Automatic Insulation Oil Dielectric Strength Tester

Operation Manual

Please read the operation manual carefully before using the tester, keep the manual good for next need.

Catalog

Preface

Dear user:

Thank you for choosing insulating oil dielectric strength tester! For your convenience as soon as possible to operate the instrument, we were equipped with a detailed manual, from which you can get information about the product introduction, use method, instrument performance and safety precautions and many other aspects of information.

Before the first use of the instrument, please read this manual carefully, and maintenance according to the manual of equipment for the operation and use, it will help you to better the product, and can prolong the service life of the instrument.

In the preparation of this manual, although we work in a scientific and rigorous manner, and that the information provided in this manual is correct and reliable. However, Homer sometimes nods, this manual may have errors and omissions. If you find a manual error, please be sure to your time, please inform us as quickly as possible, and we quickly correct supervision! Our staff will be greatly appreciated!

The company reserves the right to use the function of the instrument to improve the power, such as found in the use of the instrument in the process of its function and operation manual is inconsistent, please use the actual function of the instrument. We hope that this instrument can make your work easier and more enjoyable. I hope you can feel the

relaxed and beautiful feeling of office automation in the busy work!

When you are satisfied with the company's instruments, please recommend to your friends! When you have valuable opinions and suggestions on this instrument, please be sure to contact us, we will do our best to give you a satisfactory answer. Thank you again for your support to our company!

1、Summary

Insulating oil dielectric strength tester is my company all the scientific and technical personnel, in accordance with the relevant provisions of the national standard GB507-86 and standard DL-474 - 4-92DL/T596-1996, to play their own advantages, after several field tests and long-term unremitting efforts, meticulous research and development of high accuracy, full digital instrument industry. The machine is simple and easy to operate. Due to the adoption of automatic digital microcomputer control, the measurement precision is high, the anti-interference ability is strong, and it is safe and reliable.

2、Instrument features

1. The instrument is controlled by the single chip microcomputer;
2. The instrument is equipped with a wide range of watchdog circuit to prevent the crash phenomenon;
3. A variety of operating options, the instrument program with GB1986, GB2002 two national standard methods and custom

operations, can adapt to a variety of different users;

4. An instrument using special glass mold for one time, prevent the occurrence of oil spills and other interference phenomenon;
5. The unique high voltage sampling design of the device makes the test value directly into the A/D converter, which avoids the error caused by the analog circuit and makes the measurement results more accurate;
6. The instrument has the functions of over current, over voltage, short circuit protection and so on. It has strong anti-interference ability and good electromagnetic compatibility;
7. Portable structure, easy to move, both inside and outside the user is very convenient to use.

3、Technical index

1. Step-up transformer capacity *1.5 kVA*

2.Rate of voltage rise

0.5 kV/s，*1 kV/s*，*2.0 kV/s* ,*3.0 kV/s*， *5 kV/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 *730 mm × 410 mm × 390 mm*

8. Instrument weight *38 kg*（*ODST-1203*）

4、Use conditions

1.Environment temperature　　*0 ~40℃*

2. Relative humidity　　*⩽85%*

3. Working power supply　　*AC 220V ± 10%*

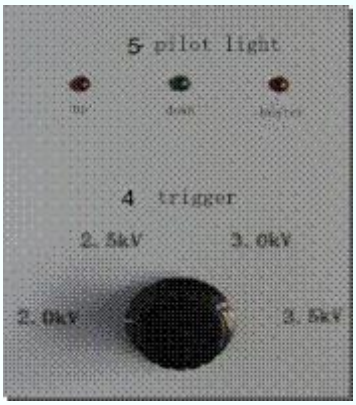
4. Supply frequency　　*50 ± 5 Hz*

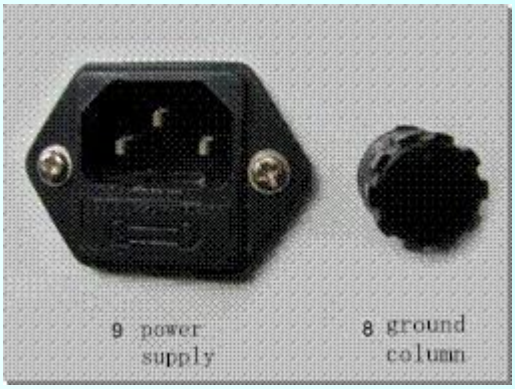
5. Power consumption　　*<200 W*

5、Panel description

Insulating oil dielectric strength tester

1. Lcd;2. Function key；3. Printer；4. Boost rate switch；5. Indicator light；6. Case lid of the test cell r；7. Temperature and humidity sensor；8. Ground column；9. Power jack；10. Power switch；11. High pressure safety mark





1. Lcd： Displays the date, time, operating parameters, test results, menu prompts and other related information;

2. Function key: Select and set up operating parameter;

3. Printer: Print mean value of test result once or more than once;

4. Boost rate switch ： Different boost rates;

5. Indicator light: When the lamp is bright, the relevant operation is in progress;

6. Case lid of the test cell: Open lid ,put in or put out test cell, after closing lid, can be tested;

7. Temperature and humidity sensor: The measurement of centigrade degree and relative humidity can convert to figure signal on LCD.

8. Ground column: Connect ground wire fastener of reliability;

9. Power jack: Plug in power cord of AC 220V 50Hz;

10. Power switch: Control tester power on-off;

11. High pressure safety mark： Triangle marker of reminding

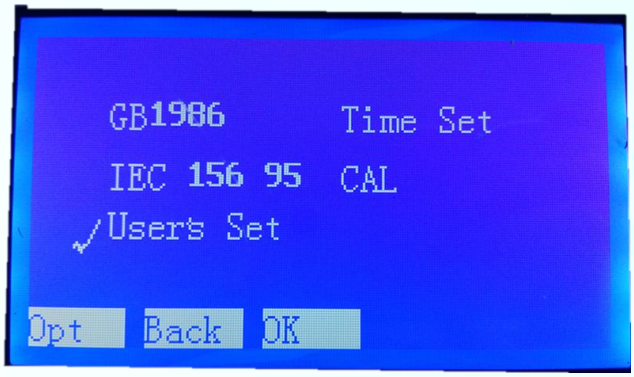
dangerous high voltage.

6、Operating steps

1. Plug the power cord, turn on the power switch（Picture 1）

Picture 1 starting up

2. At the button of the frame 1, to press setup ,and enter into lower level frame（Picture 2）;



Picture 2 select subframe

3. At the button of the subframe of setup,to press opt and move cursor ✓ to *GB1986*, to press OK to enter into subframe of *GB1986*（Picture 3）。

Picture 3 *GB1986* subframe

At the button of *GB1986* 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 $\Delta = 10\ kV$). After the choice, press the select key to move the cursor to the cup position, press the Enter key to select the page（ Picture 4)。

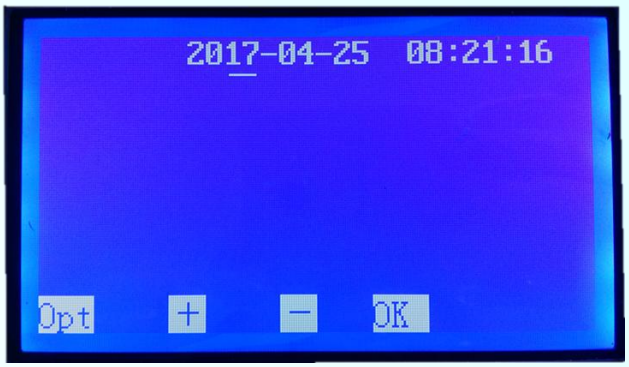
Picture 4 Cup selection subframe

In 4Picture 4, press Opt to move the cursor to the different cup, press ×or √, windows default is check all (that is all √). Then press the confirm key to confirm the selected stop voltage and the number of the cup back to the boot page, press the start button for testing.

4. Picture2 , to press opt and move cursor √ to *IEC 156 95*To press OK to enter into subframe of *IEC 156 95*. it is mostly similar to

IEC156 95. 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 5).



Picture 5 Time setting subframe

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 6)

Picture 6 User's Set subframe

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 $\Delta=5s$)

MTV (maximun test voltage)

default 60KV scope 10-80KV (the increment $\Delta=10KV$)

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

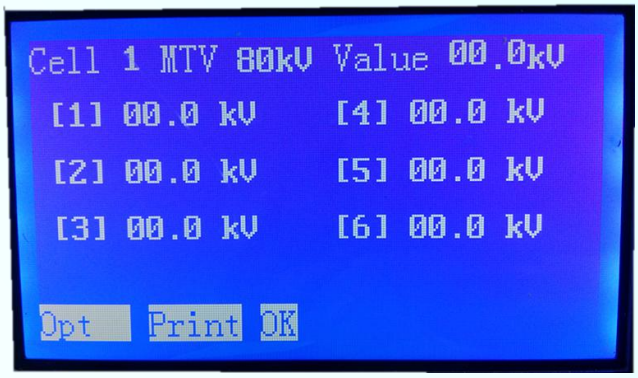
scope 1-6 times (the increment $\Delta=1$)

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

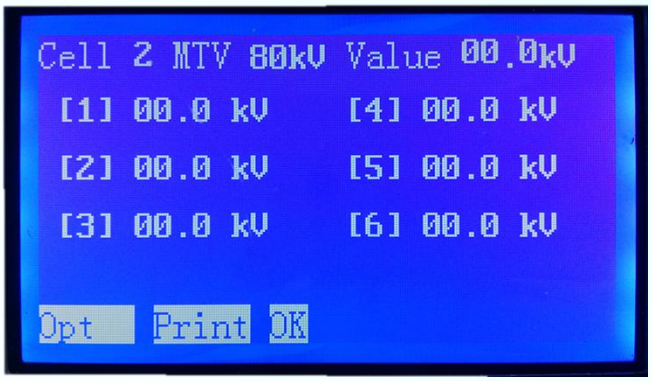
Cell NO. Press this key to enter the cup to select the sub page, see the specific operation six, the operation of the steps of the contents of figure 3.

7、 In picture 2 STTC mainly used for calibration equipment. Generally only manufacturers and calibration unit calibration equipment, the need to enter the password to enter the interface, you need to calibrate the contact with the manufacturer to ask for a password to modify.

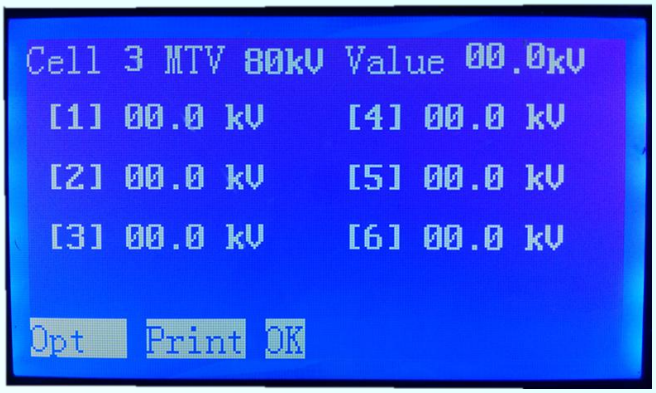
8、 In this model, the parameters such as the breakdown voltage value of 6 times per cup will be stored automatically. After the measurement is completed, the screen will display the test to give a reminder, press the confirm key to return to the boot page (Picture 1). According to the print or display key, enter the oil sample single measurement breakdown voltage value, the average value and the measurement date and time of the display sub page（Picture *7 ~9*）。



Picture 7



Picture 8



Picture 9

Attention: In the display of the sub page, press options can be displayed in the order of six interface. Where the first three interfaces are not measured at the time of data display, for the temporary data set, the shutdown will be lost. Then the three interface has measured time data display, for the storage of data sets, will not be lost after shutdown. If the sample cup determination of more than three, the system will record according to the time group, three groups of recent data.

In the display sub page, press print to print the selected page storage data, press OK to return to the main page.

7、Attention

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.

8、Simple troubleshooting

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:

6.1To press circle key of the printer front lip.

6.2Put 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.

6.3 Shut the lid of printer,let axle return back

9、Cup cleaning:

1 .Cleaning method of test cells

1.1You can clean the surface of the electrode and the electrode stem with cloths over and over again

1.2 To adjust the gap of electrodes with the master gauge

1.3 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

2.1 To clean the stiring paddles with cloth over and over again,untill no particle, don't touch them with hands.

2. 2To nip stiring paddles with the tweezers. To clean cells with ethanol absolute 3 or 4 times, then let them dry in blower

2.3To nip stiring paddles with the tweezers, and clean cells with insulating liquids 2 or 3 times

10、Instrument set

1. instrument	1
2. test cell	3
3. the power wire	1
4. master gauge	1
5. protective tube	2 （3A）
6. stirring paddle	4
7. tweezers	1
8. printing paper	1 roll
9. operation manual	1 book
10. warranty card	1 sheet
11. certification	1

11、**After-sale service:**

There are product quality problems within one year from the date of purchase ,it is free warranty. We can provide maintenance and technical services all instrument’s life. If it is found that the instrument is not normal or defective, please contact with our company, In order to arrange scheme of the most convenient and effective treatment.