

HZ-3110B Transformer DC Resistance Tester



Dear user:

Thank you for choosing HZ-3110BTransformer DC 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 !

Contents

I. Introduction.....	1
II. Configuration.....	1
III. Safety Measure.....	2
IV. Presentation Of The System.....	3
V. Instrument Operation Instruction.....	3
VI. Test And Operating.....	7
VII. Communication.....	9
VIII. Caution.....	9
IX. After-sales Services.....	10
X. Packing List.....	11

I. Introduction

The DC resistance is the transformer's semi-finished product, finished product test, installation, commissioning test, and electric part prevention test necessary test project, the transformer coil can effectively find the device welding, connecting parts loose, missing unit, disconnection, and other manufacturing default and other hidden danger occurred after operation.

The DC Resistance transformer to meet fast measurement requirement, we developed HZ-3110B DC Resistance Tester. The instrument is a new powerful technology, small size, light weight, high output current and other characteristics.

The device is controlled by the microcontroller, with a high degree of automation, automatic discharge functions. It is a test instrument of high precision, simple, direct way to achieve fast transformer measurement.

II. Configuration

1. The instrument can use the mobile phone to control the instrument through the special software. The test data is stored in a fixed format on the mobile phone, which is convenient for data query at any time.
2. The maximum output voltage of the instrument is 24V, which is convenient for selecting a larger test current and improving the test speed.
3. The instrument adopts advanced power supply technology, with multiple current position, test range is wide, suitable for testing DC resistance of large and medium size transformer.
4. with anti-potential impact, test process interrupt line and power failure, power supply overheating and other protection functions, can reliably protect the impact of the back EMF on the instrument, and synchronize the sound alarm.
5. with any temperature conversion function of copper and aluminum material, touch input arbitrary winding temperature and conversion temperature.
6. Intelligent power management technology, instrument is always working at minimum power state, effective energy saving, reduce heat.
7. Seven-inch high-brightness touch color LCD, clear display under strong light, full

touch screen operation, free switching between Chinese and English.

8. With calendar clock and power storage, can store 1000 groups data, can be check at any time.

9. The instrument has bluetooth communication, RS232 communication and USB interface for computer communication and U disk data storage.

10. It can print test results with its own surface micro-printer.

III.Safety Measure

1. Output current: automatic、 <20mA 、 40mA、 200mA、 1A、 5A、 10A
2. Resolution: 0.1 $\mu\Omega$
3. Range: 0.5m Ω ~0.8 Ω (10A)
 1m Ω -4 Ω (5 A)
 5m Ω -20 Ω (1 A)
 100m Ω -100 Ω (200mA)
 1 Ω -500 Ω (40mA)
 100 Ω -100K Ω (<20mA)
4. Accuracy: $\pm(0.2\%+2 \text{ Readings})$
5. Operating temperature: 0~40 $^{\circ}\text{C}$
6. Ambient humidity: $\leq 90\%RH$, (non condensed)
7. size: 360*290*170 mm.
8. Instrument weight :tester: 6 KG Wire box: 5 KG

IV.Presentation Of The System



~220V: Power switch, machine power input, AC socket, safety and switch.

— : Earthed terminal, used for whole instrument earthing,for safety protection.

I+、 I-: Current output terminals ,I+ is the positive current; I- is the negative current.

V+、 V-: Voltage input terminals, V+ is the positive voltage;V- is the negative voltage.

RS232: Universal series interface, can controlled by computer;

USB: Can output the testing results to USB.

Fan: Air outlet

V.Instrument Operation Instruction

1、 The boot interface is shown in figure 1:

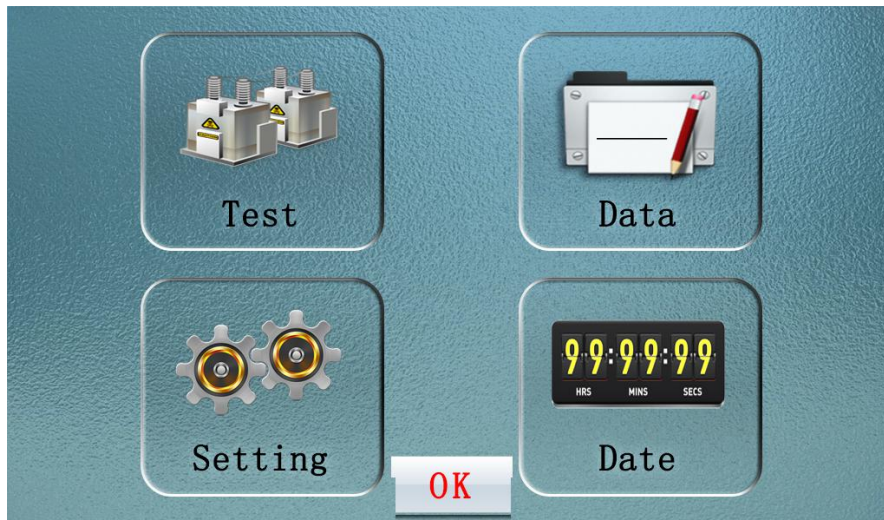


Figure 1

Press "Data test" to enter the following interface, as shown in figure 2

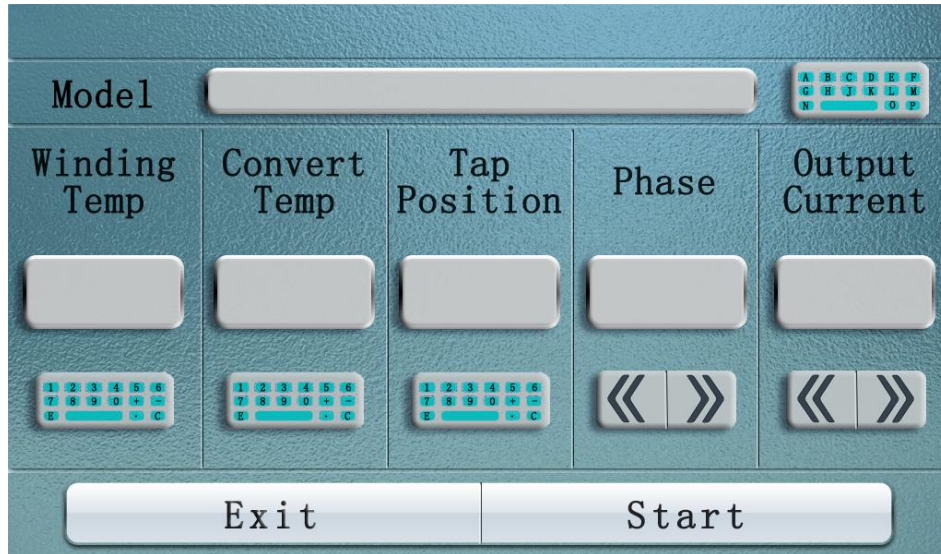




















Figure 2

- Model of test product:** Click  to edit the name of test product
- ;
- Winding temperature :** Click  will bring up  to set temperature ,
click  to delete, click  to confirm,click  to back;
- Convert temperature :** Click  will bring up  to set temperature ,
click  to delete, click  to confirm,click  to back;
- Tap position:**Click  will bring up  setting , click  to delete ,
click  to confirm, click  to back;
- Test phase:** Click  circulates between AB、BC、CA、AO、BO、CO、AmBm、BmCm、CmAm、AmOm、BmOm、CmOm、ab、bc、ca、ao、bo、co;
- Test current:** Click  The current circulates between automatic 、<20mA、40mA、

200mA、1A、5A、10A;

3、 After the current is selected, click "start measurement" to display "please wait while charging" to enter the test state. After a few seconds, the test result will be displayed, as shown in figure 3

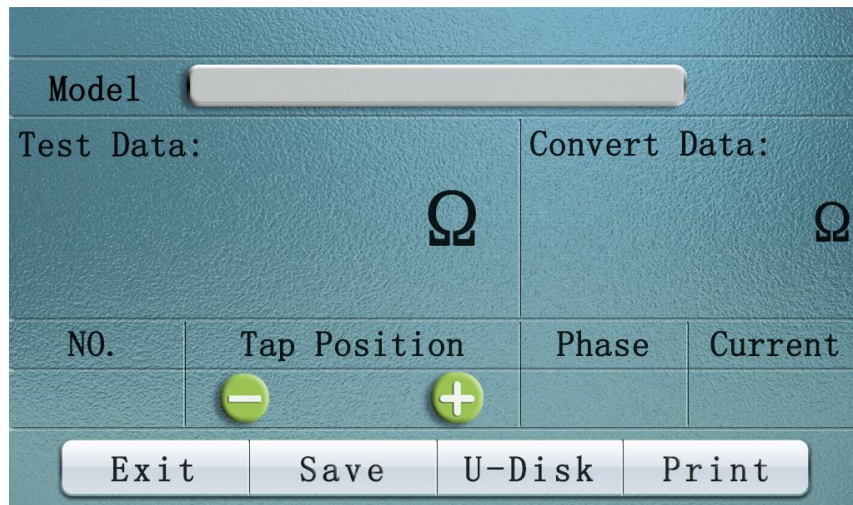




Figure 3



After displaying the test results, click   to directly switch the "Tap position" without returning to the main interface. After switching tap position, wait patiently for A few seconds for the test results. Next, you can save the test results by "Local storage", or click "U disk storage" and "Print". Click "Return to main page" and "Return to main interface";

4、 Click "Data management" in figure 1 to enter the data query interface, as shown in figure 4:



Figure 4



Click   to query the historical data and delete the data, or to store and print the data on the U disk. Click return to the home page and return to the main interface;

5、Click "Parameter setting" in figure 1 to enter the "parameter setting" interface, as shown in figure 5:



Figure 5

Brightness adjustment: according to the scene environment, the screen brightness can be adjusted by moving the button

Language setting: click the button to switch the Chinese/English interface

Manufacturer Settings: only manufacturer can set

Click the Settings to return to the home page and return to the main interface.

6、Click "clock modification" in figure 1 to enter the clock modification interface, as shown in figure 6:

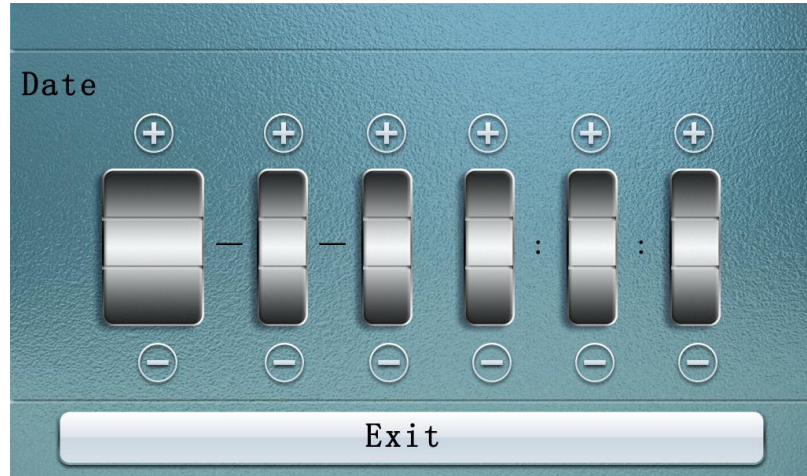


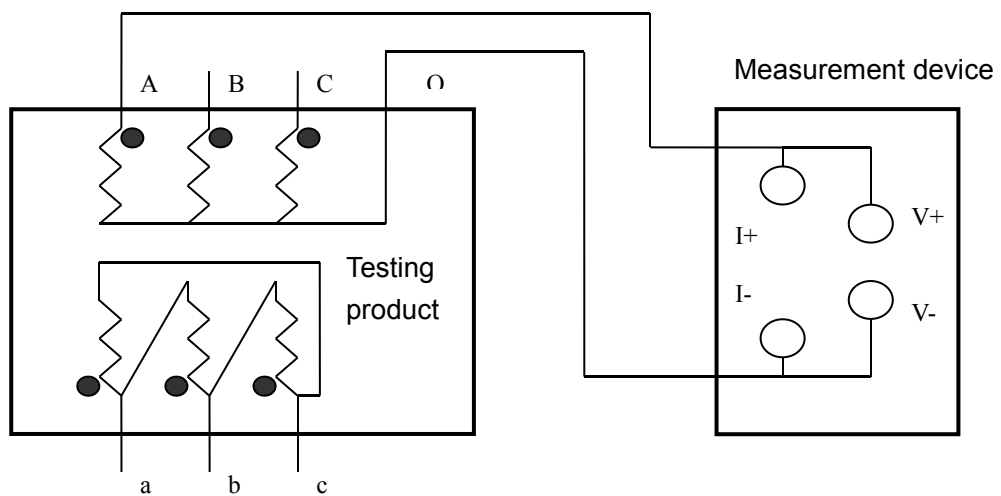
Figure 6

Click   to set date and time;

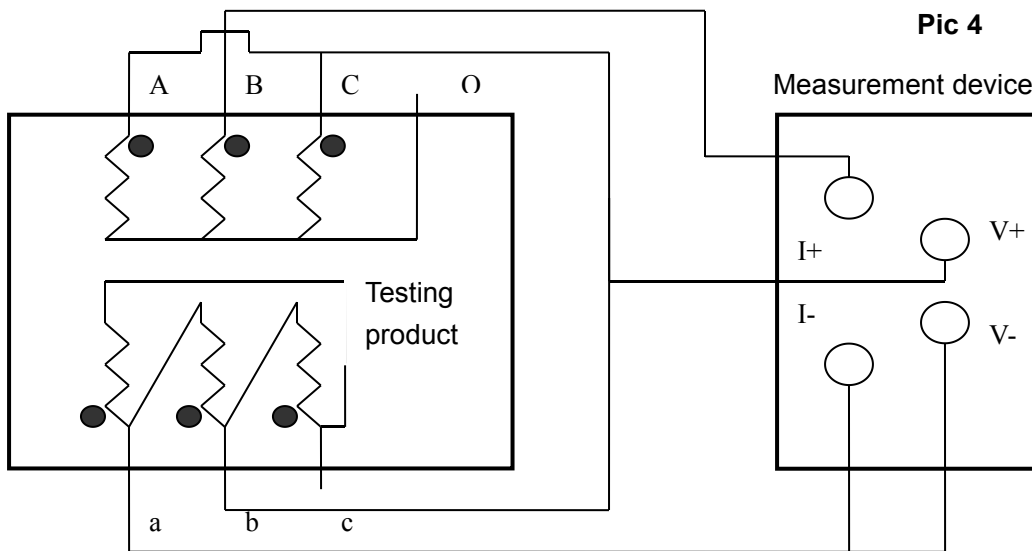
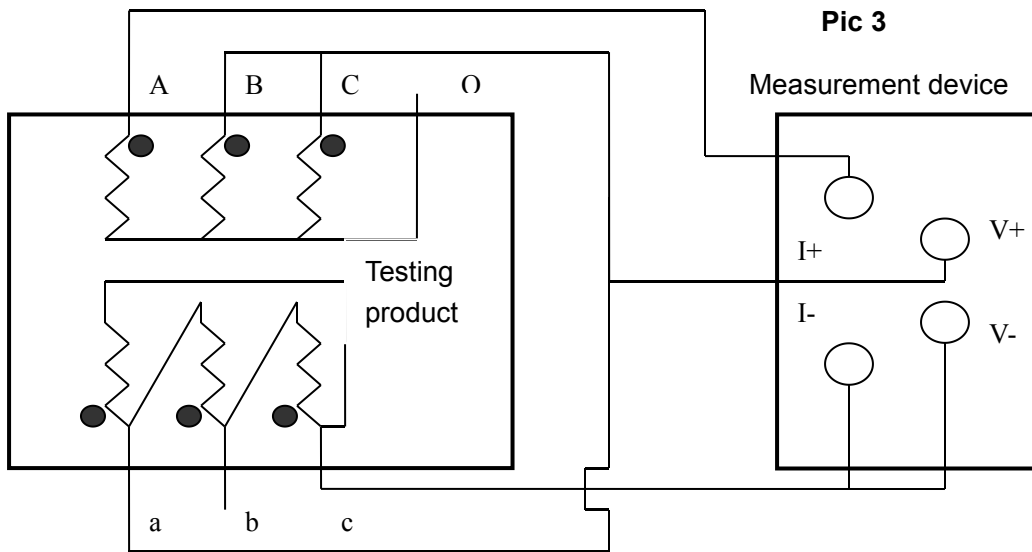
VI. Test And Operating

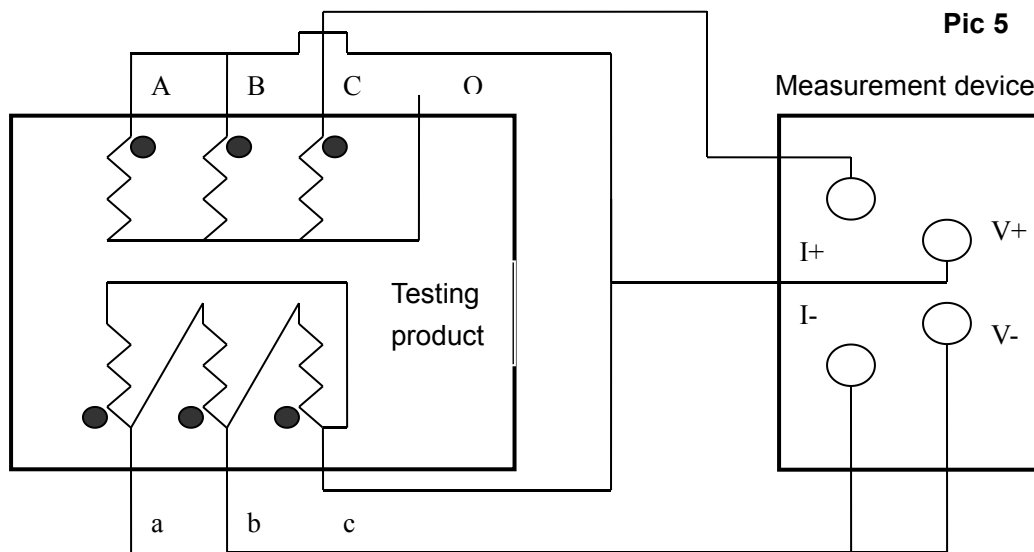
1.Connection : Connect the testing product to the device through test terminal, joint firm;meanwhile insure a well connection of the earthing wire.

A: Single phase testing method, to see the following drawing.



B. magnetic assisted connections see picture 3 to 5 (suitable $Y_{(N)}$ -d-11 junction group)





Picture 3, 4, 5 respectively measure low voltage R_{ac} , R_{ba} , R_{cb} connection

VII. Communication

Steps to connect the phone to the instrument:

1. The instrument is powered on and turned on
2. Turn on the Bluetooth function of the mobile phone and click "Search for Devices"
3. Select the corresponding device from the searched devices (direct resistance device name format is "ZZxxxxxxxx") to connect. Enter the "1234" pairing code in the Bluetooth pairing request box, click OK, and wait for the device to match successfully.
4. Open the software and click the gray Bluetooth icon in the upper right corner of the homepage. Select the device that just matched successfully in the pop-up menu.
5. After the wait for connection prompt in the software disappears, the connection is successful.

VIII. Caution

1. When the inductive load is measured, the test line can not be removed directly, so as to avoid endangering the safety of the tester and equipment due to the inductance discharge. The output end of the machine is provided with a discharge circuit. After the instrument is reset, the inductance releases energy through the instrument. The test line must not be removed until the discharge indication has been completed.

2. For no-load tap-changer transformer, it is not allowed to switch tap-changer during measurement.
3. If the power supply is suddenly cut off during the measurement, this opportunity will automatically start discharging. Please do not dismantle the wiring immediately, and wait for at least 30 seconds before dismantling the wiring.
4. When measuring, do not short-circuit other untested windings to ground, otherwise the magnetization process of transformer will be slowed down, the data stabilization time will be prolonged or the value is wrong.
5. Check the power supply voltage before starting: 220V + 10% AC, 50Hz.
6. Make sure that the equipment under test has been cut off and disconnected from other live equipment during the test.
7. Shell must be grounded reliably during test.
8. No irrelevant items are allowed to be stacked on and around the equipment panel during the test.
9. When replacing safety pipes and fittings, please use the same model as this instrument (see technical specifications for details).
10. This instrument should be moisture-proof and oil-proof.
11. When choosing the current, we should refer to the range in the technical index column. When exceeding the range, because the current can not reach the preset value, the instrument has been in the "charging" state. At this time, we should press the reset key to reset the instrument and re-select the smaller current gear.

IX.After-sales Services

Instrument from the date of purchase within one year, free maintenance of product quality problems, lifelong maintenance and technical services. If you find any abnormal condition or malfunction of the instrument, please contact the company in time, so as to arrange the most convenient solution for you, and provide you with the fastest on-site service.

X. Packing List

No.	Item	Qty
1	Main engine	1
2	Power line	1
3	Fuse pipe	2
4	Red test line	1
5	Black test line	1
6	Print paper	1
7	Test sample (Standard resistance)	1
8	Serial port line	1
9	Ground lead	1