| | |
|---|---|
| **Product Name** | **GAOTek Custom Portable Smart Home Enterprise WIFI** |
| **Product SKU** | **GAOTek-EWIFI-158** |
| **Product URL** | https://gaotek.com/product/gaotek-custom-portable-smart-home-enterprise-wifi/ |

# Table of Contents

# GAOTek Custom Portable Smart Home Enterprise WIFI

## 1. Unpacking and Installation of Tester

### 1.1 Receiving instrument examination

After you receive the test instrument of the Meiruike instrument, according to the following steps to check:

- Whether the packing box of the instrument is intact; if damaged, we recommend that you do not carry it out of the box,and connect with the Meiruike company or the distributor of Meiruike.
- If the packing box of the instrument is well, please check whether the type of the instrument you ordered and the type on the packing box is consistent, if not, please connect with Meiruike company or the distributor of Meiruike.

If after 1.1.1 and 1.1.2 examination, there are no problems, you can check out of the box of the instrument.

### 1.2 Unpacking inspection of instrument

Please check whether the attachment and the following list in the package you ordered are consistent

- Model 01, Model 02, Model 03, Model 04, Model 05, Model 06, Model 09, Model 08

Attachment as follows: (Power line, high pressure stick, high voltage test clamp, ground wire)

- Attachment of Model 07: Power line, high voltage plug, grounding wire.

### 1.3 Packing box and packing material

Please keep the original packing material in order to use it in transportation.

### 1.4 Safety rules for the use of instruments

When using the instrument, please follow the safety rules:

#### 1.4.1 Don’t use test equipment in flammable air.

In order to prevent an explosion or burning accident occur, do not use the tester in the presence of alcohol, thinner, or other combustible materials, and do not use the instrument in the air containing flammable gases.

### 1.4.2 Don’t use the test instrument in the area of high temperature or direct sunlight.

The components used in the instrument are precision parts, which should be avoided when used in a high temperature or direct sunlight place, it will accelerate the aging of the instrument, and shorten the life of the tester, it is also possible to damage the tester. Using temperature range of instrument:0℃~+40℃; Storage temperature range of instrument: -20℃~+70℃;

### 1.4.3 Don't use a tester in a high-humidity environment.

Don't put the instrument in the boiler, kettle, humidifier, or water in a high-humidity environment. Congealed droplets may cause internal short circuits and damage the tester, which seriously may cause a fire. If the environment humidity of the storage instrument exceeds the specified below, the test must be dry completely before use.

Using humidity range:20%~80%RH

Storage humidity range: less than 90%.

### 1.4.4 Don’t use the tester in a dusty environment.

A dusty environment may cause a short circuit in the instrument to cause a fire.

### 1.4.5 Don’t put the tester on the inclined surface or use the tester in the shaking of the place.

Instruments placed on a sloping or shaking surface will make the tester fall off easily.

### 1.4.6 Don’t use the tester in the sensitive test equipment or beside the receiving equipment.

If the tester beside these devices, these devices may be interfered with by the tester; in order to reduce the interference of these devices, so that these devices should be away from the tester.

### 1.4.7 The input power of the tester must have a separate switch control.

The input power of the tester must have a separate switch control, once the emergency situation occurred should be cut off the power switch to deal with the accident immediately.

## 1.5 Operator requirements

The output voltage of the tester is sufficient to cause death, so it is necessary to have qualified personnel to operate the test instrument;

### 1.5.1 Personnel qualification

It must be operated by a skilled person to understand the basic concepts of voltage, current, and resistance; The operator must know that high pressure is flowing from the high voltage output port of the tester when in high pressure tester, passes the tested body, it flows into the tester through the connection line of the current return port; if you touch any items will get electric shock.

### 1.5.2 Safety rules

Operators must undergo special training, and understand all kinds of safety rules and safety regulations, read the instructions carefully before operating the tester.

### 1.5.3 Regulations of dress

Operators should not wear clothes with metal decorative or wear metal accessories, such as watches and so on. The withstand voltage tester shouldn't be operated by people who with a heart disease or with the cardiac pacemaker absolutely.

## 1.6 Check the voltage of the power supply

### 1.6.1 Switching input supply voltage of the instrument

This instrument uses the 220V AC±10% (47~63)Hz single-phase power supply, before opening the power switch on the front faceplate of the instrument, please ensure that the power supply voltage and fuse are consistent with the voltage of the instrument faceplate selected by the switch.

Warning: in order to prevent failure or damage to the tester, please use the test instrument in the specified voltage range.

## 1.7 Check and replace the fuse

Warning:

- To avoid the accident of electric shock, before the replacement of the fuse, please turn off the

power switch and unplug the power plug.

- Make sure that the fuse used is in accordance with the shape, size, and characteristics specified in the specification of the tester. Otherwise, it may damage the tester.

### 1.7.1 Fuse specifications

(1) Model 1, Model 2

| Input voltage range | Frequency range | Fuse specifications |
|---|---|---|
| 200V~240V | 47Hz~63Hz | 3.15A |

(2) Model 3

| Input voltage range | Frequency range | Fuse specifications |
|---|---|---|
| 200V~240V | 47Hz~63Hz | 4A |

(3) Model 4, Model 5

| Input voltage range | Frequency range | Fuse specifications |
|---|---|---|
| 200V~240V | 47Hz~63Hz | 5A |

(4) Model 6

| Input voltage range | Frequency range | Fuse specifications |
|---|---|---|
| 200V~240V | 47Hz~63Hz | 7A |

(5) Model 7

| Input voltage range | Frequency range | Fuse specifications |
|---|---|---|
| 200V~240V | 47Hz~63Hz | 8A |

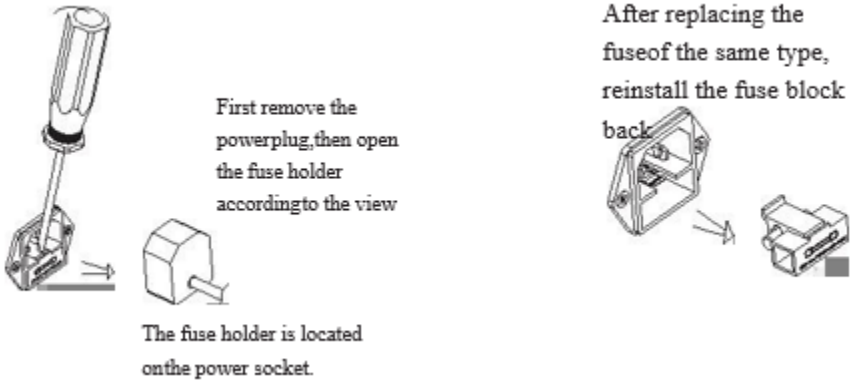
(6) Model 8, Model 9

| Input voltage range | Frequency range | Fuse specifications |
|---|---|---|
| 200V~240V | 47Hz~63Hz | 10A |

### 1.7.2 Fuse replacement

When replacing the fuse, please follow these steps:

1) Turn off the power switch on the front faceplate and pull out the power cord;
2) Use a screwdriver to fix the fuse holder as shown below:




3) Check fuse specifications and replace the fuse to the same specifications as the fuse listed in 1.7.1;
4) Put the supporting frame back to the original position.

### 1.8 Grounding connection

Warning: There may be an accident of an electrical breakdown grounding connection in the wrong place or not connecting.

To ensure the safety, we must ensure that the instrument is grounding connection reliably;

There are two ways to ensure a reliable grounding connection of the instrument, please select one to connect theinstruments with ground the reliably.

1) Connect the power cord to a power socket of three-phase grounding.
2) If the three-phase power supply socket is not grounded, there is a protective grounding terminal on the rear faceplateof the instrument connected it to the safety ground.

## 2. Operating considerations

### 2.1 Forbidden operation

#### 2.1.1 It is forbidden to continuously and rapidly switch the power supply switch

Turn off the power switch on the front panel, if you want to re-open the power switch, please ensure that turn off the power switch in time a few seconds or longer. Don't switch the power switch repeatedly and frequently, if so, the protection apparatus may not be appropriate to implement the protection function; Please do not turn off the power switch when the tester is testing the output voltage unless it can be executed in an emergency.

#### 2.1.2 It is forbidden to output the high voltage andgrounding short circuit

Don't make the high voltage test line of the instrument and the AC power line nearby connected to the ground or the electrical equipment nearby short circuit.If it is short circuit,the outer shell of tester may be filled with high pressure,it will be very dangerous.Ensure that the protective earthing port of the instrument is safe and reliable connection.If the grounding end is safe and reliable connected with ground,even if the high voltage output port and current return port shorted,the instruments

will not be in danger and the shell would not have high pressure.The specific methods of ground connection please refer to 1.8.

### 2.1.3 Don’t use external voltage

Don't put the high pressure produced by the external device on the high voltage output port of tester.Since the internal voltmeter of instrument can’t be used as a separate voltmeter.External voltage is likely to damage the voltmeter.

## 2.2 Emergency handling

In case of emergency(the occurrence of an electric shock or the test object combustion),you must take the following actions:can complete (1) or (2) first,but both must be completed.

1) Closing the power switch of instrument;
2) Unplug the power cable from the power socket.

## 2.3 Preventive measures in the testing process

### 2.3.1 Prevent electric shock proof with insulated gloves

In order to prevent the electric shock accident,please bring the rubber gloves with insulation and then engage in electrical related work before using this tester.

### 2.3.2 Connecting with test line and current measurement port

The test line is connected to the current measurement port,the test line must be checked whether is connected loose or fall off any time when the tester is in use, when connect the test objects with test line,please connect the object with the test line of current measuring port.If the test line of the current measurement port was incomplete or fall off,that is very dangerous.Because the whole test object will likely be filled with high voltage.

### 2.3.3 Connecting the test line to the high voltage output port

When the test line is connected to the current measurement port,then connect the

high voltage output line as the following program.

1) Press the "STOP" key first.
2) Confirm that whether the test light is light.
3) Insert the high voltage output line into the high voltage output port

### 2.3.4 Replace the measured object

When a test object has been tested and replace another object,please confirm:

1) The tester is in a "reset" state.
2) The high voltage indicator doesn't twinkle.
3) The display window of voltage shows that the number isn't beating any more.

Warning: don't touch the high pressure probe when replace the test object!

### 2.3.5 Tester is in test condition

When the tester is in the test condition,the test line,the test object,the test probe and the output port are all equipped with high pressure,please do not touch.

Note:don't touch the alligator clip of the test line with your hand,because when the host was testing,the test line has a high voltage, the insulation on the alligator clip is not high,it will cause an electric shock if you touch it.

### 2.3.6 Stop testing

Please turn the power switch placed in the location of OFF when don't use the tester any more,or you need to leave.

### 2.3.7 Confirm after testing

Don't touch the high-voltage wire by hand at any time,the test object or the high voltage output port,please confirm:

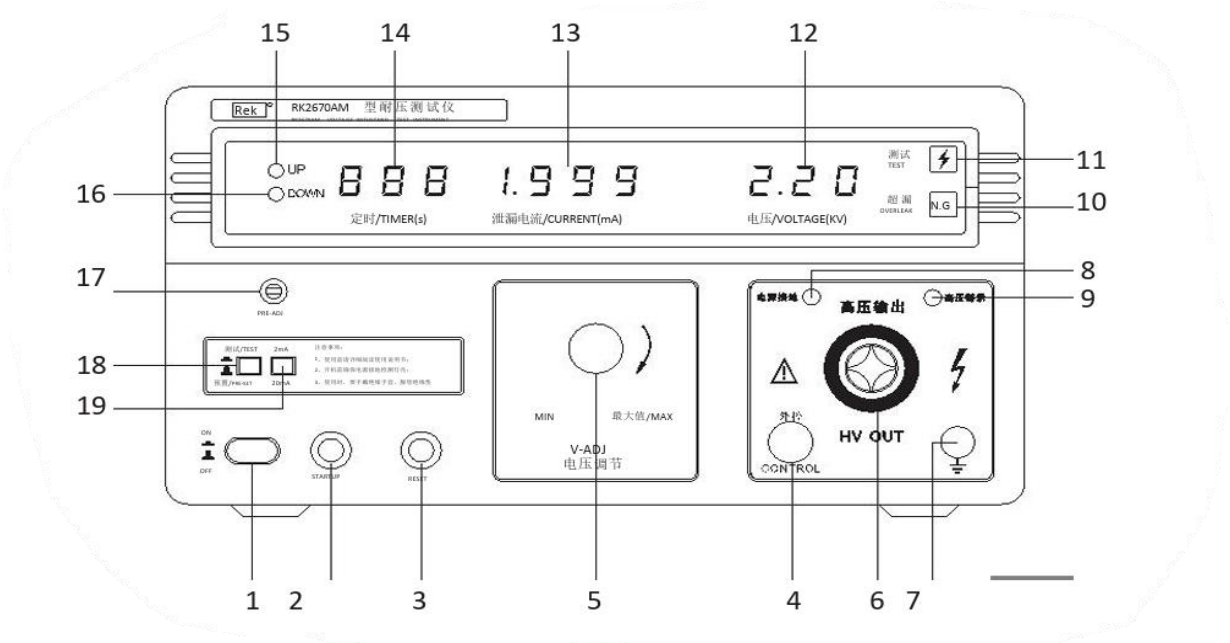
1) The power switch is in the closed state,the monitor is not bright.
2) When in the insulated test or DC test,it may have high voltage after testing completed,this voltage need to take a long time to discharge completely after power switch off.So please don't touch any place immediately when the discharge testing may just finished it may cause an

electric shock.

# 3. Description of faceplate

## 3.1 Description of faceplate

### 3.1.1 Description of Model 01 front faceplate




1. Power switch

The power switch is pressed down to switch on (on)the instrument power supply, and is ejected to switch off (off) the instrument.

2. START test button

Press this button to start the test in the reset condition.

3. REST stop button

During the testing process, as the switch of the interrupt test, when the test object test fails, the super leak lamp (10) will bright, press this button to test the instrument can stop the alarm, and enter the next state.

4. Interface of remote control

This interface can be matched with the test gun and remote-control test stick.

5. Output voltage regulating knob

In the test process, adjust the knob clockwise, the output voltage will increases; adjust the knob anticlockwise, the output voltage will decreases. Please confirm this knob whether is in the 0 place when in the boot.

6. High voltage output port

The high-pressure output port of test instrument will have high voltage output when in the test, please don't touch the high-pressure port, the high voltage output line, the high-pressure probe alligator clip and the measured object.

7. Current measuring return port

This terminal is the input port of the measuring current. In the test process, we must pay attention to this terminal can't fall off, if it falls off, the test object will full of high pressure, that it may cause the occurrence of electric shock accident.

8. Power detection indicator lamp, "power supply grounding, safety" green lamp

Connecting the instrument and the power line use by city electric, the power switch of the tester is placed in the OFF state; if the connection of N, L, G in city electric is correct, the power ground safety indicator lamp will light; if the connection of N, L, G is wrong, then the green lamp doesn't light, please check the power supply.

9. High voltage output indicator lamp

This lamp is out of control of the electric circuit. If the voltage in the high voltage output port is greater than 110V, this lamp will flash. If in the reset state, the lamp will flash, then the high voltage output port may have high output, it is prohibited to touch any part of the test circuit.

10. Super leakage indicator lamp This lamp is on when the test is not qualified.

11. Test indicator lamp This lamp is on when the start button is pressed.

12. Voltage display window

13. Current display window

14.Time display window

The range of time is 0.0s~999s. When the time is less than 100s,the time resolution is 0.1s;when the time is greater than or equal

to 100s, the time resolution is 1s. If the time is set to 0.0s,then the test time to add count;when the time is not set to 0,the time to reduce count.

15. UP button When setting the time, press this key, the time setting value will increases;

16. DOWN button When setting the time, press this key, the time setting value will decreases; 17. Current preset adjusting potentiometer

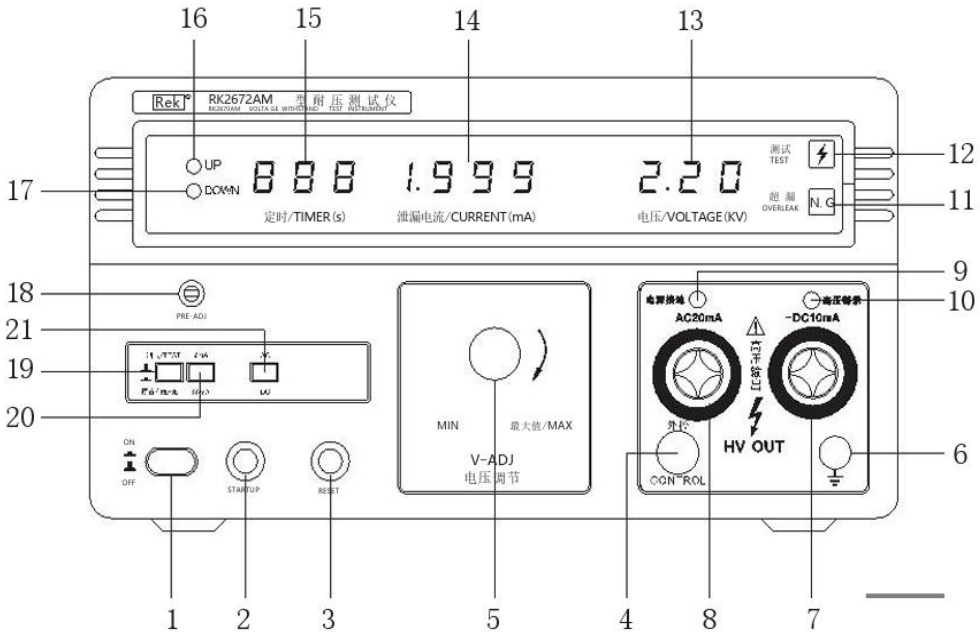
When the "test/preset"(18) button is pressed for the current preset state, the current display window shows the preset current value, adjust clockwise the preset current will increases; adjust anticlockwise the preset current will decreases.

18. "test/preset" button

This button is pressed for the preset current state, and pop-up for the test status.

19. 2mA/20mA switch button This button is pressed for the 20mA file, pop-up for the 2mA file.

### 3.1.2 Description of Model 02 rear faceplate




1. Power switch

The power switch is pressed down to switch on (on)the instrument power supply, and is ejected to switch off(off) the instrument.

2. START test button

Press this button to start the test in the reset condition.

3. REST stop button

During the testing process, as the switch of the interrupt test, when the test object test fails, the super leak lamp (11) will bright, press this button to test the instrument can stop the alarm, and enter the next state.

4. Interface of remote control

This interface can be matched with the test gun and remote-control test stick.

5. Output voltage regulating knob

In the test process, adjust the knob clockwise, the output voltage will increases; adjust the knob anticlockwise, the output voltage will decreases. Please confirm this knob whether is in the 0 place when in the boot.

6. Current measuring return port

This terminal is the input port of the measuring current. In the test process, we must pay attention to this terminal can't fall off, if it fall off, the test object will full of high pressure, that it may cause the occurrence of electric shock accident.

7. DC high voltage output port

The DC high pressure output port of test instrument will have high voltage output when in the test, please don't touch the high-pressure port, the high voltage output line, the high-pressure probe alligator clip and the measured object. After the test is finished, please confirm that the whole circuit is discharged completely then can replace the test object.

8. AC high voltage output port

The AC high pressure output port of test instrument will have high voltage output when in the test, please don't touch the high-pressure port, the high voltage output line, the high-pressure probe alligator clip and the measured object.

9. Power detection indicator lamp, "power supply grounding, safety" lamp

Connecting the instrument and the power line use by city electric, the power switch of the tester is placed in the OFF state; if the connection of N, L, G in city electric is correct, the power ground safety indicator lamp will light; if the connection of N, L, G is wrong, then the green lamp doesn't light, please check the power supply.

10. High voltage output indicator lamp

This lamp is out of control of the electric circuit. If the voltage in the high voltage output port is greater than 110V, this lamp will flash. If in the reset state, the lamp will flash, then the high voltage output port may have high output, it is prohibited to touch any part of the test circuit.

11. Super leakage indicator lamp This lamp is on when the test is not qualified.

12. Test indicator lamp This lamp is on when the start button is pressed.

13. Voltage display window

14. Current display window

15. Time display window

The range of time is 0.0s~999s. When the time is less than 100s,the time resolution is 0.1s; when the time is greater than or equal to 100s,the time resolution is 1s. If the time is set to 0.0s, then the test time to add count; when the time is not set to 0,the time to reduce count;

17. DOWN button When setting the time, press this key, the time setting value will decreases; 18. Current preset adjusting potentiometer

When the "test/preset"(19) button is pressed for the current preset state, the current display window shows the preset current value, adjust clockwise the preset current will increases; adjust anticlockwise the preset current will decreases.

19. "test/preset" button

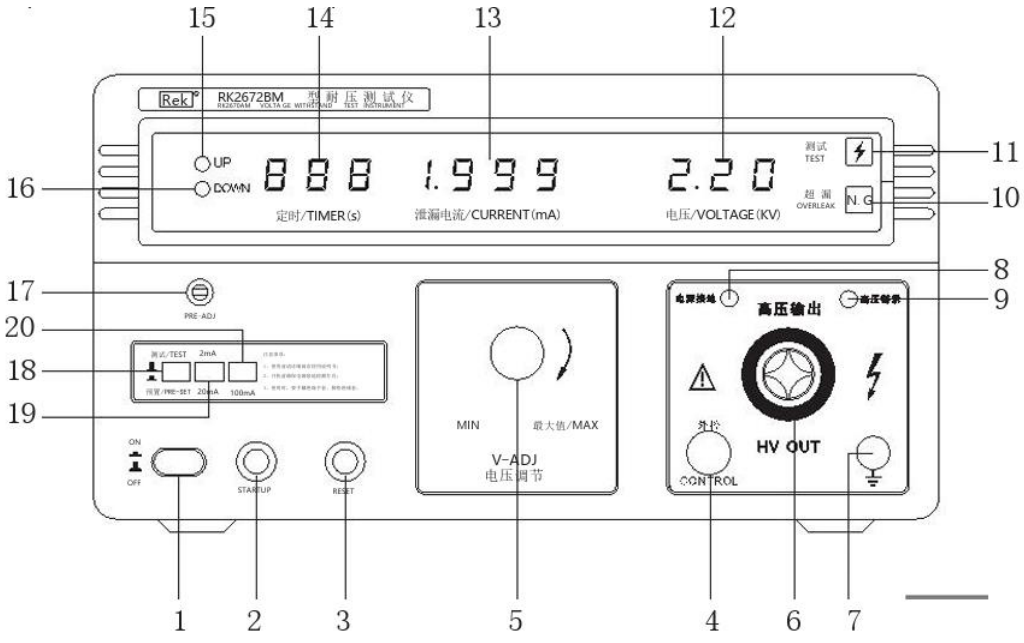
This button is pressed for the preset current state, and pop-up for the test status.

20. 2mA/20mA switch button This button is pressed for the 20mA file, pop-up for the 2mA file.

21. AC/DC switch button

This button switches the display voltage is the AC voltage or DC voltage; the window displays the DC voltage when it is pressed, the window displays the AC voltage when it is pop-up.

### 3.1.3 Description of Model 04 front faceplate



1. Power switch

The power switch is pressed down to switch on (on)the instrument power supply, and is ejected to switch off(off)the instrument.

2. START test button

Press this button to start the test in the reset condition.

3. REST stop button

During the testing process, as the switch of the interrupt test, when the test object test fails, the super leak lamp (10)will bright, press this button to test the instrument can stop the alarm, and enter the next state.

4. Interface of remote control

This interface can be matched with the test gun and remote-control test stick.

5. Output voltage regulating knob

In the test process, adjust the knob clockwise, the output voltage will increase; adjust the knob anticlockwise, the output voltage will decrease. Please confirm this knob whether is in the 0 place when in the boot.

6. High voltage output port

The high-pressure output port of test instrument will have high voltage output when in the test, please don’t touch the high-pressure port, the high voltage output line, the high-pressure probe alligator clip and the measured object.

7. Current measuring return port

This terminal is the input port of the measuring current. In the test process, we must pay attention to this terminal can't fall off, if it falls off, the test object will full of high pressure, that it may cause the occurrence of electric shock accident.

8. Power detection indicator lamp, "power supply grounding, safety" green lamp

Connecting the instrument and the power line use by city electric, the power switch of the tester is placed in the OFF state; if the connection of N,L,G in city electric is correct, the power ground safety indicator lamp will light; if the connection of N,L,G is wrong, then the green lamp doesn't light, please check the power supply.

9. High voltage output indicator lamp

This lamp is out of control of the electric circuit. If the voltage in the high voltage output port is greater than 110V, this lamp will flash. If in the reset state, the lamp will flash, then the high voltage output port may have high output, it is prohibited to touch any part of the test circuit.

10. Super leakage indicator lamp This lamp is on when the test is not qualified.

11. Test indicator lamp This lamp is on when the start button is pressed.

12. Voltage display window

13. Current display window

14. Time display window

The range of time is 0.0s~999s. When the time is less than 100s, the time resolution is 0.1s; when the time is greater than or equal to 100s, the time resolution is 1s. If the time is set to 0.0s,then the test time to add count; when the time is not set to 0,the time to reduce count;

15. UP button When setting the time, press this key, the time setting value will increases;

16. DOWN button When setting the time, press this key, the time setting value will decreases; 17. Current preset adjusting potentiometer

When the "test/preset"(19) button is pressed for the current preset state, the current display window shows the preset current value, adjust clockwise the preset current will increases; adjust anticlockwise the preset current will decreases.

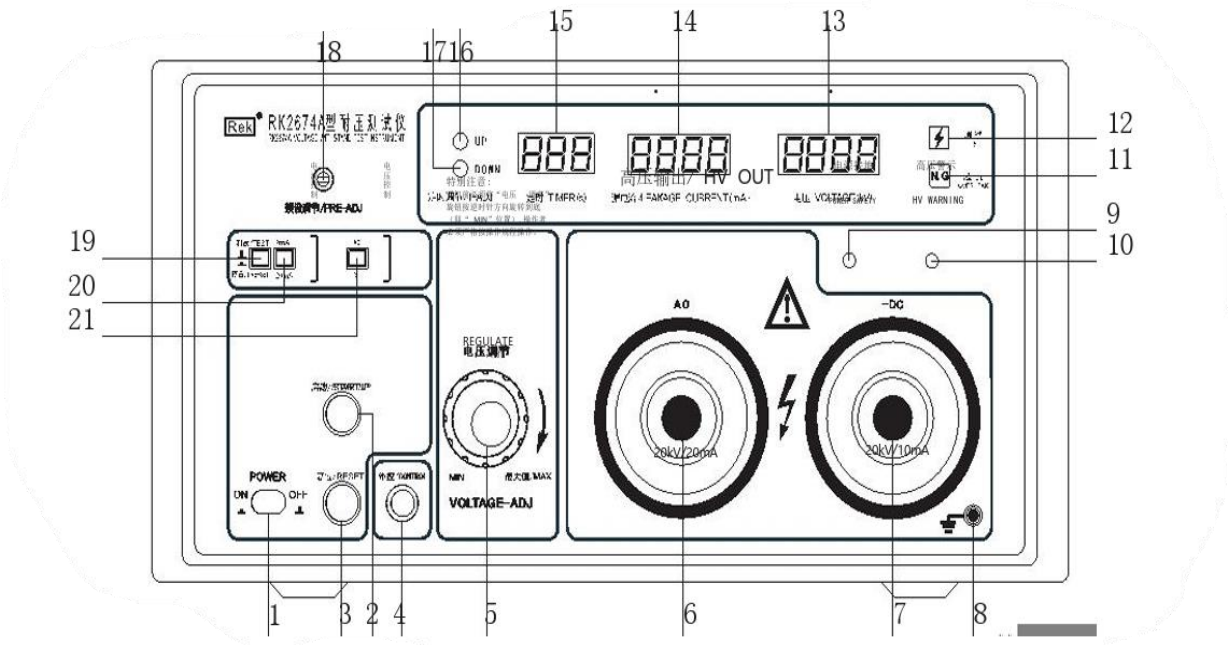
18. "test/preset" button

This button is pressed for the preset current state, and pop-up for the test status.

19. 2mA/20mA switch button This button is pressed for the 20mA file, pop-up

20. 100mA button This button is pressed for the 100mA file, pop-up for the 2mA/20mA file.

### 3.1. 4 Description of Model 07 front faceplate




1. Power switch

The power switch is pressed down to switch on (on)the instrument power supply, and is ejected to switch off(off)the instrument.

2. START test button

Press this button to start the test in the reset condition.

3. REST stop button

During the testing process, as the switch of the interrupt test, when the test object test fails, the super leak lamp (11)will bright, press this button to test the instrument can stop the alarm, and enter the next state.

4. Interface of remote control

This interface must be used with the interface of PLC, it belongs to the optional accessories.

5. Output voltage regulating knob

In the test process, adjust the knob clockwise, the output voltage will increases; adjust the knob anticlockwise, the output voltage will decreases. Please confirm this knob whether is in the 0 place when in the boot.

6. AC high voltage output port

7. DC high voltage output port The DC voltage output from this port is negative voltage.

8. Current measuring return port

This terminal is the input port of the measuring current. In the test process, we must pay attention to this terminal can't fall off, if it fall off, the test object will full of high pressure, that it may cause the occurrence of electric shock accident.

9. Power detection indicator lamp, "power supply grounding, safety" green lamp

Connecting the instrument and the power line use by city electric, the power switch of the tester is placed in the OFF state; if the connection of N,L,G in city electric is correct, the power ground safety indicator lamp will light; if the connection of N,L,G is wrong, then the green lamp doesn't light, please check the power supply.

10. High voltage output indicator lamp

This lamp is out of control of the electric circuit. If the voltage in the high voltage output port is greater than 110V, this lamp will flash. If in the reset state, the lamp will flash, then the high voltage output port may have high output, it is prohibited to touch any part of the test circuit.

11. Super leakage indicator lamp This lamp is on when the test is not qualified.

12. Test indicator lamp This lamp is on when the start button is pressed.

13. Voltage display window

14. Current display window

15. Time display window

The range of time is 0.0s~999s. When the time is less than 100s,the time resolution is 0.1s;when the time is greater than or equal to 100s,the time resolution is 1s.If the time is set to 0.0s,then the test time to add count; when the time is not set to 0,the time to reduce count.

16. UP button When setting the time, press this key, the time setting value will increases;

17. DOWN button When setting the time, press this key, the time setting value will decreases; 18. Current preset adjusting potentiometer

When the "test/preset"(18) button is pressed for the current preset state, the current display window shows the preset current value, adjust clockwise the preset current will increases; adjust anticlockwise the preset current will decreases.

19. "test/preset" button

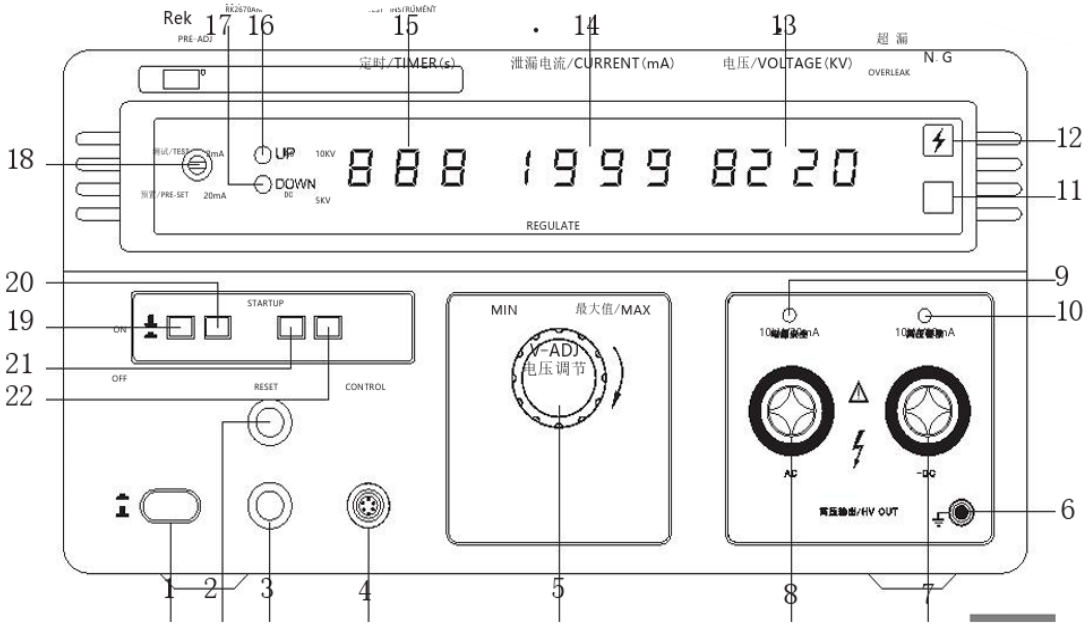
This button is pressed for the preset current state, and pop-up for the test status.

20. 2mA/20mA switch button This button is pressed for the 20mA file, pop-up for the 2mA file.

21. AC/DC switch button R

This button switches the display voltage is the AC voltage or DC voltage; the window display the DC voltage when it is pressed, the window display the AC voltage when it is pop-up.

### 3.1. 5 Description of Model 03 front faceplate




-17-

1. Power switch

The power switch is pressed down to switch on (on)the instrument power supply, and is ejected to switch off(off)the instrument.

2. START test button

Press this button to start the test in the reset condition.

3. REST stop button

During the testing process, as the switch of the interrupt test, when the test object test fails, the super leak lamp (11)will bright, press this button to test the instrument can stop the alarm, and enter the next state.

4. Interface of remote control

This interface can be matched with the test gun and remote-control test stick.

5. Output voltage regulating knob

In the test process, adjust the knob clockwise, the output voltage will increases; adjust the knob anticlockwise, the output voltage will decreases. Please confirm this knob whether is in the 0 place when in the boot.

6. Current measuring return port

This terminal is the input port of the measuring current. In the test process, we must pay attention to this terminal can't fall off, if it fall off, the test object will full of high pressure, that it may cause the occurrence of electric shock accident.

7. DC high voltage output port

The DC high pressure output port of test instrument will have high voltage output when in the test, please don't touch the high-pressure port, the high voltage output line, the high-pressure probe alligator clip and the measured object. After the test is finished, please confirm that the whole circuit is discharged completely then can replace the test object.

8. AC high voltage output port

The AC high pressure output port of test instrument will have high voltage output when in the test, please don't touch the high-pressure port, the high voltage output line, the high pressure probe alligator clip and the measured object.

9. Power detection indicator lamp, "power supply grounding, safety" green lamp

Connecting the instrument and the power line use by city electric, the power switch of the tester is placed in the OFF state; if the connection of N,L,G in city electric is correct, the power ground safety indicator lamp will light; if the connection of N,L,G is wrong, then the green lamp doesn't light, please check the power supply.

10. High voltage output indicator lamp

This lamp is out of control of the electric circuit. If the voltage in the high voltage output port

is greater than 110V,this lamp will flash. If in the reset state, the lamp will flash, then the high voltage output port may have high output, it is prohibited to touch any part of the test circuit.

11. Super leakage indicator lamp This lamp is on when the test is not qualified.

12. Test indicator lamp This lamp is on when the start button is pressed.

13. Voltage display window

14. Current display window

15. Time display window

The range of time is 0.0s~999s. When the time is less than 100s, the time resolution is 0.1s; when the time is greater than or equal to 100s, the time resolution is 1s. If the time is set to 0.0s,then the test time to add count; when the time is not set to 0,the time to reduce count.

16. UP button When setting the time, press this key, the time setting value will increases;

17. DOWN button When setting the time, press this key, the time setting value will decreases; 18. Current preset adjusting potentiometer

When the "test/preset"(19) button is pressed for the current preset state, the current display window shows the preset current value, adjust clockwise the preset current will increases; adjust anticlockwise the preset current will decreases.

19. "test/preset" button

This button is pressed for the preset current state, and pop-up for the test status.

20. 2mA/20mA switch button

This button is pressed for the 20mA file, pop-up for the 2mA file.

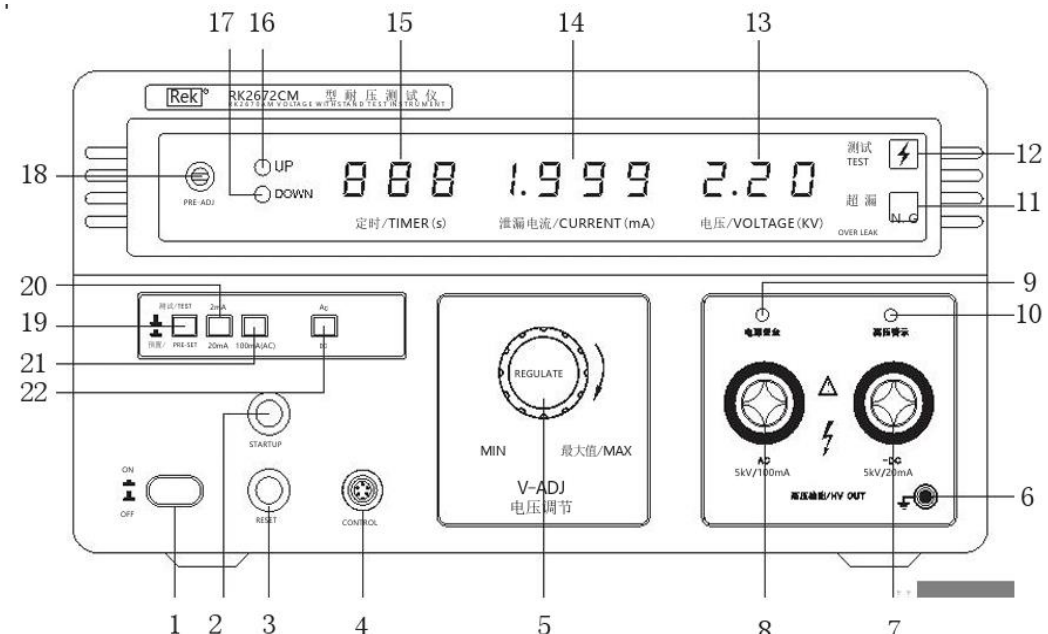
21. AC/DC switch button

This button switches the display voltage is the AC voltage or DC voltage; the window displays the DC voltage when it is pressed, the window display the AC voltage when it is pop-up.

22. 5kV/10kV voltage file switch This button is pressed for the 5kV file, pop-

up for the 10kV file.

### 3.1. 6 Description of Model 05 front faceplate



1. Power switch

The power switch is pressed down to switch on (on)the instrument power supply, and is ejected to switch off(off)the instrument.

2. START test button

Press this button to start the test in the reset condition.

3. REST stop button

During the testing process, as the switch of the interrupt test, when the test object test fails, the super leak lamp (11) will bright, press this button to test the instrument can stop the alarm, and enter the next state.

4. Interface of remote control

This interface can be matched with the test gun and remote-control test stick.

5. Output voltage regulating knob

In the test process, adjust the knob clockwise, the output voltage will increases; adjust the knob anticlockwise, the output voltage will decreases. Please confirm this knob whether is in the 0 place when in the boot.

6. Current measuring return port

This terminal is the input port of the measuring current. In the test process, we must pay attention to this terminal can't fall off, if it fall off, the test object will full of high pressure, that it may cause the occurrence of electric shock accident.

7. DC high voltage output port

The DC high pressure output port of test instrument will have high voltage output when in the test, please don't touch the high-pressure port, the high voltage output line, the high-pressure probe alligator clip and the measured object. After the test is finished, please confirm that the whole circuit is discharged completely then can replace the test object.

8. AC high voltage output port

The AC high pressure output port of test instrument will have high voltage output when in the test, please don't touch the high-pressure port, the high voltage output line, the high-pressure probe alligator clip and the measured object.

9. Power detection indicator lamp, "power supply grounding, safety" lamp

Connecting the instrument and the power line use by city electric, the power switch of the tester is placed in the OFF state; if the connection of N,L,G in city electric is correct, the power ground safety indicator lamp will light; if the connection of N,L,G is wrong, then the green lamp doesn't light, please check the power supply.

10. High voltage output indicator lamp

This lamp is out of control of the electric circuit. If the voltage in the high voltage output port is greater than 110V, this lamp will flash. If in the reset state, the lamp will flash, then the high voltage output port may have high output, it is prohibited to touch any part of the test circuit.

11. Super leakage indicator lamp

This lamp is on when the test is not qualified.

12. Test indicator lamp

This lamp is on when the start button is pressed.

13. Voltage display window

14. Current display window

15. Time display window

The range of time is 0.0s~999s. When the time is less than 100s,the time resolution is 0.1s;when the time is greater than or equal to 100s,the time resolution is 1s.If the time is set to 0.0s,then the test time to add count; when the time is not set to 0,the time to reduce count.

16. UP button

When setting the time, press this key, the time setting value will increases;

17. DOWN button

When setting the time, press this key, the time setting value will decreases;

18. Current preset adjusting potentiometer

When the "test/preset"(19) button is pressed for the current preset state, the current display window shows the preset current value, adjust clockwise the preset current will increases; adjust anticlockwise the preset current will decreases.

19. "test/preset" button

This button is pressed for the preset current state, and pop-up for the test status.

20.2mA/20mA switch button

This button is pressed for the 20mA file, pop-up for the 2mA file.

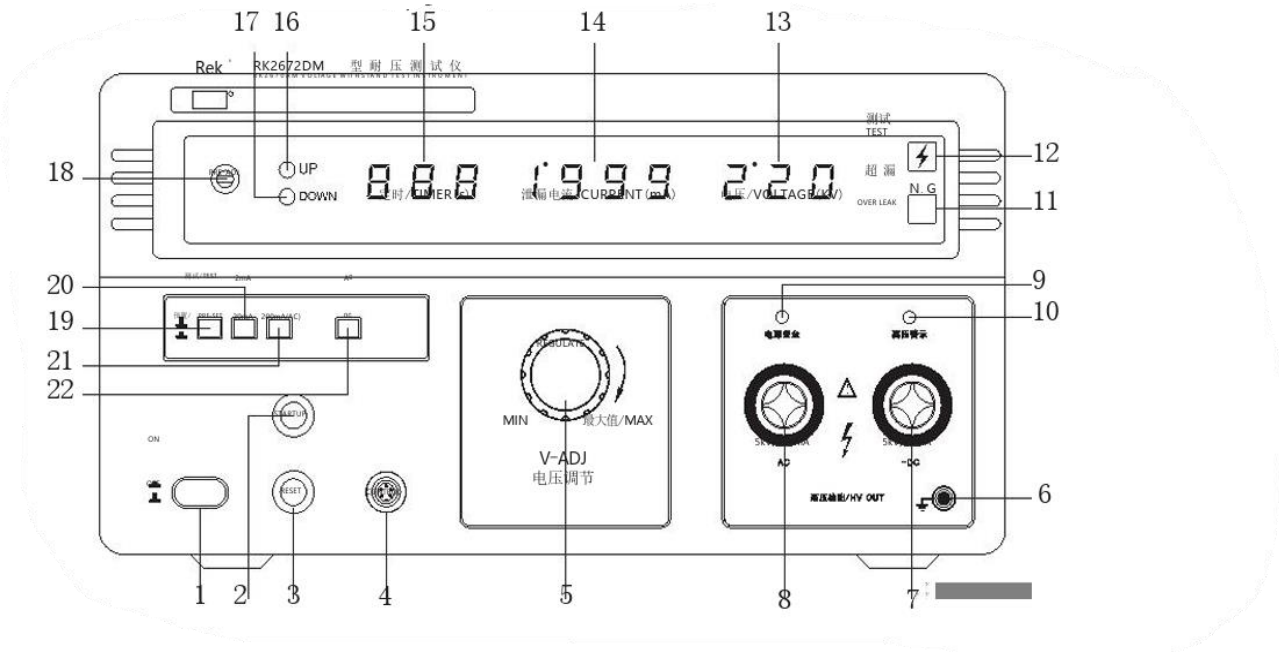
21. 100mA(AC) file

This button is pressed for 100mA(AC)

22. AC/DC switch button

This button switches the display voltage is the AC voltage or DC voltage; the window display the DC voltage when it is pressed, the window display the AC voltage when it is pop-up.

### 3.1.7 Description of Model 9 front faceplate



1. Power switch

The power switch is pressed down to switch on (on)the instrument power supply, and is ejected to switch off(off)the instrument.

2. START test button

Press this button to start the test in the reset condition.

3. REST stop button

During the testing process, as the switch of the interrupt test, when the test object test fails, the super leak lamp (11)will bright, press this button to test the instrument can stop the alarm, and enter the next state.

4. Interface of remote control

This interface can be matched with the test gun and remote-control test stick.

5. Output voltage regulating knob

In the test process, adjust the knob clockwise, the output voltage will increases; adjust the knob anticlockwise, the output voltage will decreases. Please confirm this knob whether is in the 0 place when in the boot.

6. Current measuring return port

This terminal is the input port of the measuring current. In the test process, we must pay attention to this terminal can't fall off, if it fall off, the test object will full of high pressure, that it may cause the occurrence of electric shock accident.

7. DC high voltage output port

The DC high pressure output port of test instrument will have high voltage output when in the test, please don't touch the high pressure port, the high voltage output line, the high pressure probe alligator clip and the measured object. After the test is finished, please confirm that the whole circuit is discharged completely then can replace the test object.

8. AC high voltage output port

The AC high pressure output port of test instrument will have high voltage output when in the test, please don't touch the high pressure port, the high voltage output line, the high pressure probe alligator clip and the measured object.

9. Power detection indicator lamp, "power supply grounding, safety" lamp

Connecting the instrument and the power line use by city electric, the power switch of the tester is placed in the OFF state; if the connection of N,L,G in city electric is correct, the power ground safety indicator lamp will light; if the connection of N,L,G is wrong, then the green lamp doesn't light, please check the power supply.

10. High voltage output indicator lamp

This lamp is out of control of the electric circuit. If the voltage in the high voltage output port is greater than 110V,this lamp will flash. If in the reset state, the lamp will flash, then the high voltage output port may have high output, it is prohibited to touch any part of the test circuit.

11. Super leakage indicator lamp This lamp is on when the test is not qualified.

12. Test indicator lamp This lamp is on when the start button is pressed.

13. Voltage display window

14. Current display window

15. Time display window

The range of time is 0.0s~999s. When the time is less than 100s,the time resolution is 0.1s;when the time is greater than or equal to 100s,the time resolution is 1s.If the time is set to 0.0s,then the test time to add count; when the time is not set to 0,the time to reduce count.

16. UP button

When setting the time, press this key, the time setting value will increases;

17. DOWN button

When setting the time, press this key, the time setting value will decreases;

18. Current preset adjusting potentiometer

When the "test/preset"(19) button is pressed for the current preset state, the current display window shows the preset current value, adjust clockwise the preset current will increases; adjust anticlockwise the preset current will decreases.

19. "test/preset" button

This button is pressed for the preset current state, and pop-up for the test status.

20. 2mA/20mA switch button

This button is pressed for the 20mA file, pop-up for the 2mA file.

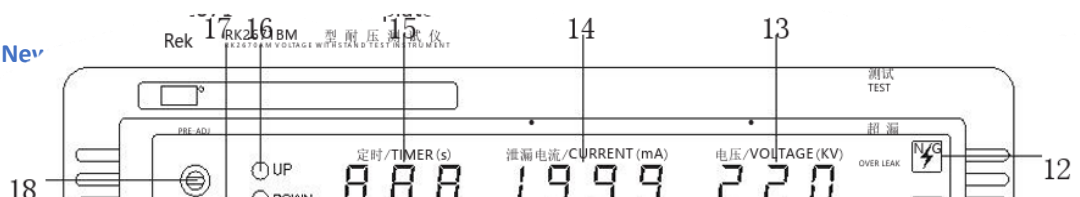
21. 200mA(AC) file

This button is pressed for the 200mA(AC)

22. AC/DC switch button

This button switches the display voltage is the AC voltage or DC voltage; the window display the DC voltage when it is pressed, the window display the AC voltage when it is pop-up.

### 3.1.8 Description of Model 6 front faceplate



1. Power switch

The power switch is pressed down to switch on (on)the instrument power supply, and is ejected to switch off(off)the instrument.

2. START test button

Press this button to start the test in the reset condition.

3. REST stop button

During the testing process, as the switch of the interrupt test, when the test object test fails, the super leak lamp (11) will bright, press this button to test the instrument can stop the alarm, and enter the next state.

4. Interface of remote control

This interface can be matched with the test gun and remote control test stick.

5. Output voltage regulating knob

In the test process, adjust the knob clockwise, the output voltage will increases; adjust the knob anticlockwise, the output voltage will decreases. Please confirm this knob whether is in the 0 place when in the boot.

6. Current measuring return port

This terminal is the input port of the measuring current. In the test process, we must pay attention to this terminal can't fall off, if it fall off, the test object will full of high pressure, that it may cause the occurrence of electric shock accident.

7. DC high voltage output port

The DC high pressure output port of test instrument will have high voltage output when in the test, please don't touch the high pressure port, the high voltage output line, the high pressure probe alligator clip and the measured object. After the test is finished, please confirm that the whole circuit is discharged completely then can replace the test object.

8. AC high voltage output port

The AC high pressure output port of test instrument will have high voltage output when in the test, please don't touch the high pressure port, the high voltage output line, the high pressure probe alligator clip and the measured object.

9. Power detection indicator lamp, "power supply grounding, safety" lamp

Connecting the instrument and the power line use by city electric, the power switch of the tester is placed in the OFF state; if the connection of N,L,G in city electric is correct, the power ground safety indicator lamp will light; if the connection of N,L,G is wrong, then the green lamp doesn't light, please check the power supply.

10. High voltage output indicator lamp

This lamp is out of control of the electric circuit. If the voltage in the high voltage output port is greater than 110V,this lamp will flash. If in the reset state, the lamp will flash, then the high voltage output port may have high output, it is prohibited to touch any part of the test circuit.

11. Super leakage indicator lamp

This lamp is on when the test is not qualified.

12. Test indicator lamp

This lamp is on when the start button is pressed.

13. Voltage display window

14. Current display window

15. Time display window

The range of time is 0.0s~999s. When the time is less than 100s,the time resolution is 0.1s;when the time is greater than or equal to 100s,the time resolution is 1s.If the time is set to 0.0s,then the test time to add count; when the time is not set to 0,the time to reduce count.

16. UP button

When setting the time, press this key, the time setting value will increases;

17. DOWN button

When setting the time, press this key, the time setting value will decreases;

18. Current preset adjusting potentiometer

When the "test/preset"(19) button is pressed for the current preset state, the current display window shows the preset current value, adjust clockwise the preset current will increases; adjust anticlockwise the preset current will decreases.

19. "test/preset" button

This button is pressed for the preset current state, and pop-up for the test status.

20. 2mA/20mA switch button

This button is pressed for the 20mA file, pop-up for the 2mA file.

21. 50mA(AC) file

This button is pressed for the 50mA(AC).

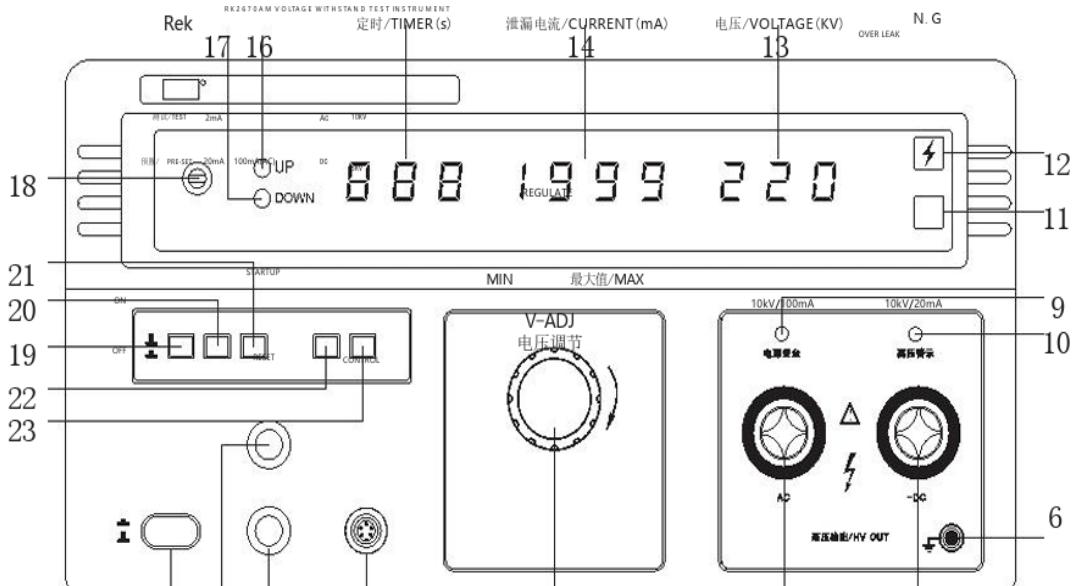
22. AC/DC switch button

This button switches the display voltage is the AC voltage or DC voltage; the window display the DCR voltage when it is pressed, the window display the AC voltage when it is pop-up.

23. 5kV/10kV voltage file switch

This button is pressed for the 5kV, and pop-up for the 10kV.

### 3.1.9 Description of Model 8 front faceplate



1. Power switch

The power switch is pressed down to switch on (on)the instrument power supply, and is ejected to switch off(off)the instrument.

2. START test button

Press this button to start the test in the reset condition.

3. REST stop button

During the testing process, as the switch of the interrupt test, when the test object test fails, the super leak lamp (11) will bright, press this button to test the instrument can stop the alarm, and enter the next state.

4. Interface of remote control

This interface can be matched with the test gun and remote control test stick.

5. Output voltage regulating knob

In the test process, adjust the knob clockwise, the output voltage will increases; adjust the knob anticlockwise, the output voltage will decreases. Please confirm this knob whether is in the 0 place when in the boot.

6. Current measuring return port

This terminal is the input port of the measuring current. In the test process, we must pay attention to this terminal can't fall off, if it fall off, the test object will full of high pressure, that it may cause the occurrence of electric shock accident.

7. DC high voltage output port

The DC high pressure output port of test instrument will have high voltage output when in the test, please don't touch the high pressure port, the high voltage output line, the high pressure probe alligator clip and the measured object. After the test is finished, please confirm that the whole circuit is discharged completely then can replace the test object.

8. AC high voltage output port

The AC high pressure output port of test instrument will have high voltage output when in the test, please don't touch the high pressure port, the high voltage output line, the high pressure probe alligator clip and the measured object.

9. Power detection indicator lamp, "power supply grounding, safety" lamp

Connecting the instrument and the power line use by city electric, the power switch of the tester is placed in the OFF state; if the connection of N,L,G in city electric is correct, the power ground safety indicator lamp will light; if the connection of N,L,G is wrong, then the green lamp doesn't light, please check the power supply.

10. High voltage output indicator lamp

This lamp is out of control of the electric circuit. If the voltage in the high voltage output port is greater than 110V,this lamp will flash. If in the reset state, the lamp will flash, then the high voltage output port may have high output, it is prohibited to touch any part of the test circuit.

11. Super leakage indicator lamp

This lamp is on when the test is not qualified.

12. Test indicator lamp

This lamp is on when the start button is pressed.

13. Voltage display window

14. Current display window

15. Time display window

The range of time is 0.0s~999s. When the time is less than 100s,the time resolution is 0.1s;when the time is greater than or equal to 100s,the time resolution is 1s.If the time is set to 0.0s,then the test time to add count; when the time is not set to 0,the time to reduce count.

16. UP button

When setting the time, press this key, the time setting value will increases;

17. DOWN button

When setting the time, press this key, the time setting value will decreases;

18. Current preset adjusting potentiometer

When the "test/preset"(19) button is pressed for the current preset state, the current display window shows the preset current value, adjust clockwise the preset current will increases; adjust anticlockwise the preset current will decreases.

19. "test/preset" button

This button is pressed for the preset current state, and pop-up for the test status.

20. 2mA/20mA switch button

This button is pressed for the 20mA file, pop-up for the 2mA file.

21. 100mA(AC) files

This button is pressed for the 100mA(AC)

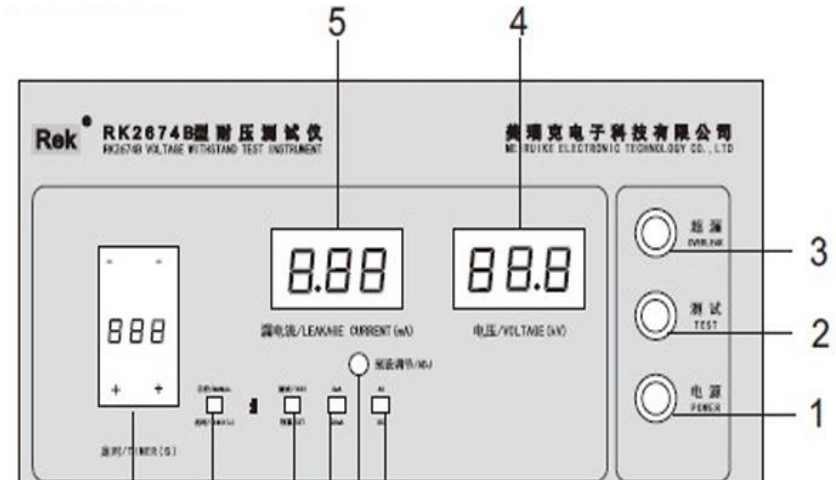
22. AC/DC switch button

This button switches the display voltage is the AC voltage or DC voltage; the window display the DC voltage when it is pressed, the window display the AC voltage when it is pop-up.

23. 5kV/10kV voltage file switch

This button is pressed for the 5kV, pop-up for the 10kV.

### 3.1.10 Description of Model 10 front faceplate



1. Power indicator: on when the power is connected.

2. "Test" light: this light is on when the instrument "starts" test.

3. "Over leakage" lamp: when the leakage current detected by the instrument exceeds the set value, it is over leakage. At this time, "over leakage" The lamp lights up and gives an alarm sound, and

the output voltage of the instrument is cut off. At this time, press the "reset" key, "the over leakage light is off, and turn the" voltage regulation "knob counterclockwise to the end to prepare for the next test.

4. "Voltage" indication: three digit digital voltmeter, indicating the output voltage value.

5. "Current" indication: three and a half digit ammeter, indicating leakage current value.

6. "AC / DC" change-over switch: when this switch is pressed, it is displayed as DC and vice versa.

7. "Leakage current" alarm value preset potentiometer: press the "preset / test" switch to adjust this potentiometer and preset the "leakage current" The alarm value is displayed on the current display window.

8. "Leakage current" range selection: 0 ~ 2mA (AC / DC) in normal state and 2 ~ 20mA (AC / DC) when pressed.

9. "Preset / test" switch: press this switch to "preset" state, otherwise it is "test" state.

10. "Timing / manual" switch: press this switch for "timing" test. Otherwise, it is a "manual" test. "Timing" indication: three digit display, displaying timing time.

11. Timer: adjust the "timing dial" switch to set the timing time.

12. "Start" button switch: press this button switch, the instrument enters the test state, and the test light is on.

13. "Reset" button switch: press this button switch, the instrument will return to the state to be tested, and there is no high voltage output at this time.

14. "Voltage regulation" knob: used to adjust the test voltage.

15. Power switch: the main power supply of the instrument.

### 3.1.11 Description of Model 11 front faceplate

1. "Test" light: this light is on when the instrument "starts" test.

2. "Over leakage" light: when the leakage current detected by the instrument exceeds the set value, it is over leakage. At this time, the "over leakage" light is on, The alarm sound is sent out, and the output voltage of the instrument is cut off. At this time, press the "reset" key, Turn the "over leakage" light off and turn the "voltage regulation" knob counterclockwise to the end to prepare for the next test

3. "Voltage" indication: three digit digital voltmeter, indicating the output voltage value.

4. "Current" indication: three and a half digit ammeter, indicating leakage current value.

5. "Time" indication: two digit display, display timing time and countdown.

6. Timing setting: adjust the "timing dial" switch to set the timing time.

7. "Leakage current" alarm value preset potentiometer: press the "preset 1 test" switch to adjust the preset setting of this potentiometer.

The "leakage current" alarm value is displayed on the current display window.

8. "Preset / test" switch: press this switch to "preset" status, otherwise it is "test status".

9. "Leakage current" range selection: 0 ~ 2mA in normal state, 2 ~ 20m a (AC) or 2 ~ 10mA (DC) when pressed.

10. "Leakage current" range selection: this range is 0 ~ 20mA in normal state and 40mA (AC) in amine state, which is only limited to AC test.

11. "Timing / manual" switch: pressing this switch is "timing" test, otherwise it is "manual" test.

12. "AC / DC" change-over switch: when this switch is pressed, it is displayed as DC and vice versa.

13. Power switch: the main power supply of the instrument.

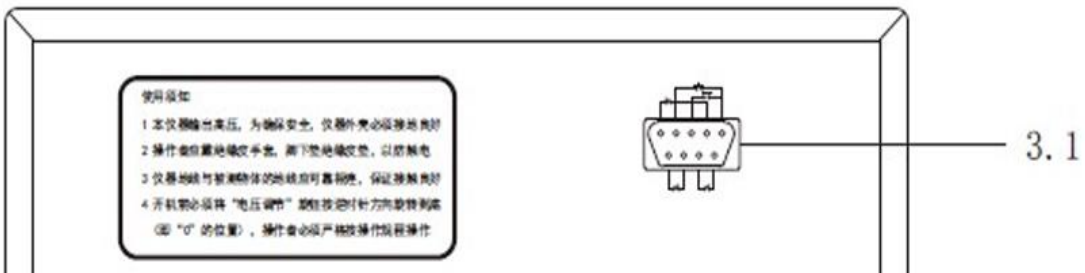
14. "Start" button switch: press this button switch, the instrument enters the test state, and the test light is on.

15. "Reset" button switch: press this button switch, the instrument will return to the state to be tested, and there is no high voltage output at this time.

16. "Voltage regulation" knob: used to adjust the test voltage.

17. Instrument grounding terminal: connect the secondary terminal to one end of the tested part during test.

## 3.2 Description of Model 12 rear faceplate



1. Input power outlet

- Three-core two-phase power supply socket. The power socket is equipped with a fuse; please refer to 1.7. about the selection of the input voltage and the replacement of the fuse.
- Power supply ground wire protecting ground port, this protecting grounding port must be connected to the protective ground reliably. Otherwise, the shell of the tester may be filled with high pressure, causing the occurrence of electric shock.

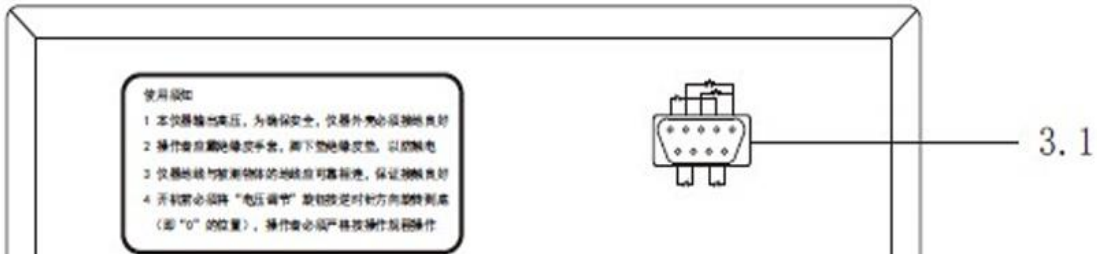
2. Protective grounding terminal

The protective grounding terminal shall be reliably connected to the protective grounding. Otherwise, the shell of the tester may be filled with high voltage, resulting in electric shock.

3. Interface of PLC

About the detailed description of the PLC interface, please refer to the sixth chapter.

## 3.3 Model 13/Model 14 Rear Panel



1. Input power socket

- Three core two-phase power socket There is a fuse inside the power socket; For input voltage selection and fuse replacement, refer to 1.7
- The protective grounding terminal of the power grounding wire must be reliably connected to the protective ground. Otherwise, the shell of the tester may be filled with high voltage, resulting in electric shock.

2. Protective grounding terminal

The protective grounding terminal shall be reliably connected to the protective grounding. Otherwise, the shell of the tester may be filled with high voltage, resulting in electric shock.

3. PLC interface

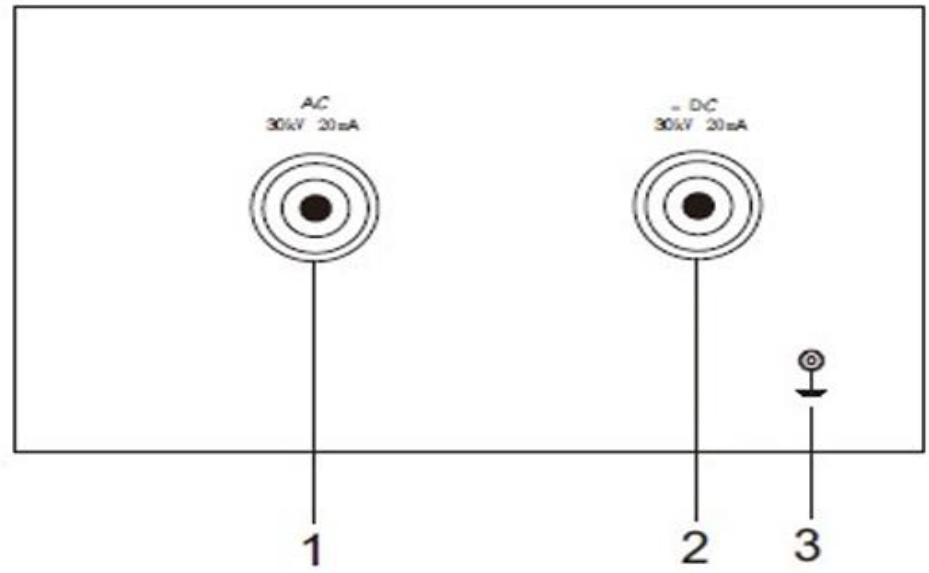
4. X-axis gain adjustment potentiometer

5. X-axis output interface

6. Y-axis output interface

7. Y-axis gain adjustment potentiometer

### 3.4、Model 10 Rear Panel




1. AC voltage output terminal: instrument test voltage output terminal.

2. DC voltage output terminal: instrument test voltage output terminal.

3. Instrument grounding terminal: connect the secondary terminal to one end of the tested part during test.

### 3.5、Model 11 Rear Panel

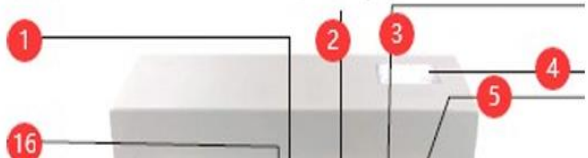
Base liers.
GAO ence.

1. Power socket: AC220V power socket with built-in fuse.

2. Connecting cable socket: socket for connecting cable between instrument and high voltage transformer.

## 3.6、Model 14 Series Front Panel





1. Leakage current display

2. Voltage display

3. Testing

4. High voltage label

5. Super leakage

6. Power grounding lamp

7. High voltage warning light

8. Preset adjustment

9. Start

10. Reset

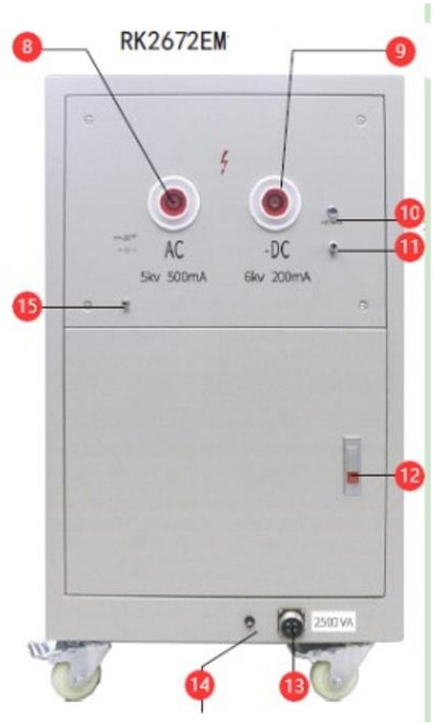
11. Power switch

12. Front door lock

13. Voltage regulation

14. Switch key

## 3.7、Model 14 Series Rear Panel


1. AC output
2. External control terminal
3. Loop end
4. Rear door lock
5. Power input base
6. Safety seat
7. Grounding terminal
8. AC output
9. DC output
10. External control terminal
11. Loop end
12. Rear door lock
13. Power input base
14. Safety seat
15. Grounding terminal

# 4. Summary of instrument function

## 4.1 Summary

This tester is the basic type withstand voltage tester,with excellent cost performance; the voltage regulate the output through the regulator,with high reliability,high durability.Using high brightness LED digital tube to display test time,voltage,current,and can display the breakdown current value and voltage value real-time;the alarm current value can preset arbitrary;the test time display by three digital tube,the minimum resolution of time is 0.1s and the range of preset time is from 0.0s to 999s.It with the interface of signal input and output for PLC,can easily form an integrated test system with PLC.It is able to measure the compression strength of electronic components,household appliances,insulating materials,instruments and meters,electric lighting,electric heating appliance quickly and accurately.

This series of testing instruments according with the following standards:

Standard for household electrical appliances,Standard for information, Medical standard and so on.

## 4.2 Introduction of instrument function

### 4.2.1 Detecting the connection of the input power whether is correct

This series of safety tester all adopt the I type working mode of the shell grounding to ensure the safety of the operator,but when the power circuit is connected to the wrong polarity(the correct connection for the left,right,upper grounding)will cause the risk of shell charged.This series of tester with detection function of power safety,plug in the power supply when tester shutdown,there is the "power supply security" indicator on the front faceplate,if the lamp bright,that the input power is correct,it can use when boot- strap,if the lamp doesn’t bright,that the input power is wrong,please don't boot-strap,please eliminate power failure before use.

### 4.2.2 Timing test function

After setting the timing value(greater than 0),the counter start to the countdown when test.After the countdown value reaches 0, it will stop time and cut off the output voltage automatically.When the test time is setted to "0.0s",the tester will be tested after starting the test continuously until the user press the "REST" key to stop testing.Whether timing testing or continuous testing,the user can press the "REST" button to stop testing and close high voltage output at any time.

### 4.2.3 The interface of remote controland PLC

The series of tests can be equipped with remote control stick,as long as received (CONTROL)port,can realize the machine startup or reset control;and can also connected to the button through the corresponding terminal of the PLC interface on the machine, it can realize the machine startup or reset control.

### 4.2.4 High voltage warning lamp function

This series of safety tester using a bright red LED indicator to ensure the safety of the operator.This indicating lamp isn’t bright when the tester start testing but the output voltage is lower than the setted voltage,the indicating lamp will bright when the output voltage is higher than the setted voltage,even if the tester in stop state,if the the output voltage of high voltage output port is greater than the set voltage the indicator light will be lit,to warn of a high pressure,it should not touch any objects of the H.V output port,to prevent electric shock.

# 5. Technical parameter

## 5.1 Comparison table of type function

Model 01: The maximum output voltage of AC withstand voltage tester is 5kV,The maximum testing current of AC withstand voltage tester is 20mA

Model 02: The maximum output voltage of AC and DC withstand voltage tester is 5kV, The maximum testing AC current is 20mA ,DC current is 10mA

Model 03: The maximum output voltage of AC and DC withstand voltage tester is 10kV,The maximum testing AC current is 20mA ,DC current is 10mA

Model 04: The maximum output voltage of AC withstand voltage tester is 5kV, The maximum testing current of AC withstand voltage tester is 100mA

Model 05: The maximum output voltage of AC and DC withstand voltage tester is 5kV,The maximum testing AC current is 100mA ,DC current is 20mA

Model 09: The maximum output voltage of AC and DC withstand voltage tester is 5kV,The maximum testing AC current is 200mA ,DC current is 20mA

Model 18: The maximum output voltage of AC and DC withstand voltage tester is 10kV,The maximum testing AC current is 50mA ,DC current is 20mA

Model 08: The maximum output voltage of AC and DC withstand voltage tester is 10kV,The maximum testing AC current is 100mA ,DC current is 20mA

Model 19:The maximum output voltage of AC and DC withstand voltage tester is 20kV,The maximum testing AC current is 20mA ,DC current is 10mA

Model 10:The maximum output voltage of AC and DC withstand voltage tester is 30kV,The maximum testing AC/DC current is 20mA.

Model 11:The maximum output voltage of AC and DC withstand voltage tester is 50kV,The maximum testing AC current is 40mA,DC current is 10mA

Model 15:The maximum output voltage of AC withstand voltage tester is 5kV,The maximum testing AC current is 500mA

Model 17:The maximum output voltage of AC withstand voltage tester is 5kV,DC is 6 kV, The maximum testing AC current is 500mA,DC current is 200mA

## 5.2 Technical parameter

### 5.2.1 Technical parameter of Model 01, Model 02, Model 04, model 05, Model 09

| Type / Parameter | | Model 01 | Model 02 | Model 04 | Model 05 | Model 09 |
|---|---|---|---|---|---|---|
| ACW | Output Voltage Range | (0.00~5.00)kv | | | | |
| | Maximum (power) output | 100VA(5.0kV/20mA) | 500VA(5.0kV/100mA) | | 1000VA(5.0kV/200mA) | |
| | Maximum rated current | 20mA | 100mA | | 200mA | |
| | Current File | 2mA,20mA | 2mA,20mA,100mA | | 2mA,20mA,200mA | |
| | Output waveform | Sine wave | | | | |

| Parameter \ Type | | | Model 01 | Model 02 | Model 04 | Model 05 | Model 09 |
|---|---|---|---|---|---|---|---|
| | Output wave form distortion | | ≤5% (No-load or pure resistive load) | | | | |
| | Test time | | 0.0s~999s 0.0=continuous test | | | | |
| DCW | Output voltagerange | | | (0.00~5.00)kV | | (0.00~5.00)kV | |
| | Maximum (power)output | | | 50VA (5.0KV /10mA ) | | 100VA(5.0KV/20mA) | |
| | Maximum ratedcurrent | | | 10mA | | 20mA | |
| | Current file | | | 2mA,10mA | | 2mA,20mA | |
| | Ripple factor | | | ≤5% | | ≤5% | |
| | Test time | | | 0.0s~999s 0.0=continuous test | | 0.0s~999s 0.0=continuous test | |
| V | Range | | (0.00~5.00KV) | | | | |
| | Accuracy | | ±(5%+3 words) | | | | |
| | Resolution | | 10V | | | | |
| | Display value | | Root mean square value | | | | |
| A | | AC | 0.100mA~20.0mA | | 0.100mA~100mA | | 0.100mA~2 |

| Parameter \ Type | | | Model 01 | Model 02 | Model 04 | Model 05 | Model 09 |
|---|---|---|---|---|---|---|---|
| | Measuring range | DC | | | | | 00mA |
| | | | | 0.100mA ~10.0 mA | | 0.100mA~20.0mA | |
| | Resolution | | 2mAfile:1uA,20mA file:10uA,100mA(200mA) file:0.1mA | | | | |
| | Measuring Accuracy | | ±(5%+3 words) | | | | |
| Timer | Range | | 0.0s~999s | | | | |
| | Minimum resolution | | 0.1s | | | | |
| | Accuracy | | ±(1%+50ms) | | | | |
| | Interface of PLC | | Optional | | Optional | | |
| | Remote control interface | | Yes | | | | |
| Exterior dimension | | | 315*285*175mm | | | 440*380*180mm | 430*375*190mm |
| Weight | | | 8.76kg | 9.10kg | 13.72kg | 18.2kg | 24.6kg |

### 5.2.2 Technical parameter of Model 03, Model 06, Model 08

| Type / Parameter | | Model 03 | Model 06 | Model 08 |
|---|---|---|---|---|
| ACW | Output voltage range | (0.00~10.00)kV | | |
| | Maximum (power) output | 200VA(10.0kV/20mA) | 500VA(10.0kV/50mA) | 1000VA(10.0kV/100mA) |
| | Maximum rated current | 20mA | 50mA | 100mA |
| | Current file | 2mA,20mA | 2mA,20mA,50mA | 2mA,20mA, 100mA |
| | Output waveform | Sine wave | | |
| | Output waveform distortion | ≤5%(No-load or pure resistive load) | | |
| | Test Time | 0.0s～999s 0.0=continuous test | | |
| DCW | Output voltage range | (0.00 ～10.0） kV | | |
| | Maximum (power) Output | 100VA(10.0KV/10mA) | 200VA(10.0KV/20m) | |
| | Maximum rated current | 10mA | 20mA | |
| | Current File | 2mA,10mA | 2mA,20mA | |

| Type / Parameter | | | Model 03 | Model 06 | Model 08 |
|---|---|---|---|---|---|
| | Ripple factor | | ≤5% | | |
| | Test Time | | 0.0s～999s 0.0=continuous tes | | |
| Voltmeter | Range | | （0.00～10.0KV） | | |
| | Accuracy | | ±（5%+3 words） | | |
| | Resolution | | 10V | | |
| | Display Value | | Root mean Square value | | |
| Ammeter | Measring range | AC | 0.100mA ~20.0mA | 0.100mA ～50mA | 0.100mA ～50mA |
| | | DC | 0.100mA ～ 10.0mA | 0.100mA ～20.0mA | |
| | Resolution | | 2mA file:1uA, 20mA file:10uA,50mA(100mA) file:0.1mA | | |
| | Measuring Accuracy | | ±（5%+3 words） | | |
| Timer | Range | | 0.0s～999s | | |
| | Minimum Resolution | | 0.1s | | |
| | Accuracy | | ±（1%+50ms） | | |
| | Interface of PLC | | Optional | | |
| | Remote Control | | Yes | | |

| Type / Parameter | | Model 03 | Model 06 | Model 08 |
|---|---|---|---|---|
| | interface | | | |
| Exterior dimension | | 380*305*195mm | 443*390*220mm | |
| Weight | | 14.76kg | 18.2kg | 25kg |

### 5.2.3 Technical parameter of Model 07/ Model 10/ Model 11

| Type / Parameter | | Model 07/ Model 10/ Model 11 |
|---|---|---|
| ACW | Output voltage range | (0.00~20.0) / (0.00~30.0) / (0.00~50.0)kV |
| | Maximum (power) output | 00VA(20. 00kV /20mA )/ 600VA(30.00KV/20mA) / 2000VA(50.00kv/40mA) |
| | Maximum rated current | 20mA (RK2674C:40mA) |
| | Current file | 2mA,20mA, (RK2674C : 2mA,20mA,40mA) |
| | Output waveform | Sine wave |
| | Output waveform distortion | ≤5%(No-load or pure resistive load) |
| | Test time | 0.0s~999s 0.0=continuous test / 0.0s -999s / 0.0s-99s |
| DCW | Output voltage range | (0.00~20.0) / (0.00~30.0) / (0.00~50.0) kV |
| | Maximum (power)output | 200VA(20.0KV/10mA) / 600VA(30.0KV/20mA) / |

| Parameter \ Type | | | Model 07/ Model 10/ Model 11 |
|---|---|---|---|
| | | | 500VA(50.0KV/10mA) |
| | Maximum rated current | | 10mA / 20mA / 10mA |
| | Current file | | 2mA,10mA / 2mA,20mA / 2mA,10mA |
| | Ripple factor | | ≤5% |
| | Test time | | 0.0s~999s 0.0=continuous test / 0.0s-999s / 0.0s -99s |
| Voltmeter | Range | | (0.00~20.0KV) / (0.00~30.0KV) / (0.00~50.0KV) |
| | Accuracy | | ±(5%+3 words) |
| | Resolution | | 10V/ 100V / 100V |
| | Display value | | Root mean square value |
| Ammeter | Measuring Range | AC | 0.100mA~2mA , 2mA-20mA,(RK2674C: 20mA-40mA) |
| | | DC | 0.100mA~20mA,2mA-10mA(RK2674B/RK2674C: 0.100mA-20mA) |
| | Resolution | | 2mA file:1uA 20mA file:10uA (RK2674C 40mA: 100uA) |
| | Measuring Accuracy | | ±(5%+3 words) |
| Timer | Range | | 0.0s~999s / 0.0s~999s / 0.0s~99s |
| | Minimum resolution | | 0.1s / 1s / 1s |
| | Accuracy | | ±(1%+50ms) / ±(1%+50ms) / ±(1%+1s) |
| | Interface to PLC | | Optional / None / None |

| Parameter \ Type | | Model 07/ Model 10/ Model 11 |
|---|---|---|
| | Remote control interface | Optional / None / None |
| Exterior dimension | | 450 *515*230mm / 540*700*1120mm / 850 * 480*720mm |
| Weight | | 34.9Kg/ 55Kg / 65Kg |

### 5.2.4 Model 15 /model 16 Technical Parameters

| Test Voltage (AC) | Model 15 | Model 16 |
|---|---|---|
| Leakage Current (AC) | 0-5KV (±5% + 3 words ) | |
| Test Voltage (DC) | 0-2/20/200/500mA ( ±5% + 3 words) | |
| Leakage Current (DC) | / | 0-6kv(±5% + 3 words) |
| timing | / | 0-2/20/200mA(±5% + 3 words) |
| Output power (Pmax) | 0-999s manual control | |
| Transformer capacity | 2500VA | |
| control | 3000VA | |
| Alarm mode | External control interface | |
| Voltage regulation mode | Audible and visual alarm | |

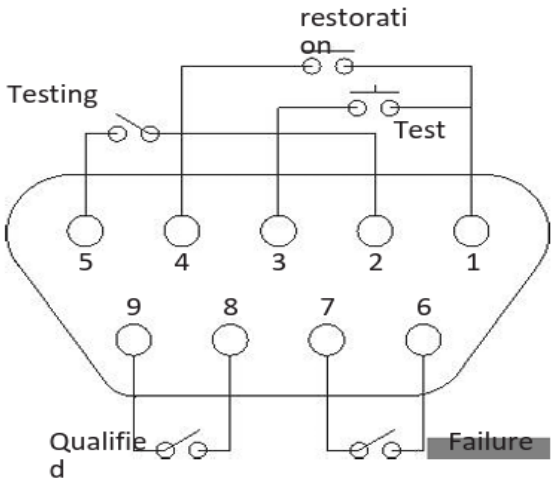
| | | |
|---|---|---|
| Preset current regulation | The output voltage is continuously adjustable | |
| Interface | Preset potentiometer adjustment | |
| Power Supply | Optional PLC interface | |
| Machine Size (L*D*H) | AC 220V ±10% 50Hz / 60Hz | |
| weight | Cabinet type 540 * 700 * 1120mm | |
| enclosure | 79kg | 85kg |
| Test voltage (AC) | Rk26103 grounding wire, rk8h + high voltage rod, rk26101 (cross) highvoltage test wire, rk0008 power wire, rk0009 power adapter box | |

## 6. Interface of PLC

Remote terminal on the back board of the tester, it can be connected to the remote operation. Terminal for standard 9PIND type terminal block, divided into input signal terminal and output connection terminal.

### 6.1 Input, output signal of PLC interface

+




Note: Serial line color of optional accessories 9PIN corresponds to the serial number of DB9 as follows:

1. Red
2. Orange
3. Green
4. Yellow
5. Black
6. Purple
7. White
8. Grey
9. Blue

Empty: Brown

## 6.2 Wiring

TEST control:The control switch is connected between the PIN1 and the PIN3.

RESET control:The control switch is connected between the PIN1 and the PIN4.

Testing signal output:Between PIN2 and PIN5. Test qualified signal: Between PIN8 and PIN9. Test failure signal:Between PIN6 and PIN7.

## 6.3 Connection instructions of remote control input signal and output signal

The tester is equipped with a remote control point,which can be operated by the external remote control device of TEST and RESET functions.These contacts provide a power supply with a control function,the "momentary contact" switch must be used as a controller.

Special note: It can not be connected to any other power supply absolutely,if you input the other power will cause damage to the internal circuit of the instrument.

The output signal provides relay contact output.

## 6.4 Electrical characteristics of PLC interface

Output contact without voltage,the maximum voltage supported:12V AC/DC the maximum current:100mA.

The input terminal is connected to the non-voltage control contact,null terminal voltage:

＜10VDC.

# 7. Setting of instrument parameter

## 7.1 Presetting of test time

### 7.1.1 The preset conditions of test time

The tester must be in a reset state,that is the tester can't be in a state of test and alarm.

### 7.1.2 Preset method

#### 7.1.2.1 Time increases

In the front faceplate has a UP button,click on this button,the time preset value plus 1;if you hold this key,preset time continuous add 1,when added to a certain value,preset time continuous add 10; until 999s.

#### 7.1.2.2 Time decreases

In the front faceplate has a DOWN button,click on this button,the time preset value minus 1;if you hold this key,preset time continuous minus 1,when reduced to a certain value,preset time continuous minus 10;until 0.0s.

## 7.2 Presetting of AC current alarm value

### 7.2.1 The preset conditions of AC current alarm value

The AC/DC button on the front faceplate is opened, that is, the tester is in a AC state.Note: single AC tester without this step.

### 7.2.2 Preset method

Press the "test/preset" button,the current display window shows the current preset value;use the debug driver clockwise to adjust preset adjust potentiometer of current,preset current increased;adjust counterclockwise,preset current is reduced;set the alarm value of current to the required value of the test,pop up the "test / preset" button.

### 7.3 Presetting of DC current alarm value(Single AC withstand voltage tester without this function)

#### 7.3.1 The preset conditions of DC current alarm value

The AC/DC button on the front faceplate is opened, that is, the tester is in a DC state.

#### 7.3.2 Preset method

Press the "test/preset" button,the current display window shows the current preset value;use the debug driver clockwise to adjust preset adjust potentiometer of current,preset current increased;adjust counterclockwise,preset current is reduced;set the alarm value of current to the required value of the test,pop up the "test / preset" button.

### 7.4 Adjustment of output voltage

When the voltage regulator knob is in the 0 place,even if start the tester,it has no high voltage output;after starting the tester, adjust the output voltage adjusting knob clockwise,the output voltage increased,and reach the voltage required for testing.

## 8. Instrument test function

### 8.1 Preparation before testing

#### 8.1.1 Anti electric shock

Please wear insulated gloves,put the foot pad and then engaged in the related operation of high voltage.Note:the extent of insulated gloves,insulated pad is two times as the maximum output voltage of the operating tester at least.

### 8.1.2 Setting the current alarm value and test time

The setting method please refer to the seventh chapter.

### 8.1.3 Connecting tester with the test objects

Please confirm before connecting the tester with the tested objects;

1. Tester is in shutdown or reset state;

2. High pressure indicator lamp doesn't light;

3. The voltage indicative window indicates the voltage is 0 or 0.01;

The current test port of the tester is connected with the tested objects at first,and then connect the high-voltage wire and the test objects.

## 8.2 Testing method

### 8.2.1 Manual test

The test time is setted to 0,the tester doesn't judge the test time,the tester is in a state of continuous testing.

Press "START" key,tester start to test,test lamp will lights,adjust the output voltage regulating knob to reach the test voltage value required.After the testing,press the "REST" key to stop the testing.During the test,if the test current is higher than the preset value, the tester will alarm.At this time,press the "REST" button that can eliminate the alarm.Replace the test objects,that can continue to test.

### 8.2.2 Automatic test

The test time don't setted to 0;press "START" button,tester start to test,the test lamp will light,timer countdown,adjust the output voltage regulating knob to reach the voltage test value required.During the test,if the test current is higher than the preset value,the tester will alarm.At

this time,press the "REST" button that can eliminate the alarm.If the timer to 0,tester no alarm,that is qualified for tested.

Note: when testing by use of the DC output voltage,the replacement of the test object,it must be sure to ensure that the measurement circuit doesn't have the power.

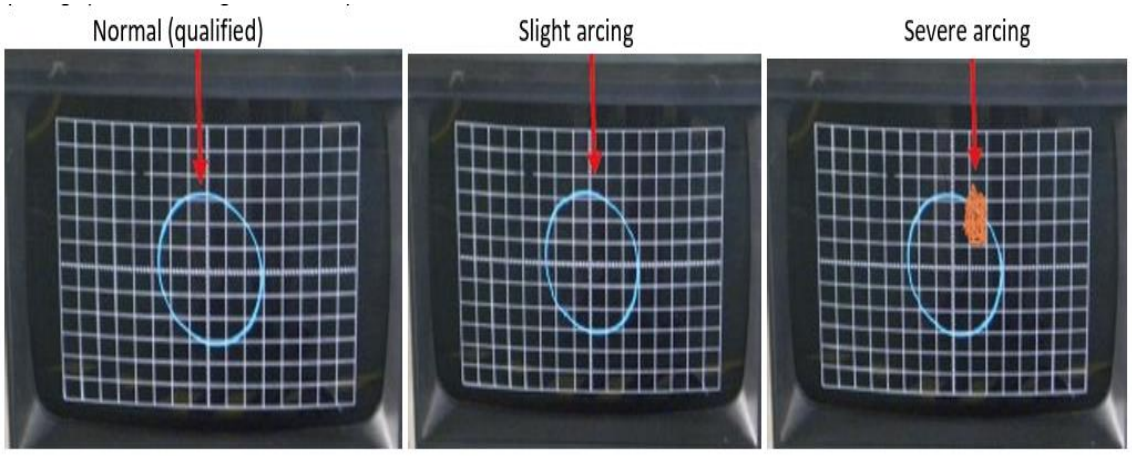
### 8.3 RK2670YM RK2672YM arc (flashover) detection

(1) Connect the x-axis output socket (BNC socket) of the voltage withstand meter with the x-axis input socket of the oscilloscope with the bnc-bng connecting line.

(2) Connect the y-axis output socket (BNC socket) of the voltage withstand meter with the y-axis input socket of the oscilloscope with the bnc-bng connecting line.

(3) Set the x-axis and Y-axis of the oscilloscope to 0.2v/grid respectively.

(4) Connect the power supply of voltage withstand meter and oscilloscope, and adjust the oscilloscope.




Figures 1 Figures 2 Figures 3

+

(5) Adjust the x-axis gain adjustment potentiometer and y-axis gain adjustment potentiometer of the withstand voltage instrument and the x-axis and Y-axis of the oscilloscope respectively, so that the oscilloscope displays a smooth and stable ring (or elliptical ring), i.e. Lishayu figure.

(6) Connect and test the tested object according to Article 1, 2, 3 and 4.

(7) During the test, if the Lissajous pattern (ring) remains smooth and stable, the tested electrical equipment has no "flashover" and "arcing" (as shown in Figure 1).

(8) During the test, if burrs or jitters occur at the edge (ring) of Lissajous figure, the tested electrical equipment has "flashover" and "arc pulling" (as shown in figures 2 and 3)

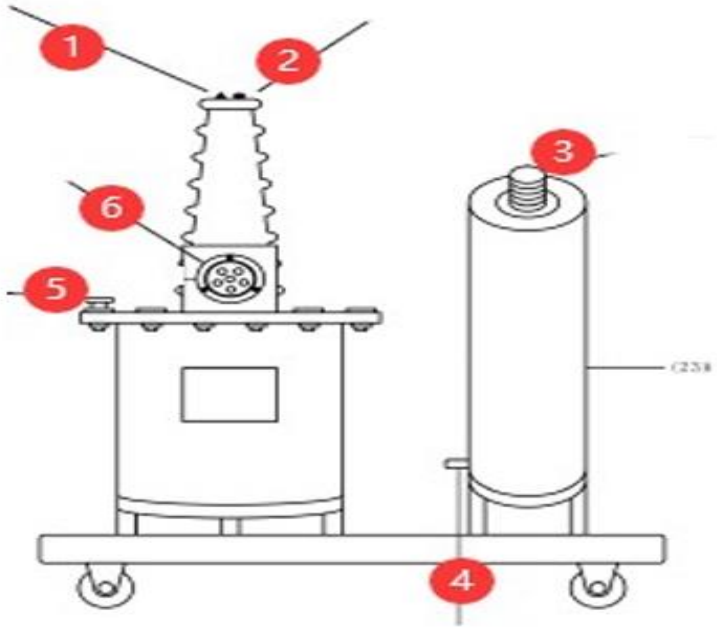
### 8.4 RK2674C Test Method

Schematic diagram of high voltage Transformer

1. High voltage output end, connected to the tested part during test

2. Short circuit bar for AC test, inserted during AC test and taken out during DC

3. During the true current test of the high-voltage terminal of the high-voltage capacitor, connect the output terminal of the high-voltage transformer

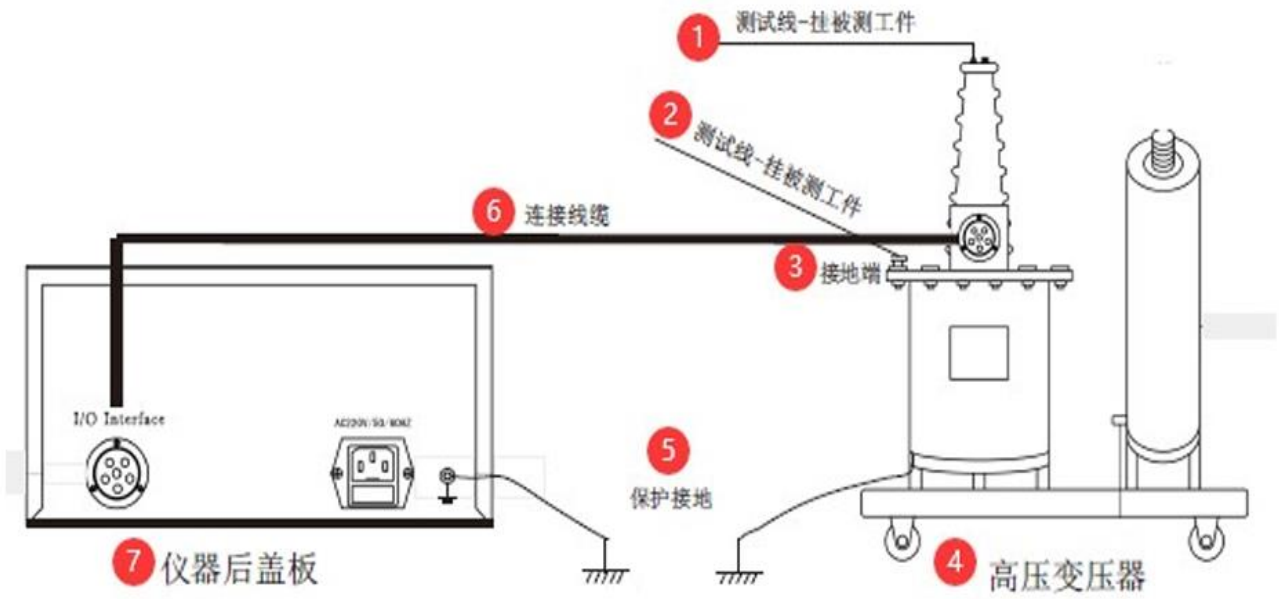



4. Socket for connecting cable between high voltage transformer and instrument,

5. The grounding terminal of the high-voltage transformer is connected with the right grounding terminal of the high-voltage electricity. During the test, connect the tested object

6. The grounding terminal of the high-voltage capacitor is connected with the high-voltage tail of the high-voltage transformer+

Ac Test connection diagram




1. The tested workpiece is hung on the test line

2. Test line - hang the tested workpiece

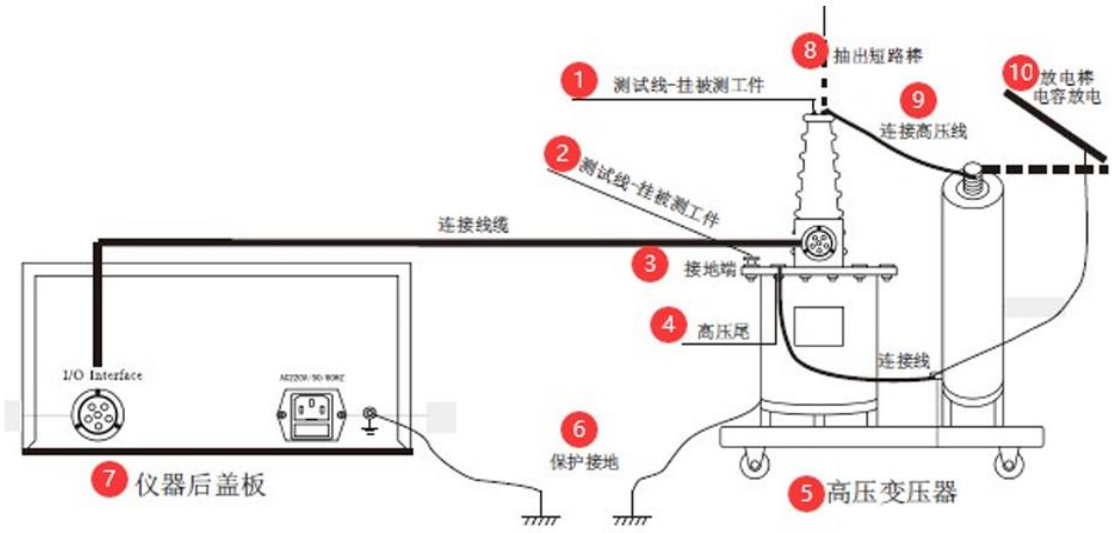
3. Grounding terminal

4. High voltage transformer

5. Protective grounding

6. Connecting cable

7. Instrument rear cover plate




1. Test line - hanging workpiece
2. Test line - hanging workpiece
3. Grounding terminal
4. High pressure tail
5. High voltage transformer
6. Protective grounding
7. Instrument rear cover plate
8. Pull out the short-circuit bar
9. Connect the high voltage line
10. Discharge rod capacitance discharge

### 8.4.1 precautions before use of RK2674C

The following precautions shall be carefully read before using rk2674c series withstand voltage tester:

(1) Three-hole power socket must be used, and the grounding must be good.

(2) Instrument grounding terminal, high voltage transformer shell and public ground wire must be well grounded.

(3) The distance between the instrument console and the high-voltage transformer shall be more than 2m to ensure safety.

(4) The trolley handle of high voltage transformer must be placed flat before testing. That is, step on the horizontal bar at the lower part of the handle and lay the handle flat to the outside.

(5) The operator shall wear insulating gloves and insulating pads under his feet

(6) Turn the "voltage regulation" knob counterclockwise to the end before turning on the instrument power.

(7) Before presetting various functions, the instrument shall be in the "reset" state.

(8) It is forbidden to contact the tested part and test wire under the test state.+

(9) Do not artificially short-circuit the output high-voltage end with the casing or ground wire to avoid damaging the instrument

(10) In case of accident, the power supply shall be cut off immediately.

(11) When the indicator light or alarm fails, it shall be repaired immediately.

(12) Due to the leakage current of the step-up transformer, the ammeter will indicate during no-load step-up. If accurate test is required,

Please write down the current value at no-load test voltage and add this value when setting the leakage current value. Note that the tested part shall be placed on the insulated worktable and away from the front panel.

The high-voltage area around the high-voltage transformer shall not be accessed or approached during the test.

### 8.4.2 operation method of RK2674C

(1) Use the 6-core aviation plug of the connecting cable to connect the host of the voltage withstand instrument and the high- voltage transformer respectively.

(2) Power supply: make sure the "voltage regulation" knob is set to "0", and then turn on the power switch

(3) Determine the AC test: set the "AC / DC" switch to the "AC" position.

(4) Set the "leakage current" value: press the switch "8" to adjust the "leakage current preset" potentiometer "7" Preset the leakage current to the desired value.

(5) Connect the tested part: connect the test line with the tested part according to the needs of the tested part.

(6) "Timing test": set the timing switch "11" to the "timing" position, adjust the dial switch of the timer, and set the required timing time,

Then press the "start" switch and adjust the "voltage regulation" knob to make the output voltage reach the required value.

(7) "Manual test": set the timing switch "11" to the "manual" position and press the "start" switch.

(8) During the test, if the detected "leakage current" value exceeds the set "leakage current" preset value, The instrument will automatically alarm and cut off the output voltage. At this time, just press the "reset" switch, and the instrument will return to the state to be tested.

(9) If the detected "leakage current" does not exceed the set value, the instrument will return to the state to be tested after the timing time expires or the "reset" switch is pressed.

(10) DC test: set the "AC / DC" switch to the "DC" position.

(11) When confirming that the voltage withstand meter is in the "reset" state, the test lamp goes out and the voltmeter indicates "0", connect the ground wire of the discharge rod to the high-voltage transformer. The discharge end is connected with the high-voltage output end of the high-voltage transformer.

(12) Unscrew the AC test short-circuit rod on the high-voltage output end of the high-voltage transformer and place it in a clean and dry place,

Insert the connecting wire on the high-voltage capacitor into the plug at the ground end of the high-voltage capacitor, remove it and insert it into the hole of the short-circuit discharge rod, and then remove the discharge rod from the high-voltage output end of the high-voltage transformer.

(13) Then test according to (4) ~ (9)

(14) After the test, in the "reset" state, put the discharge end on the high-voltage output end of the high-voltage transformer for more than 5 minutes. After full discharge,

To remove the tested object.

Note: do not remove the wiring of the tested object without discharging, which will cause electric shock!