

HZ-3120A Transformer DC Resistance Tester



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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-3120A 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. Safety Measure

1. Before using this equipment you must carefully read the manual.
2. The equipment operator should have electric general knowledge.
3. Avoid putting the equipment in the contact of the rain, corrosive gas, dust, high temperature, direct sunlight, and other places.
4. Severe vibration has to be avoiding for gauges.
5. Only an expert must maintain and adjust the equipment.
6. After the test, the user must wait till the discharge alarm stopped before switching off the device, and plugging off the test cables.
7. To measure no-load regulating transformers, the user has to wait till the discharge instructions alarm stops before switching stalls.
8. During testing, do not move the testing clamp and cables.

III. Configuration

1. Whole instrument controlled by high speed SCM, high automatic degree and simple operation.

2. 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.
3. Has a complete circuit protection, reliable.
4. Discharge alarm, discharge indicator clear, reduces misuse.
5. Quick response speed, can be directly converted to load tap switch at measuring state, the instrument automatically refresh data.
6. Intelligent power management technology, instrument is always working at minimum power state, effective energy saving, reduce heat.
7. 320 x 240 matrix of ultra small pixel 65K true color LCD.
8. With calendar clock and power storage, can store 1000 groups data, can be check at any time.
9. With RS232 and USB interface, computer communications and U disk storage.

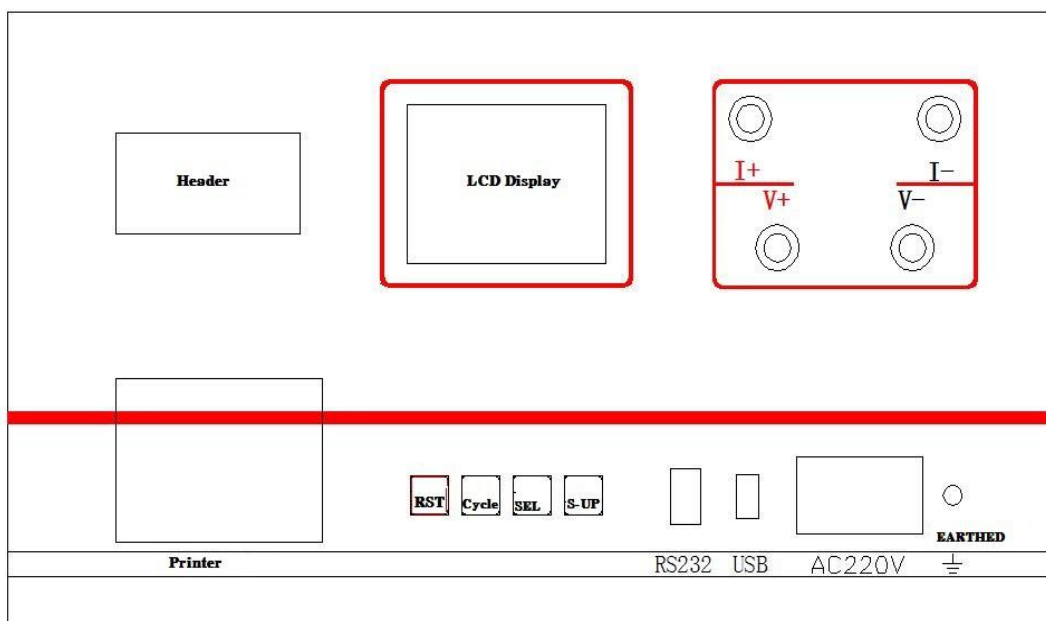
IV. Technical Data

1. Output current: <5mA 、 1A、 2.5A、 5A 、 10A、 20A
2. Resolution: 0.1 $\mu\Omega$
3. Range:

100 $\mu\Omega$ ~1 Ω	(20A)
500 $\mu\Omega$ ~2 Ω	(10A)
1m Ω ~4 Ω	(5A)
2m Ω ~8 Ω	(2.5A)
5m Ω ~20 Ω	(1A)
10 Ω ~20K Ω	(<5mA)
4. Accuracy: $\pm(0.2\%+2 \text{ Readings})$
5. Operating temperature: 0~40 $^{\circ}\text{C}$
6. Ambient humidity: $\leq 90\% \text{RH}$, (non condensed)
7. size: 400mm*225mm*350mm.
8. Instrument weight :13kg, wiring case:5kg.

V. Presentation Of The System

Instrument panel (see the picture):



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

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

RST: machine restore the initial status, pre-set the current output.

Circle: select menu.

SEL: Setup the current after the tester was reset.

S-up key: press the key after selecting the current; The microcomputer control to realize all testing process.

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.

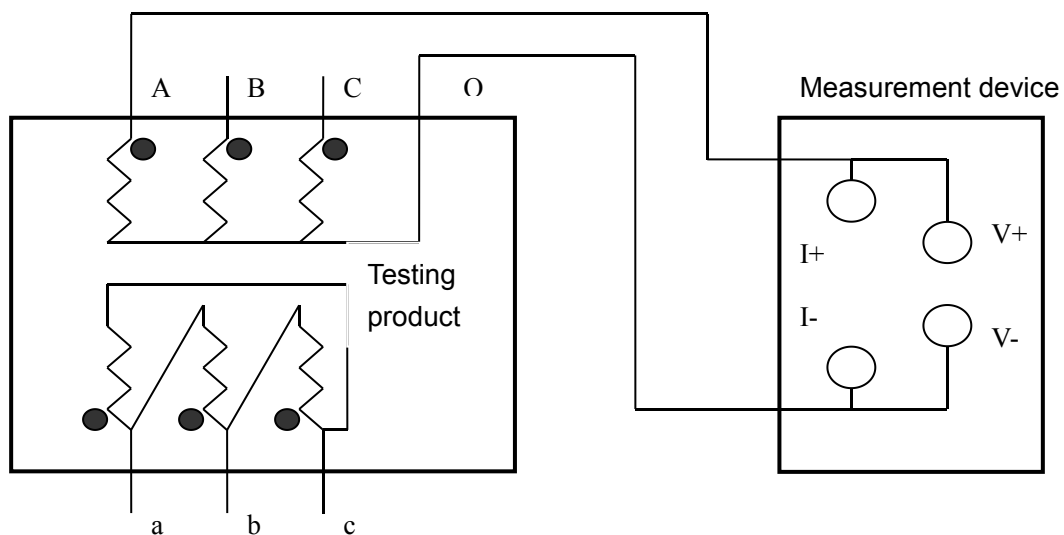
RS232: Universal series interface, can controlled by computer;

USB: Can output the testing results to USB.

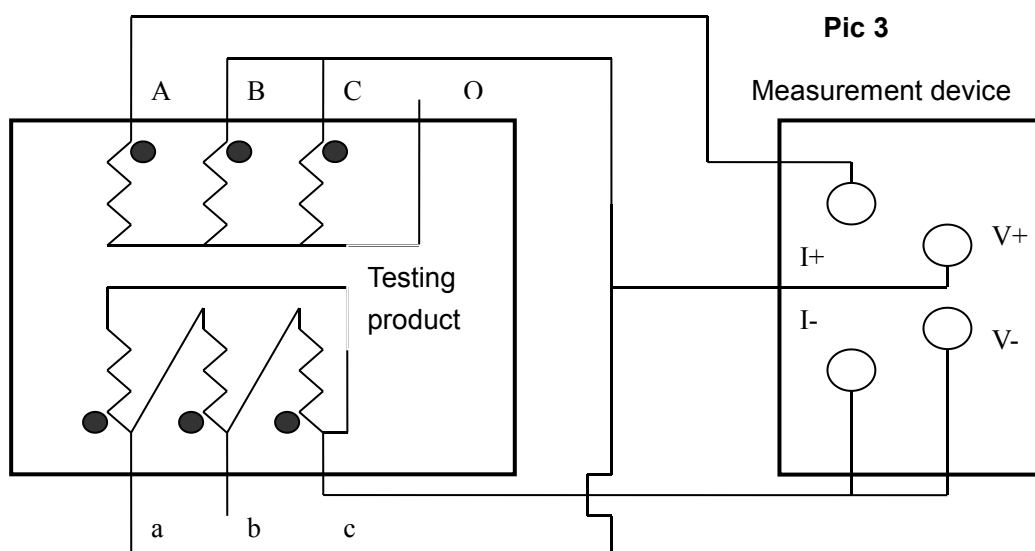
VI. Test and Operating

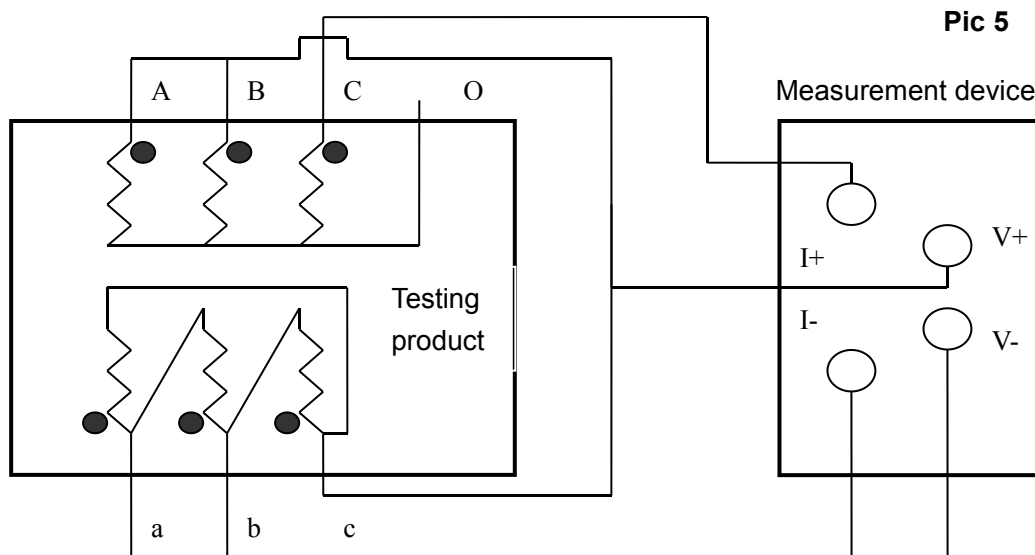
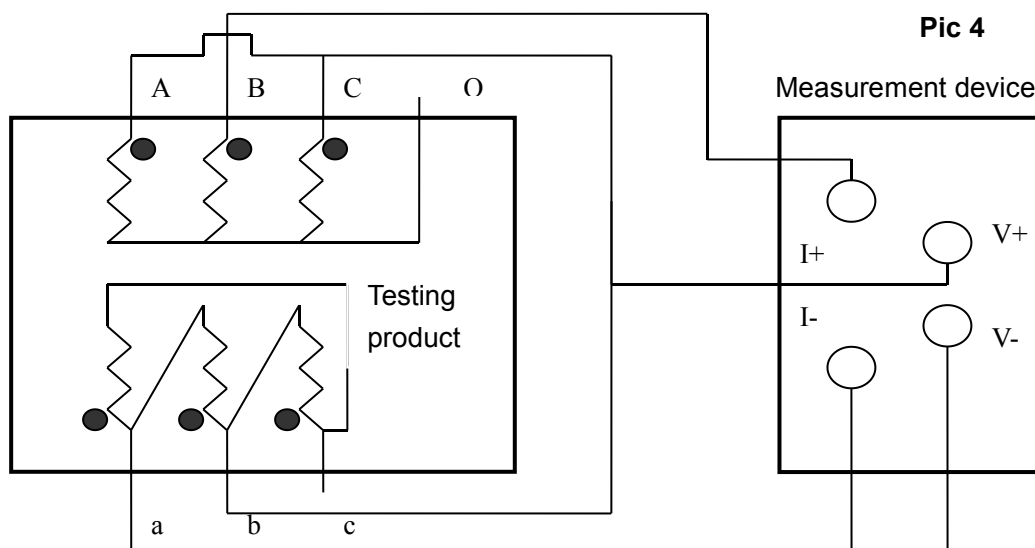
1.Connection: Connect the testing product to the device through test terminal, joint firm; meanwhile insure a well connection of the earthing wire.

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



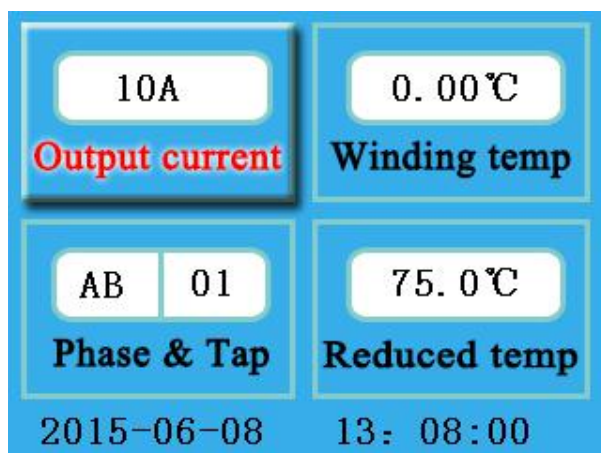
B. magnetic assisted connections see picture 3 to 5 (suitable $Y_{(N)}$ -d-11 junction group)





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

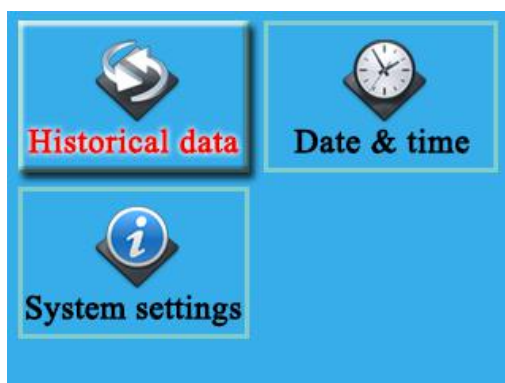
2. Instrument boot up page is as following picture:



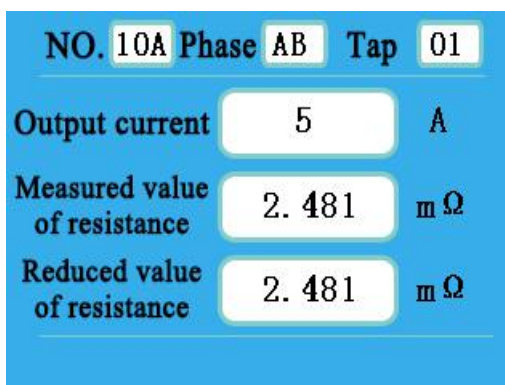
Press Cycle key the cursor can move among **Current select**, **Phase division**, **Winding temp**, **Convert temp**, **Data query**, **Clock modify**, **Parameters**, etc. Press select key can

circle select above 7 menus option. when the cursor at Winding temp ,press start key the cursor will roll between 3 data bits ,the **select** key can circle display data between 0~9.the Start up key can start any options besides Winding temp.

3. Move the cursor to data query menu at the boot state, then press select key enter to the data query ,press select or start up key to turn pages querying.



4. After selecting the current, press START UP to start the test; When press START UP, few seconds later, it will display "CHARGING", when it displays "TESTING" that means the "CHARGING" has been completed. Few seconds after accessing the TEST STATUS it will show the measured resistance values.



5. After the test: press "RESET" back to boot interface, discharge, alarm, and after the discharge alarm, please be sure wait for about 10 seconds, re-connection, proceed the next test or unplug the test cable and end the measurement.

VII. Caution

1. Wait till the discharge alarm stops before reconnecting wires
2. During the no-load measurement, before resetting the transformer invert load, wait the discharge alarm stops, before switching the tap.
3. Before selecting the current, refer to the technical instruction range, don't exceed or be lower than the use range. When over passing the range, because the current doesn't reach the preset value, the device will stay in "CHARGING" status, press the reset key at this moment, to select the lower current. In case of lower range, it will display "CURRENT VERY LOW", when the two status appear to confirm the range, and select the suitable current and carry testing.
4. After the test: press "RESET", and winding device will disconnect the power supply, discharge, alarm, Ammeters back to zero, then restore status, and after the discharge alarm, re-connection, proceed the next test or unplug the test cable and end the measurement.

VIII. Guarantee And After Sales Service

The company repairs any problem due to the quality of the equipment for one year from the date you purchase our product.

We provide lifelong maintenance and technology service. If there are abnormalities or faults occur, please timely contact with us, and then we will arrange convenient and fast disposal and field service.

IX. Packing List

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