core power cord
- √ 1 ground wire
- √ 3 fuses
- √ 2 rolls of printing paper
- √ 1 printed User's Manual

√ 1 Delivery Test Report

√ 1 Qualification Certificate/Warranty Card

3 Main Functional Features

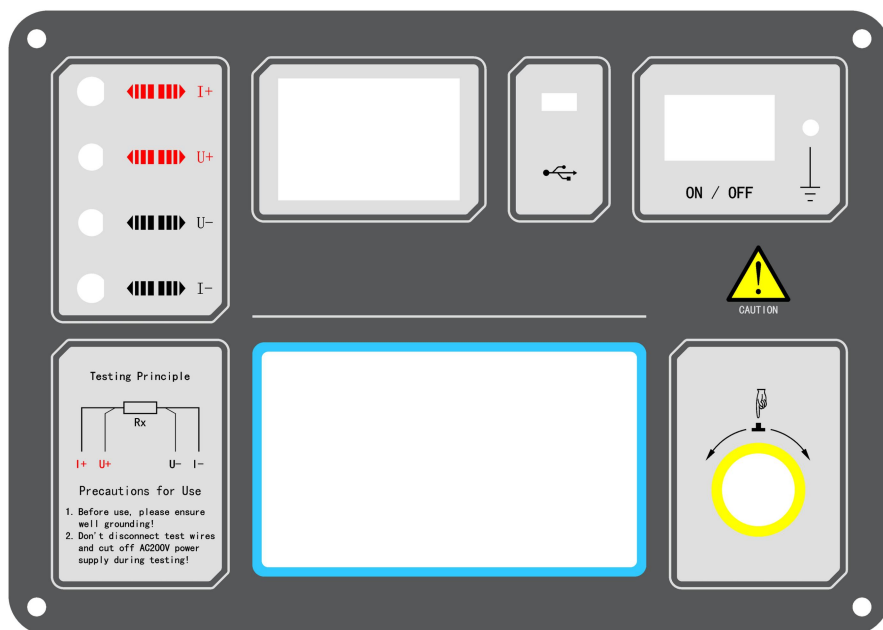
- 3.1 With 50A maximum output current of test power supply and 0 ~ 25k Ω test range, this instrument can meet most transformers' test needs.
- 3.2 During test, this instrument can automatically calculate resistance change rate within 5S, 15S and 30S, which can assist testers to judge test data stability and prevent data misreading.
- 3.3 It provides numerous protections against misconnection to 380V power (50A/40A model), back electromotive force, wire disconnection, power failure as well as alarm function when ground wire is not connected (50A/40A model).
- 3.4 Equipped with a thermal printer, this instrument can store 200 pieces of data locally and support mass data storage in USB disks.
- 3.5 With fresh and simple 7-inch industrial-level true color screen and integration of full touch control and jog dial, it provides comfortable and convenient human-machine interaction.

4 Main Technical Indicators

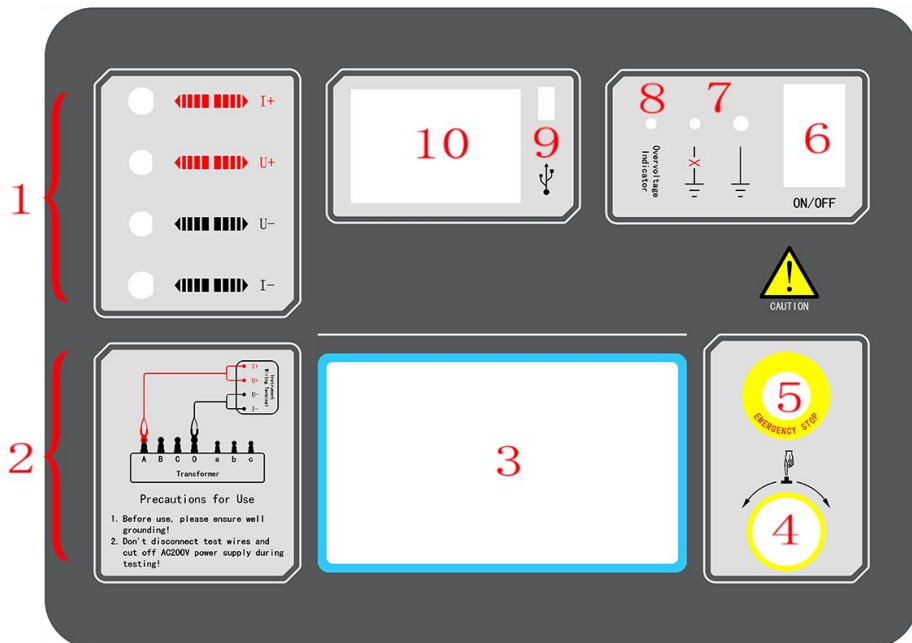
Technical Indicators		
Model Type	50A/40A model	20A model
Output Current	50A/40A、20A、10A、5A、1A、0.2A、10mA、<1mA	20A、10A、5A、1A、0.2A、10mA、<1mA
Measurement Range	Gear 50A 75u Ω ~ 0.4 Ω Gear 20A 0.5m Ω ~ 1 Ω Gear 5A 10 m Ω ~ 4 Ω Gear 0.2A 1.0 Ω ~ 100 Ω Gear <1mA 500 Ω ~ 25k Ω	Gear 40A 0.1m Ω ~ 0.5 Ω Gear 10A 1.0m Ω ~ 2 Ω Gear 1A 0.1 Ω ~ 20 Ω Gear 10mA 50 Ω ~ 2k Ω
Accuracy	$\pm$ (reading $\times$ 0.2%+2)	

Power Supply	AC220V $\pm$ 10%, 50/60Hz	
Use Temperature	-10℃ $\sim$ 50℃	
Relative Humidity	<90%, non-condensing.	
Dimension	428mm $\times$ 350mm $\times$ 230mm	400mm $\times$ 315mm $\times$ 223mm
Weight	13.2 kg	8.2 kg

5 Panel Description



20A Model



50A/40A Model

This section only describes 50A/40A panel in detail. For 20A model, this section can be referred to.

1. Test wire terminals.

2. Wiring illustration and precautions.

3. Capacitive touch screen.

Display size: 7.0 inches; Resolution: 1024×600.

4. Jog dial.

It can be used to operate all functions of the instrument.

5. Emergency stop button. (This feature is not available on the 20A model)

Tests will be stopped immediately once the emergency stop button is pressed during tests. After finishing using it, remember to reset it for next time use.

6. Power On/Off button.

Press the button for about 2s and the instrument will be started up.

7. Grounding terminal and indicator light. (This feature is not available on

the 20A model)

The instrument must be firmly grounded. Remove all paints or rusts on the grounding area if there are. Please check the ground wire if the indicator light is on.

8. Overvoltage indicator light. (This feature is not available on the 20A model)

When the indicator light is red, it indicates the input power is over what the tester allows.

9. USB Interface.

It's used to insert external USB disk to store test data. Insert FAT or FAT32 format USB disk. During storage, don't take it out.

10. Printer

It's used to print test reports.

6 Instructions

6.1 Overview

The instrument supports parameter setting and testing of every testing function individually by choosing corresponding icons on menu, so it's easy and convenient to use.

The below shows a commonly used icon:



Go back to last interface

6.2 Instructions On Printer

The printer's button and its indicator light are integrated. After the printer is powered on, the indicator light will be on all the time under normal conditions and it'll flash when printing paper is used up. Press button once and paper will be fed.

Printer self-check: Press the button and at the same time, power on the printer. Then the self-check report will be printed out.

Changing Printing paper: Pull out rotating handle and open cover. Load

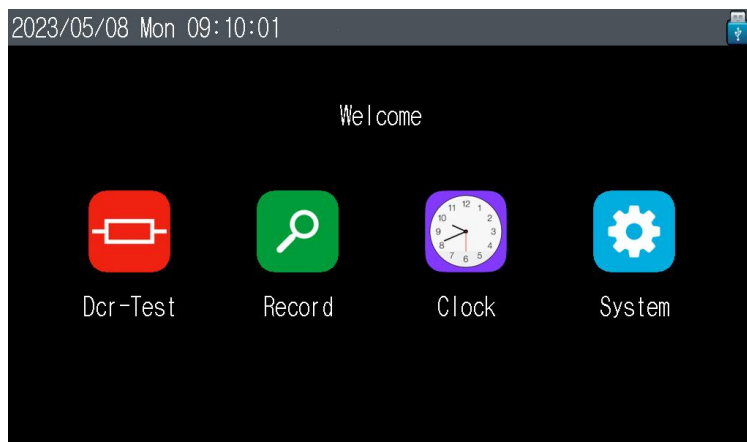
printing paper and pull out the paper a little (outside tearing teeth a little). Ensure that the paper is put neatly and the side with chemical (the smooth side) is upward. Close the cover. After the paper is held tightly by shaft, push the shaft into print head and push in the rotating handle to restore the original state.

6.3 Connecting Test Wires

The red and black test clamps of the test wire connect with both ends of the tested product; The other end of the test wire connects with the red and black terminals of the instrument by color.

6.4 Use Instructions

After all test wires are connected with tested product, turn on the tester. The tester is initialized and goes to "main menu" interface, as shown below.



Here, time and some status indicators are displayed on top bar. Function icons are displayed in middle. Click corresponding function icon to enter its menu.

6.4.1 DC Resistance Test

Click "DcR-Test" to enter "DcR test-parameter" interface.

2023/05/08 Mon 09:12:20

< DcR test - parameter

Test temp: °C Material:

Conv temp: °C Current:

1.0mΩ ~ 2 Ω

Test temp	Set current oil temperature of tested products.
Conv temp	Set the temperature value to be converted from the resistance value measured at current oil temperature. This value relates to converted resistance value.
Material	Copper and aluminum can be selected. Winding material is related to the conversion coefficient used in calculating the converted resistance value.
Current	Select test current to use in tests.
Test	Click “Test” button to start tests after all parameters are set.

2023/05/08 Mon 09:13:43

< DcR TEST - Result

Current 10.02 A

Test 4.720 mΩ

Convert 5.628 mΩ

Δ R-05s 0.002 %

 Locked Timing : 00:01:15

Current	Actual output current value.
Test	Measured resistance value.
Convert	Corresponding resistance value at a fixed temperature converted from current measured resistance value according to parameter setting.
$\Delta R-05S$	Resistance change rate of the test result in 5S. 5S, 15S, or 30S can be selected.
Timing	Total time of tests.
 Stop	Stop the current test and go back to parameter settings interface.
 Lock	“Refresh” indicates the current data has been locked and can’t be updated. Press “Refresh” to continue data testing and updating and the icon will change into “Lock”.
 Refresh	
 Print	Press it to print the current test results by printer.
 Storage	Press it to store the current test results into the tester or USB disk.

6.4.2 Record Query

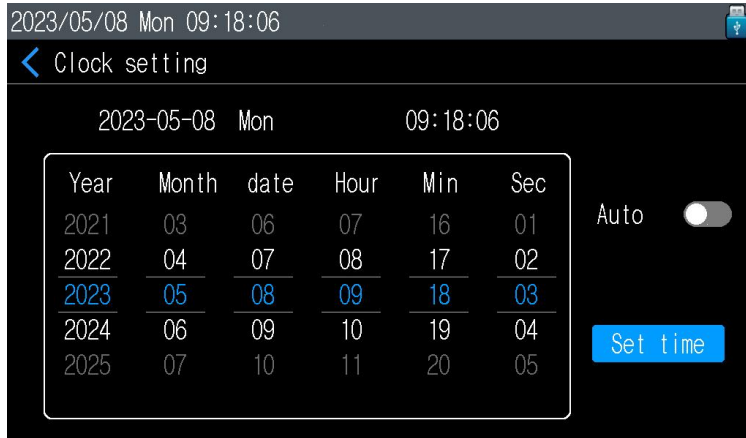
Press "Record query" to enter "Record query" interface.



All types of stored test data can be accessed, read, deleted, stored, etc. in USB disk.

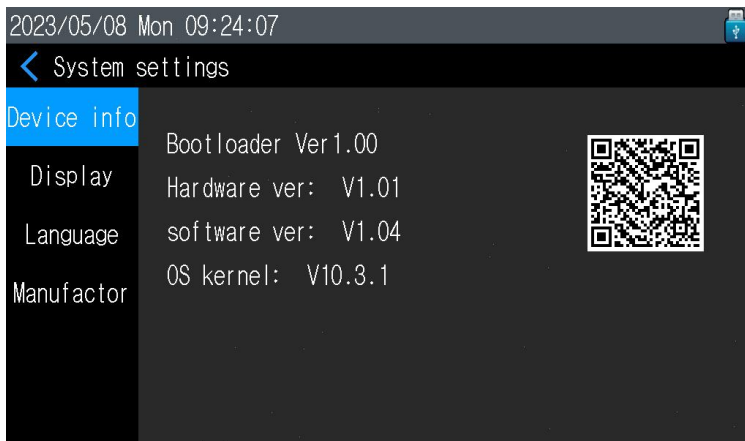
6.4.3 Clock Setting

Click “Clock setting” to enter “Clock setting” interface.



6.4.4 System Setting

Click “System settings” to enter “System settings” interface.



Tester information, display mode settings, screen brightness and language can be accessed in this interface.

7 After-sales Service

- ◆ Warranty card is included in the delivery of this product, so during delivery, please check the product carefully on the spot and fill in the warranty card carefully.
- ◆ Buyers enjoy lifelong maintenance from the date of purchase by showing the warranty card. Repairing is free if problems happen within warranty period. For problems after warranty period, buyers have to pay for repairing and commissioning.
- ◆ The following conditions are not in warranty:
 - ▶ Products are disassembled or their structure is changed by user.
 - ▶ Products are seriously damaged due to users' improper storage or use.
 - ▶ Products are damaged for other reasons on user side.