ZXJYD-IV

Insulating Oil Breakdown Voltage Tester

Contents

I、Summary

My company all the scientific and technical personnel, according to international standard IEC156, and American Standard ASTM D877、ASTM D1816, give full play to our advantages with a lot of field test and long-term unremitting efforts, carefully researching and development of high accuracy, full digitalization to the Automatic Oil Breakdown Voltage Tester. This tester is easy to operate, beautiful shape. Bescause of adopting the automatic digital computer control, the tester is high precision measurement, antijamming capability powfully, safe and reliable.

II、Feature

1. The instrument adopts the large capacity single-chip microcomputer control,works stably and reliably.
2. Instrument can eliminate the phenomenon of crash with wide range of watchdog circuit
3. A variety of operation to choose, Instrument program with IEC156, ASTM D877 and ASTM D1816 three methods of national standard and custom operations for different users' multiple choice
4. Instrument test cell is made of a special glass casting form once to eliminate the phenomenon of oil leaking and other interference
5. instrument can take articularly high voltage terminal sampling design for test values to analogue-digital converter, to avoid the error caused in the analog circuit, to make more accurate measurement results.

6. Instrument internal functions of overflowing, overvoltage, short circuit be protected,and are good for antijamming capability and electromagnetic compatibility
7. Instruments are portable structure , easy to move, used inside and outside rooms.

III、Technical indicator

1. step-up transformer capacity 1.5 kVA
2. rate of voltage rise

   0.5 kV/s，1kV/s ,2.0kV/s，3.0kV/s , 5.0kV/s five gears
3. output voltage 0～80 kV
4. aberration rate of power supply ＜1%
5. display mode Big LCD display Chinese characters
6. electrode gap standard 2.5 mm
7. boundary dimension 409 mm×393 mm×388 mm
8. Instrument weight 29 kg；

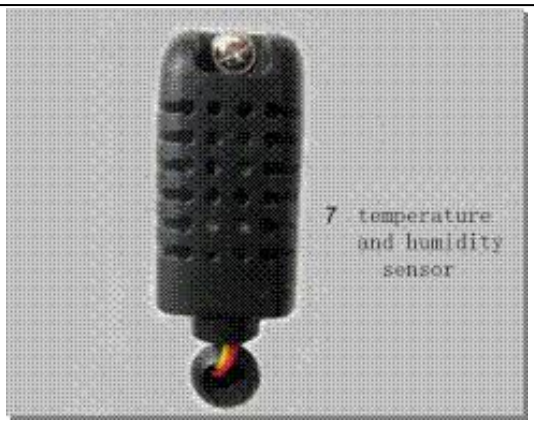
IV、service condition

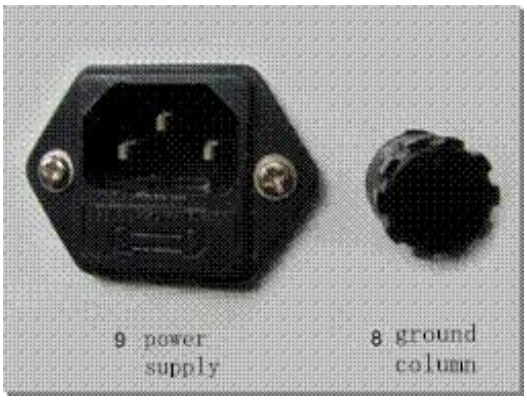
1. environment temperature 0～40℃
2. relative humidity ≤85%
3. working power supply AC 220V ± 10%
4. supply frequency 50 /60± 5 Hz
5. power consumption ＜200 W

V、External illustration

ZXJYD-I Insulating Oil Breakdown Voltage Tester

1. LCD； 2. function keys； 3. printer；4. selector switch of voltage rise； 5. indicator light6. Case lid of the test cell；7. temperature and humidity sensor ； 8. ground wire fastener ； 9. power socket；10. power switch；11. safety sign of high voltage

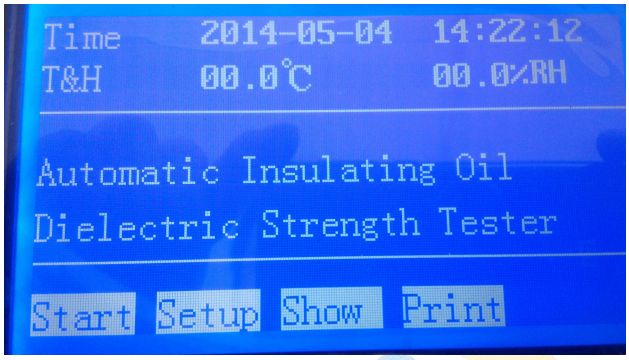




1. LCD:display related Information ,date ,time,
2. （liquid crystal display）operating parameter, test result, menu
3. function keys :select and set up operating parameter
4. printer；print mean value of test result once and more than once
5. selector switch of voltage rise: select rate of voltage rise
6. indicator light :When the light is shined ,it means that related steps is now under way;
7. Case lid of the test cell: Open lid ,put in or put out test cell, after closing lid, can be tested;
8. Temperature and humiditysensor: the measurement of centigrade degree and relative humidity can convert to figure signal on LCD.
9. ground wire fastener: connect ground wire fastener of reliability
10. power socket:plug in power cord of AC 220V 50/60Hz
11. power switch: control tester power on-off
12. safety sign of high voltage: triangle marker of reminding dangerous high voltage.

VI、Chart of operating steps

1. （picture 1）plug the power cord in ,and turn the power switch on, LCD display starting up



Picture 1 starting up

2. （picture 2）；at the button of the frame 1, to press setup ,and enter into lower level frame (picture2)

Picture2 select subframe

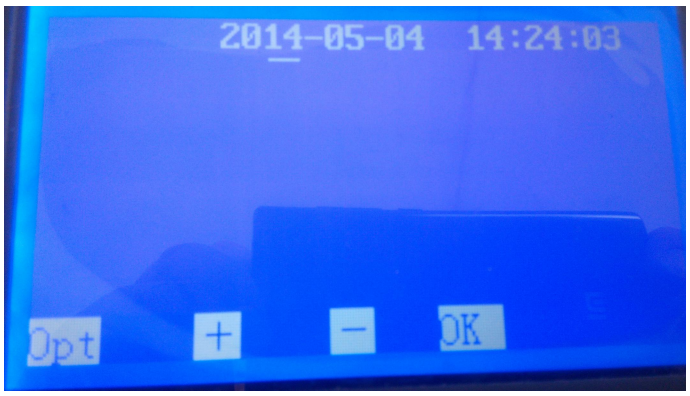
3. （picture 3）；At the button of the subframe of setup,to press opt and move cursor √ to ASTM D877, to press OK to enter into subframe of ASTM D877

Picture 3 ASTM D877 subframe

At the button of ASTM D877 subframe,to press opt and move cursor ○ to MTV (maximun test voltage), to press + or - to set figure of MTV, the default is 80KV, The optional scope is 10 kV～80 kV(the increment △=10 kV). After the choice, to press OK , to return the starting-up frame, to press start , it is testing.

If do not connect ground wire, instument will give an alarm, show please ground wire ! on LCD. Then you should turn off the power, you will connect the ground wire, turn on the power again. If do not have the ground wire or have no ground wire, you can press any key , skip the alarm, do not affect test result.

4. Picture2 , to press opt and move cursor √ to IEC 156 95To press OK to enter into subframe of IEC 156 95. it is mostly similar to IEC156. you can refer to the picture 3 of Chart of operating steps
5. Picture 2 ,to press opt , and move cursor √ to time set , to press OK ,to enter into the subframe of time set,(picture 4).



picture 4 ,the subframe of time set

To press opt , and move cursor __ to year month day hour minute. to press + or - for true time.After the choice, to press OK , to return the starting-up frame.

6. Picture 2, to press opt and nd move cursor √ to user’ s set , to press OK , to enter into the subframe of user’ s set .(picture 5)

Picture 5 the subframe of user’ s set

Picture 5 at the button of the subframe of user’s set .to press opt and move cursor to options. Wait time default 15min scope 1-15 min (the increment Δ=1).Pause default 5min scope 1-10 min (the increment Δ=1).Stir default 10s scope 5-90s (the increment Δ=5s).MTV (maximun test voltage) default 60KV scope 10-80KV (the increment Δ=10KV). instrument will stop raising voltage, when voltage has been raised MTV (maximun test voltage) ,to hold mode,

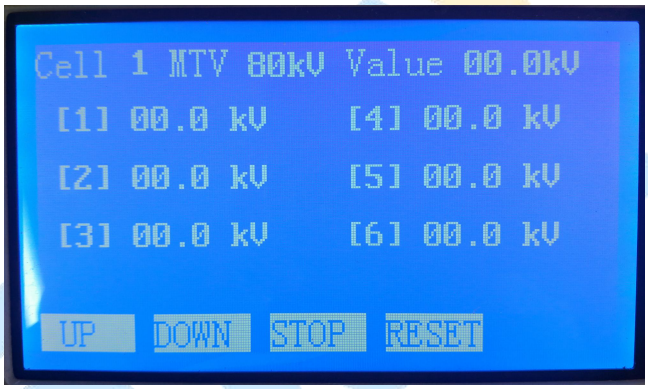
go on 50 seconds with no breakdown, the default of MTV.

(maximun test voltage) is the breakdown voltage of the electric insulating oil

Breakdowns default 6 times scope 1-6 times (the increment Δ=1)

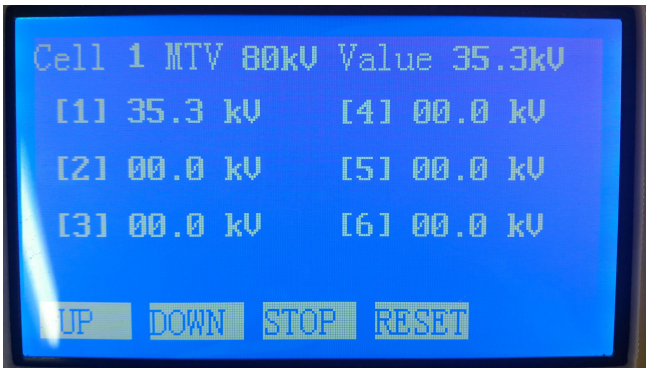
After the choice, to press OK , to return the starting-up frame, to press start , it is testing.

7. In Figure 2 under the page, press the select key to move the cursor √ to the manual, press the OK key to enter the manual page (Figure 6).



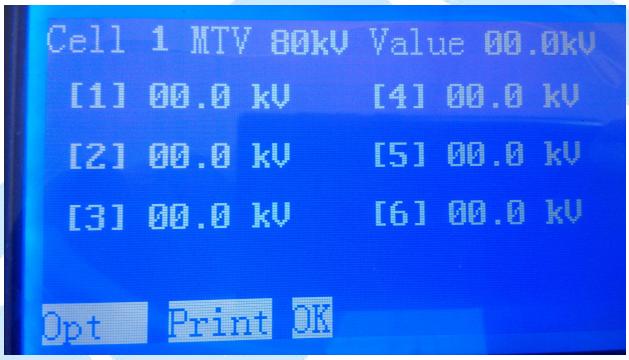
Picture 6 the subframe of manual

In the manual testing interface, the operator can perform manual testing according to the UP, DOWN, STOP key, press the key equipment of the automatic booster, booster, when testing the oil sample after the breakdown test results show the interface, automatic depressurization and mixing equipment, as shown in Figure 7, and the interface will stay in this interface, equipment no automatic countdown to the operators can be carried out the next experiment, this interface boosterprocess can press a button and stop button to buck up equipment or stop buck boost, press the reset button, automatically back to the main interface in Figure 1, the customer can freely test 1-6, equipment automaticcalculation of average value, and save the data.



Picture 7 the subframe of manual

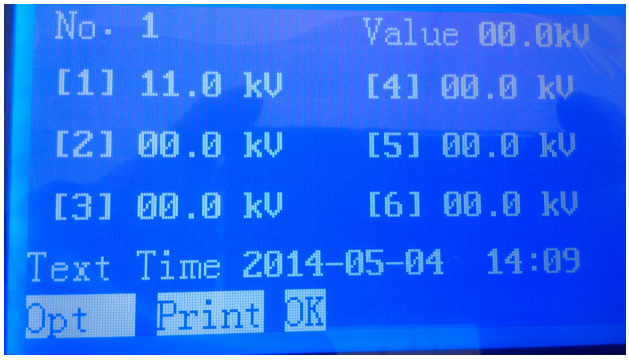
8. After selecting ASTM D1816/IEC 156 95 as well as custom tests, the device is automatically tested,the subframe of voltage values' record of once and mean value.



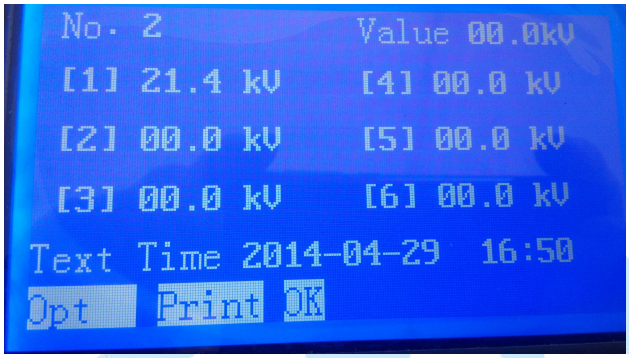
Picture 8

To press print ,LCD displays the frame of the last test result. To press opt and enter into NO.1,the subframe of the data storage,

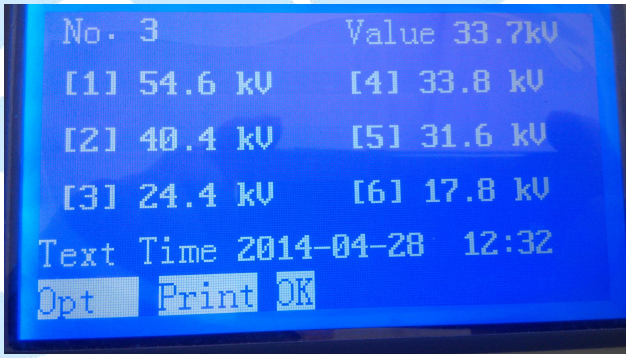
Picture8.at the NO.1,the subframe, you press opt, and enter into NO.2,the subframe of the data storage. Do the same steps,ant enter into NO.3~~~~, it wil cycle from NO.1 to NO.7 with opt key .



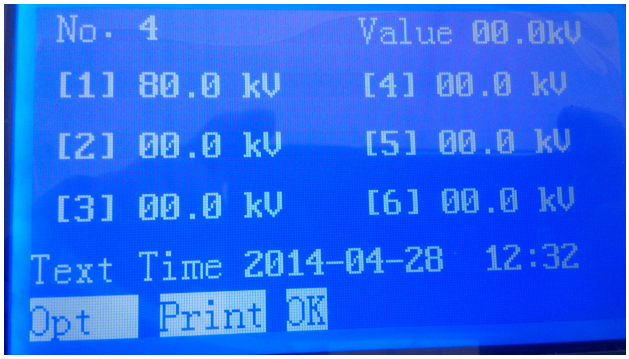
picture 9



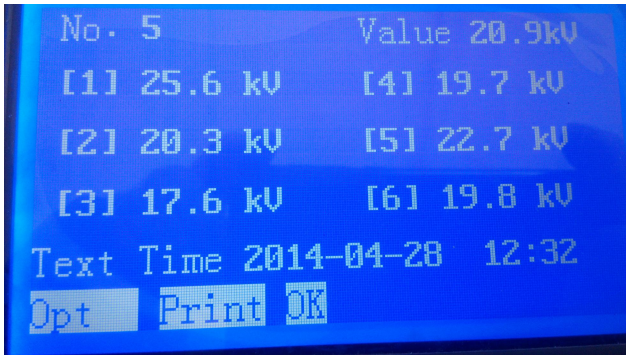
picture 10



picture 11



picture 12



picture 13

At the subframe of NO.1--- NO.7, to press print and print the test result of subframe of the data storage

Notice: ZXJYD-I Insulating Oil Breakdown Voltage Tester can connect PC in the system of the data storage of the reversed order. You can find that the particularity about time sequence and number of pictures. NO.1 is the last test data, NO.2 is the time before the last .and like that. Because the storage can only record latest test data five times , the system will rerecord after 5 times, instead of .

At the subframe , to press print ,and print the data storage which you have chosen, the press OK and eturn the starting-up frame.

VII、Precautions

1. Please read the operation manual carefully before using the instrument.
2. The instrument operators should have a good knowledge of the electrical equipment and the analytical instrument.
3. Instrument can be used inside and outside the door, but to avoid the rain, corrosive gas, dusts of high concentration, high temperature, the sun.

4. Test cells keep clean. During the outage, please put some qualified electric insulating oil in them, keep them not damp, electrodes not oxidative.
5. The electrodes must be check-out and maintenance after one month .to check and adjust the gap between the electrodes,let them recover to the standard values . you observe surface of the electrodes with the magnifying glass, if the surfaces of the electrodes have dark spots, you will scrub them with cloths, let them rehabilitate.
6. Instrument maintenance and debugging must be done by professionals
7. Before the power on , you must check out the ground wire fastener fast and secure, the shell of instrument must be connected the ground wire
8. After the power on , the operators strictly prohibit to touch the case cover of test cells , refrain dangerous shock.
9. During woking,if you find it abnormal, you can shut off the power.

VIII、Trouble removal

1. No work for tester : check out the power wire is or isn't socketed, the protective tube is or isn't intact
2. voltage don't rise : check out the lip of test cell is or isn't shut
3. Voltage rises normally,but no breakdown: check out if you set up the MTV (maximun test voltage)
4. After breakdown,no show: check out if there is somethings in test cell
5. Printer don't appear paper : check out if there is paper in printer.

6. Change printing paper : we have fixt a roll of paper in the printer, if paper is done , you will fix printing paper by yourself,

Operating instruction:

1) To press circle key of the printer front lip.
2) Put a roll of paper into printer ,and pull some paper out of exit, please keep paper neat, pay attention to direction of paper, surface of paper toward print head.
3) Shut the lid of printer,let axle return back

IX、Cleanout of cells

1. cleaning method of test cells
   1) You can clean the surface of the electrode and the electrode stem with cloths over and over again
   2) To adjust the gap of electrodes with the master gauge
   3) To clean cells with ethanol absolute 3 or 4 times, then let them dry in blower, and clean cells with insulating liquids 2 or 3 times
2. cleaning method of stirring paddle
   1) To clean the stiring paddles with cloth over and over again,untill no particle, don’t touch them with hands.
   2) to nip stiring paddles with the tweezers. To clean cells with ethanol absolute 3 or 4 times, then let them dry in blower
   3) to nip stiring paddles with the tweezers, and clean cells with insulating liquids 2 or 3 times

X、Complete set

NO.	Name	Qty
1	instrument	1
2	test cell	1
3	the power wire	1
4	master gauge	1
5	protective tube（3A）	2
6	stirring paddle	2
7	tweezers	1
8	printing paper	1
9	Ground wire	1
10	Manual	1
11	Qualification Certificate	1
12	Warranty Card	1