

## PS-DC10A DC resistance tester



**Baoding Push Electrical Manufacturing Co., Ltd.**

## **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 10A 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 $\Omega$ ~0.8 $\Omega$            (10A)  
                   1m $\Omega$ -4 $\Omega$                (5 A)  
                   5m $\Omega$ -20 $\Omega$            ( 1 A)  
                   100m $\Omega$ -100 $\Omega$        (200mA)  
                   1 $\Omega$ -500 $\Omega$            (40mA)  
                   100 $\Omega$ -100K $\Omega$        (<20mA)
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: 360\*290\*170 mm.
8. Instrument weight :tester: 6.5 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:

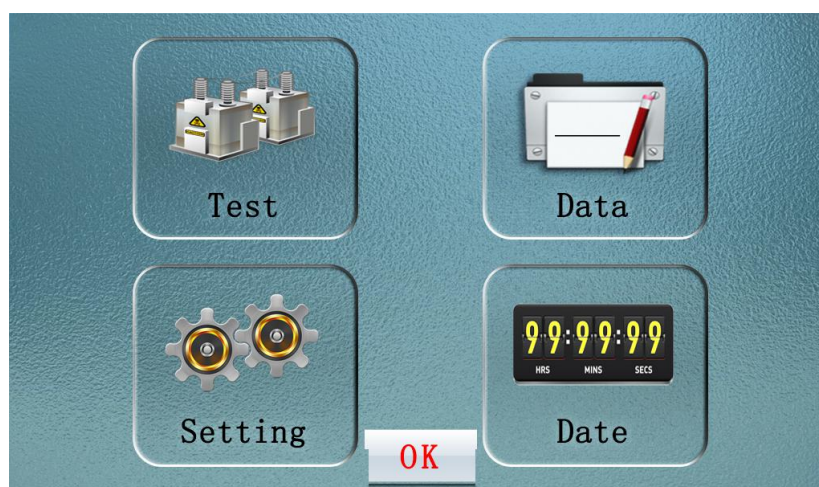


Figure 1

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

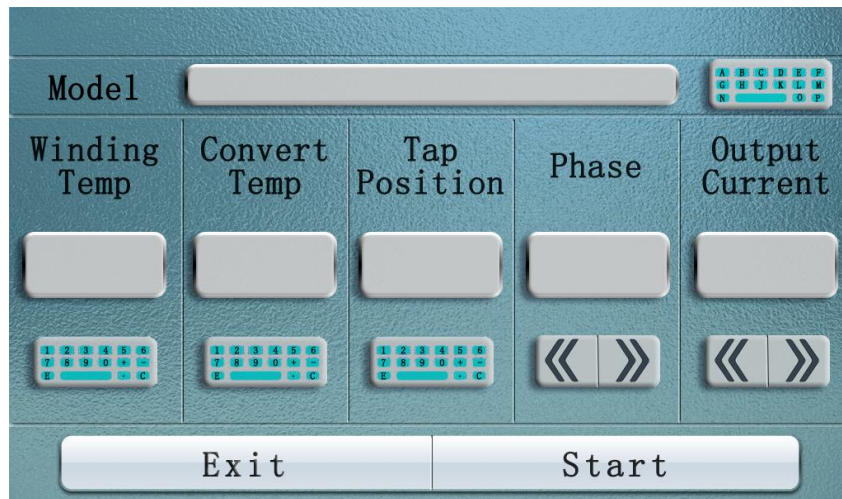









Figure 2




**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

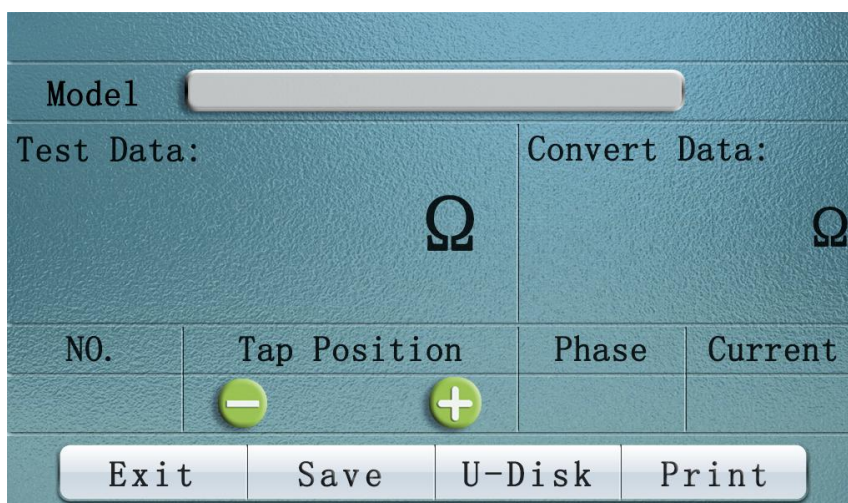



Figure 3

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:

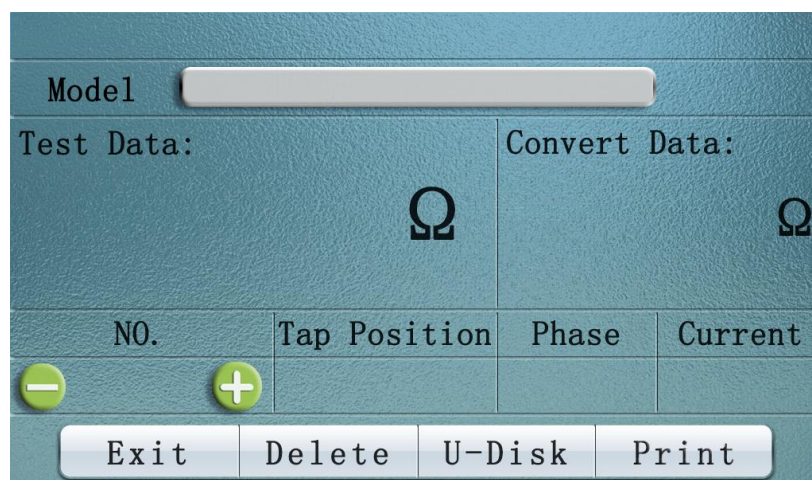



Figure 4

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:

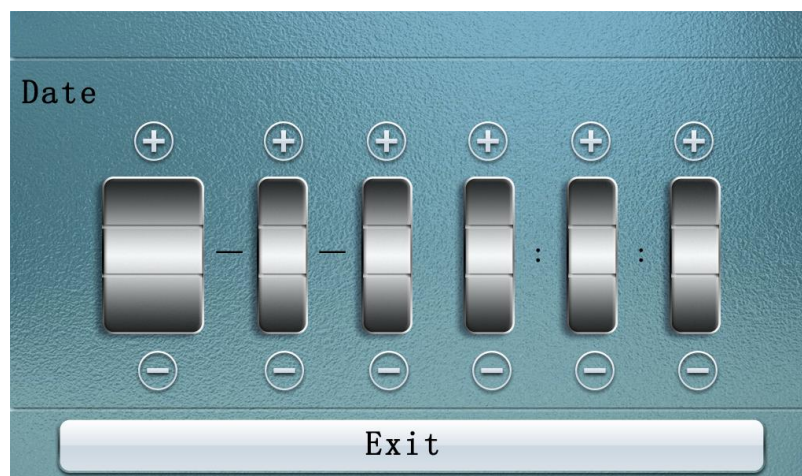


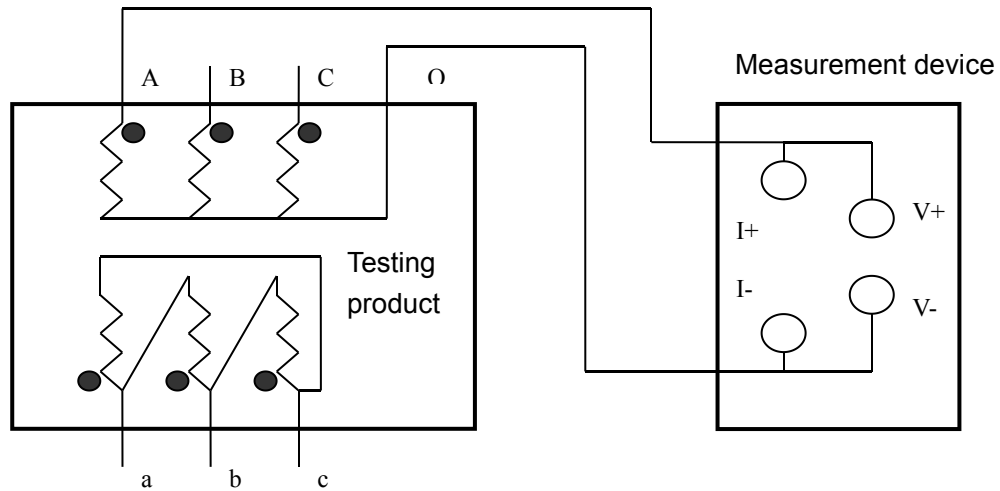
Figure 6

Click   to set date and time;

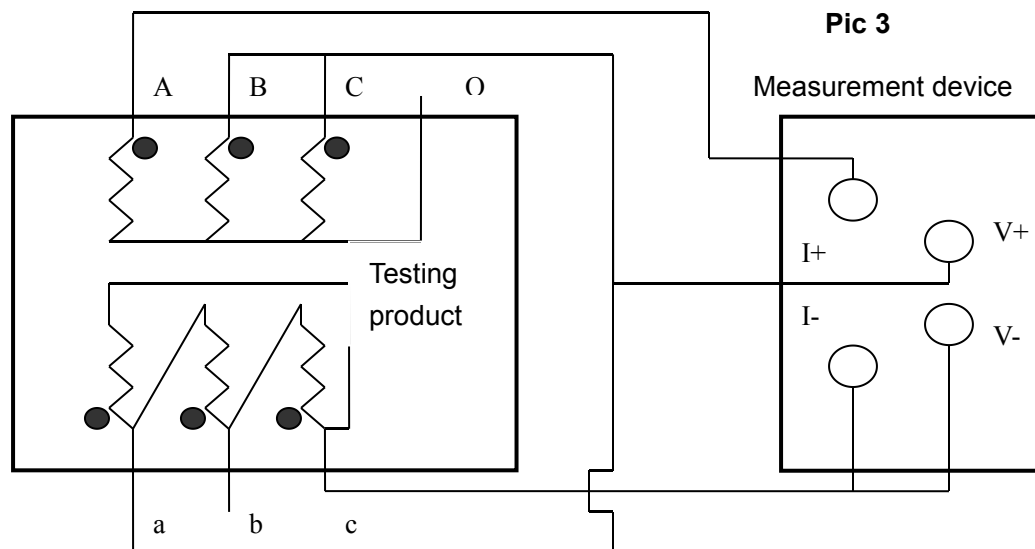
## VI. Test And Operating

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

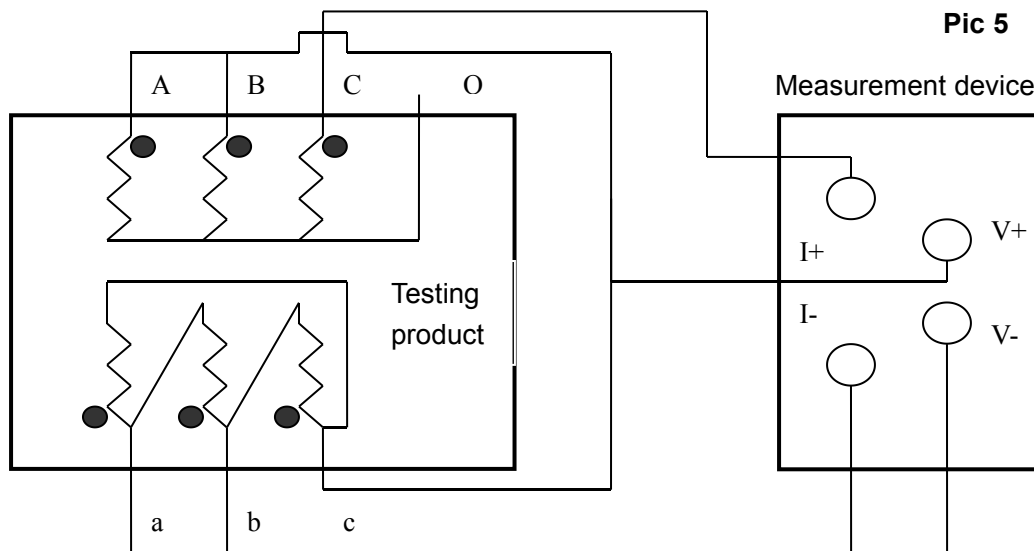
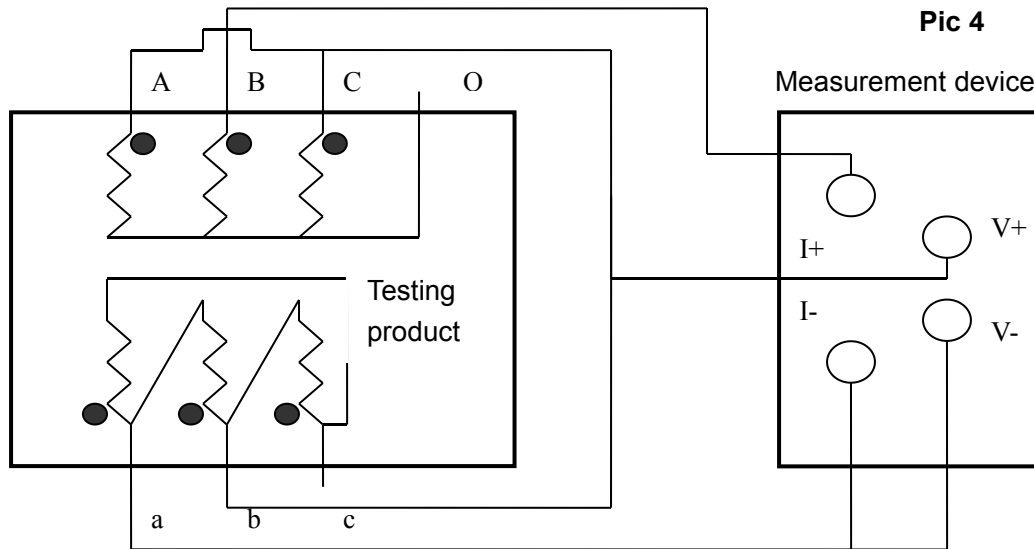
A: Single phase testing method, to see the following drawing.



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







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

## VII.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.

## **VIII.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.

## IX. 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