

Dear Client

Thank you for Purchasing our **HT2533 Pointer Insulation Resistance Tester**. Please read the manual in detail prior to first use, which will help you use the equipment skillfully.



Our aim is to improve and perfect the company's products continually, so there may be slight differences between your purchase equipment and its instruction manual. You can find the changes in the appendix. Sorry for the inconvenience. If you have further questions, welcome to contact with our service department.



The input/output terminals and the test column may bring voltage, when you plug/draw the test wire or power outlet, they will cause electric spark.

PLEASE CAUTION RISK OF ELECTRICAL SHOCK!

Company Address:

- ◆ T4, No. 41, High-tech 2 Road, East Lake High-tech Development Zone, Wuhan
- ◆ Sales Hotline: 86-27- 87457960
- ◆ After Service Hotline: 86-27- 87459656
- ◆ Fax: 86-27- 87803129
- ◆ E-mail: qiao@hvtest.cc
- ◆ Website: www.hvtest.cc

◆ **SERIOUS COMMITMENT**

All products of our company carry one year limited warranty from the date of shipment. If any such product proves defective during this warranty period we will maintain it for free. Meanwhile we implement lifetime service. Except otherwise agreed by contract.

◆ **SAFETY REQUIREMENTS**

Please read the following safety precautions carefully to avoid body injury and prevent the product or other relevant subassembly to damage. In order to avoid possible danger, this product can only be used within the prescribed scope.

Only qualified technician can carry out maintenance or repair work.

--To avoid fire and personal injury:

Use Proper Power Cord

Only use the power wire supplied by the product or meet the specification of this produce.

Connect and Disconnect Correctly

When the test wire is connected to the live terminal, please do not connect or disconnect the test wire.

Grounding

The product is grounded through the power wire; besides, the ground pole of the shell must be grounded. To prevent electric shock, the grounding conductor must be connected to the ground.

Make sure the product has been grounded correctly before connecting with the input/output port.

Pay Attention to the Ratings of All Terminals

To prevent the fire hazard or electric shock, please be care of all ratings and labels/marks of this product. Before connecting, please read the instruction manual to acquire information about the ratings.

Do Not Operate without Covers

Do not operate this product when covers or panels removed.

Use Proper Fuse

Only use the fuse with type and rating specified for the product.

Avoid Touching Bare Circuit and Charged Metal

Do not touch the bare connection points and parts of energized equipment.

Do Not Operate with Suspicious Failures

If you encounter operating failure, do not continue. Please contact with our maintenance staff.

Do Not Operate in Wet/Damp Conditions.

Do Not Operate in Explosive Atmospheres.

Ensure Product Surfaces Clean and Dry.

— **Security Terms**

Warning: indicates that death or severe personal injury may result if proper precautions are not taken

Caution: indicates that property damage may result if proper precautions are not taken.

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◆ Overview

With the rapid development of China's power industry, electrical equipment preventive experiment is an important part in protecting the safety operation of power system and maintenance. Insulation diagnosis is an important method to detect insulation defects or failure. Pointer insulation resistance tester is the special instrument to measure insulation resistance. JJG662-89 "insulation resistance meter (megger)" approved in May 1990 requires that insulation resistance meter is one of compulsory verification instruments. Nowadays the development trend of electrical equipment (such as transformers, generators, etc.) is that high capacity, high voltage, diversified structure and better seal. So insulation resistance meter (pointer) itself must have the characteristics such as large capacity, strong anti-interference ability, diversified measurement indexes, accurate measurement results, easy and fast measurement process, easy to carry and so on. The instrument produced by our company is equipped with ultra-thin taut suspension meter. It is an ideal tester to measure insulation resistance of these equipments such as transformer, instrument transformer, generator, HV motor, power capacitors, power cables, arrester, etc.

◆ Product Introduction

1. Performance characteristics

1) The instrument is used to do insulation test: when the voltage is 500V, the maximum tested value will up to 20GΩ; when the voltage is 1000V, the value will up to 40GΩ.

2) When rated output voltage of HT2533 tester continuously load, the resistance can be as low as 4MΩ/8MΩ/20M, which makes the instrument can accurately measure lower insulation resistance.

3) Automatic conversion range, dual-scale display, and LED display corresponding color, it is easy to read.

4) Equipped with ABS plastic casing using, the instrument has strong anti-interference. Portable design, compact structure, and attractive appearance.

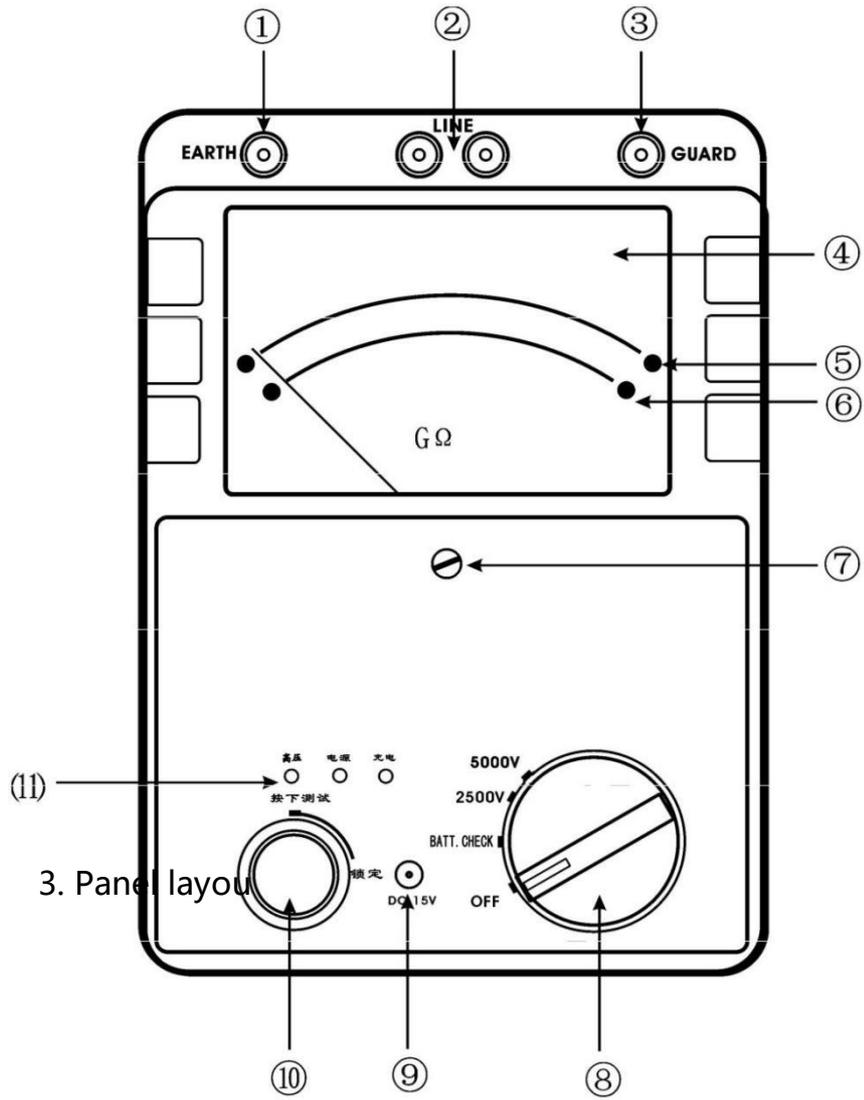
5) The application of ultra-thin taut suspension meter to the instrument makes it have strong shock resistance capability.

6) AC/DC dual-use, built-in rechargeable battery and smart charging module, the whole output power is high (C type).

7) It is an ideal insulation resistance tester to measure these equipments such as transformer, instrument transformer, generator, high voltage motor, power capacitor, power cable, arrester, etc.

2. Technique specifications

Type no.	HT2533			
The output voltage	500V DC	1000V DC	2500V DC	
precision	The temperature	23°C±5°C		
	Insulation resistance	1MΩ~20GΩ±5%	2MΩ~40GΩ±5%	5MΩ~100GΩ±5%
	The output voltage	4MΩ~20GΩ0~+10%	8MΩ~40GΩ0~+10%	20MΩ~100GΩ0~+10%
High voltage short circuit current	≥1mA			
Working power supply	8 AA batteries			
Operating temperature and humidity	-10°C~40°C, Maximum relative humidity 85%			
Store temperature and humidity	-20°C~60°C, Maximum relative humidity 90%			
Insulation performance	Circuit between the shell and voltage of 1000 v DC, maximum 2000 m Ω			
Compression performance	When the voltage between the circuit and the housing is 2500V AC, bear for 1 minute			
size	230×190×90mm ³ (L×W×H)			
The weight of the	2kg			



3. Panel layout

The serial number	The name says	Can work
1	To end (EARTH)	Connect to the housing or ground of the subject device
2	Line side (LINE)	The high voltage output port is connected to the high voltage conductor of the tested equipment
3	Block end (GUARD)	High pressure protection ring connected to the test equipment to eliminate surface leakage Effect of current
4	Double row calibration lines	The top gear is green: 500V/0. 2G Ω ~20G Ω , 1000V/0. 4G Ω ~40G Ω , 2500V/1 G Ω ~100 G Ω . The bottom is red: 500V/0~400M Ω , 1000V/0~800 M Ω , 2500V/0~2000 M Ω
5	Green light emitting diode	Read the green (up) scale when lighting
6	Red led	Read the red (down) scale when glowing
7	Mechanical zero	Adjust the position of the mechanical pointer to the infinity scale
8	The band switch	Can realize the output voltage selection, battery detection, power switch The function such as
9	Test key	Press down to start the test, press down if clockwise rotation can be locked This button
10	Status display lamp	Can display high voltage output, power supply working state, charging state

◆ Instruction Method

1. Preparation work

Note: When you first use the meter, please charge it for 6 hours. Otherwise the meter does not work. Details refer to "battery charge" relevant content.

1) Before test, please disconnect measured equipment power supply and remove all external connections. Let the measured target ground and discharge 1 minute, the measured target with larger capacitance should discharge at least 2min in order to avoid electric shock and impact to the measurement results.

2) Check whether the pointer on ∞ scale, if not you need to adjust the mechanical zero screw ⑦.

Note: When adjust the mechanical zero screw, you can clockwise/ counter-clockwise adjust semi-circle.

3) Use a clean dry cloth to wipe off the surface dirt of measured object, if necessary, you can wash the casing with gasoline to eliminate the surface leakage currents to affect test results.

4) Connect HV test lead (red terminal) into line terminal ② , the other terminal connect to or hang on HV conductor of measured equipment; Connect green HV test lead to guard terminal ③, the other terminal connect to HV protection rings of measured equipment to eliminate the effect of surface leakage currents (details see "shield terminal (GUARD) instruction" related content). Connect black test lead to earth terminal (EARTH) ①, the other terminal connect to the shell of measured device or the ground.

Note: As wiring, pay special attention to the connections of LINE (red) and GUARD (green), do not let them short circuit.

2. Startup test

1) Adjust selection rotation to connect power supply, if power supply is normal, the indicator light will become green; if not, it will become red or yellow.

2) Adjust selection rotation to voltage gear, the instrument will automatically connect power supply and test the battery capacity

for 3 seconds. When the pointer stop in BATT.GOOD area, the battery is good, otherwise you need replace the battery.

3) Rotate selection rotation to the desired test voltage. (500V/1000V/2500V).

4) Press or lock "test" key ⑩ to start the test. At this time HV output indicator light above "test" key will glow and built-in buzzer will sound per 1 second interval which indicating LINE terminal ② having high-voltage output.

Warning: During test, it is forbidden to touch the front exposed part of probe to avoid the risk of electric shock.

5) When the green LED glows, read insulation resistance value on the upper scale (high range); red LED glows, read value on the lower scale. After test, release "test" key ⑩, the instrument stop test, wait for a few seconds, and do not immediately remove the probe from test circuit. At this time the instrument will automatically release the remaining charge in the test circuit.

Warning: When test is completed or repeatedly do tests, measured target must be shorted, and then be grounded to discharge. (Meters also have built-in auto-discharge function, but need a long time)

6) If you need consecutively do the second test, please refer to the above 3-5 items.

Note: If left unused for a long period, please remove the batteries from the compartment to prevent battery leakage damage the instrument.

3. Instruction of guard terminal

When measuring insulation resistance of power cables or having external electromagnetic interference, in order to eliminate the effect of surface leakage current and external electromagnetic interference to the measurement results accuracy, in actual measurement process, using guard terminal of the instrument to eliminate leakage current and shielding interference.

For two or more measured objects such as arresters, coupling capacitor, please wiring as shown in Figure 5. Connect guard terminal to a flange of measured arrester, so that the interference current caused by high voltage lines is shielded by guard terminal, thus prevent interference on the main current. Connect the top flange of arrester to earth terminal, then let the instrument earth, so that interfere current can directly be connected to the earth. But the latter cannot completely eliminated interference.

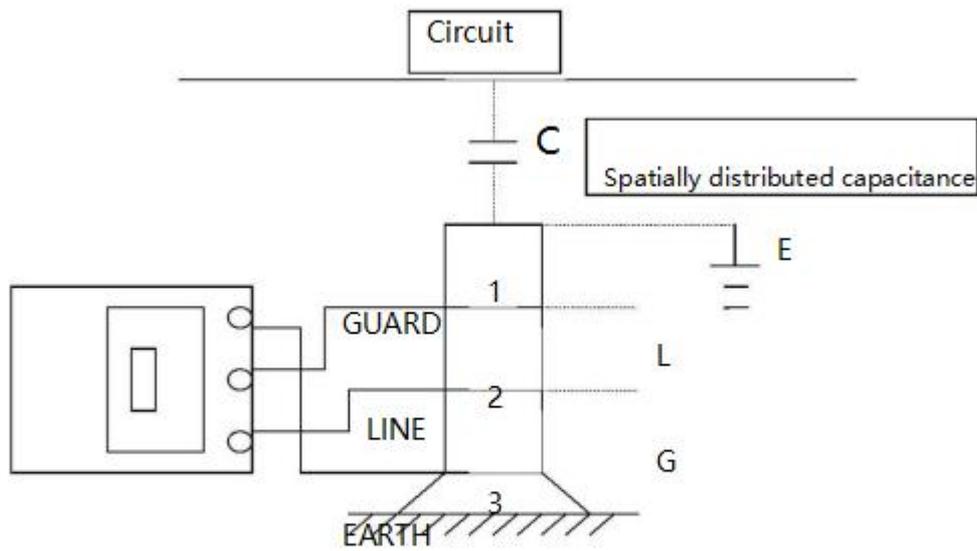


Fig.5 Use guard terminal to shield interfere

◆ Packing List

1. Instrument host	1
2. Test lead	1
3. The instruction manual	1
4. Certificate	1

