Huazheng®

HZZGF-Z Series Intelligent DC High Voltage Generator

Huazheng Electric Manufacturing (Baoding) Co., Ltd

DC High Voltage Generator

Operation Precautions!

I.Before boosting: adjust the boost knob to "0", and then carry out the boosting experiment.

II.At the end: the voltage should be reduced to 0 first,, do not turn off the power, discharge the test object with a discharge rod, after the discharge is completed, turn off the power to end the experiment.

III.Note: When discharging, the discharge rod cannot discharge the (microampere case), which will burn the microampere. The test object should be discharged directly!

IV.When doing capacitive test (such as cable test), a current limiting resistor must be installed at the output end of the pressure doubler.

V.When performing the boosting experiment without the tested product, the output screw at the top of the doubler should be tightened with an insulating cap, and the microammeter or high-voltage line cannot be used for the boosting experiment without the tested product.

Contents

I.Scope of application

HZZGF-Z series intelligent DC high-voltage generators are mainly used for DC withstand voltage tests on high-voltage electrical equipment such as zinc oxide arresters, power cables, transformers, circuit breakers, generators, etc. or DC leakage current test.

Using AIPWM technology, the inaccurate linearity of PWM technology has been adjusted, so that the accuracy of the instrument has been greatly improved. And use AI technology to set overvoltage protection and overcurrent protection to replace the problem that the digital dial switch can only set the voltage value, but cannot set the current value and voltage drift, and add AI automatic zinc oxide arrester measurement, cable segmentation Withstand voltage test, automatic withstand voltage test function, and can directly print the test report and save the test report, retain the manual mode, add the function of printing under any voltage and current, and the function of segment timing. The instrument has added perpetual calendar and time functions, and the experimental report has time and date.

II.Technical features

Fully automatic MOA test, complete display of the process of pressure rise and fall, pressure holding time.

Automatic cable segment withstand voltage test, complete display of the boosting process and pressure holding time.

Automatic withstand voltage test, complete display of the process of lifting and lowering, and the holding time.

Adopt AIPWM technology to adjust the inaccurate linearity of PWM, and the precision has been greatly improved. Ripple coefficient≤0.2%.

With segment timing, and printing function under arbitrary voltage and current.

The instrument has added perpetual calendar and time functions, and the experimental report has time and date.

III.Technical specifications and working methods

1.Voltage output 0-120kV, accuracy ±1% ±1 word

2.Current output 0-2000uA, accuracy ±1% ±1 word

3.With automatic zinc oxide arrester test, cable segment withstand voltage, automatic withstand voltage function

4.It has the function of manually adjusting the voltage output.

5.Working method: intermittent use: rated load 30 minutes, 1.1 times rated voltage use: 10 minutes

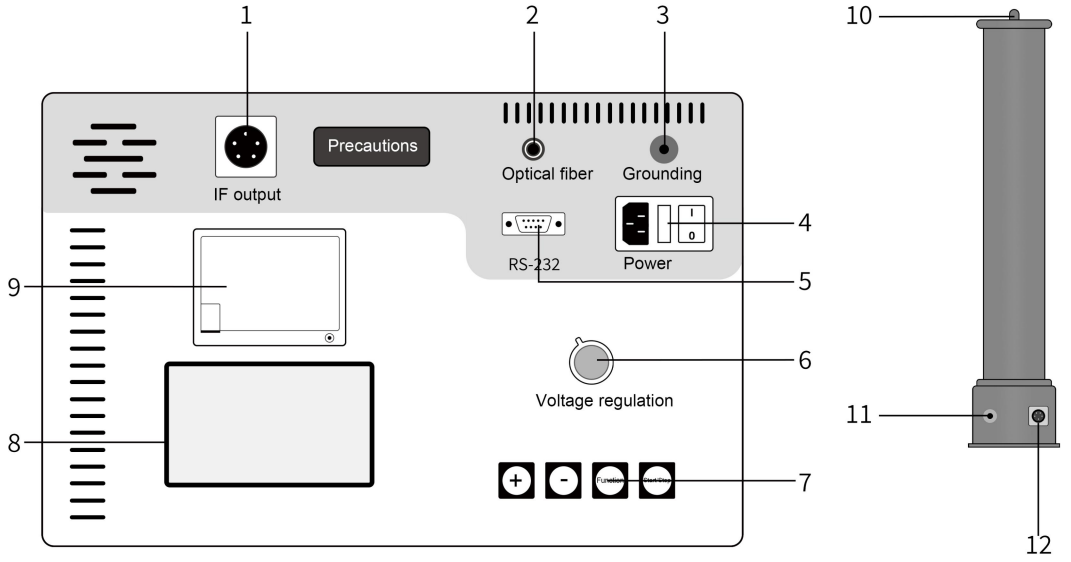
6.Working environment: Temperature: -10℃～+40℃

7.Relative humidity: no more than 85% when the room temperature is 25°C (no condensation)

8.Altitude: below 1500 meters

IV.Instructions for use

（1）Panel Description



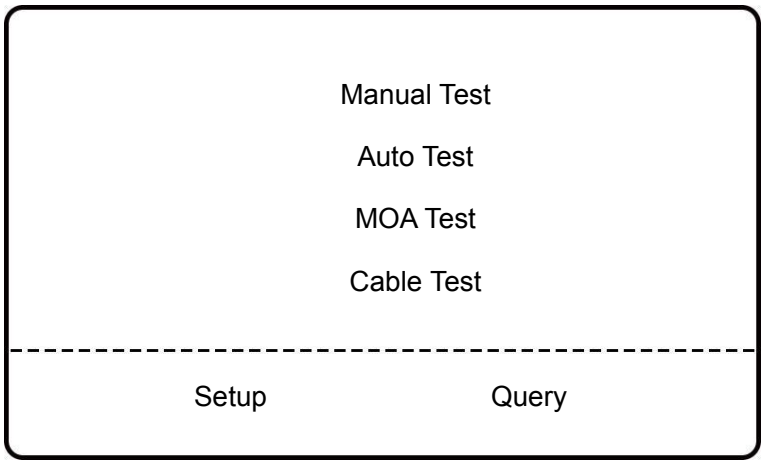
1.IF output	2.Optical fiber	3.Measurement grounding
4.Power	5.RS-232	6.Voltage regulation
7.Button	8.LCD Screen	9.Printer
10.Microammeter interface	11.Pressure multiplier grounding interface	12.IF input of pressure doubler

（2）Operation Instructions

Turn on the power switch, the screen displays the boot screen as shown in below:

·Startup screen

Then the function selection interface appears



Press the "Function" key in this interface to move the cursor to each test item. Then press the "Start and Stop" button to enter the corresponding test item.

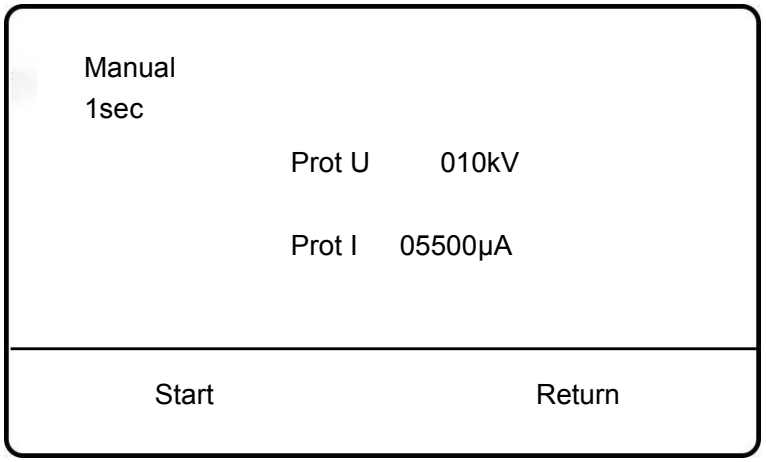
Enter "Query", you can view the stored test record data, a total of 255 records can be stored

Enter the "Settings" date and time adjustment, you can adjust the date and time.

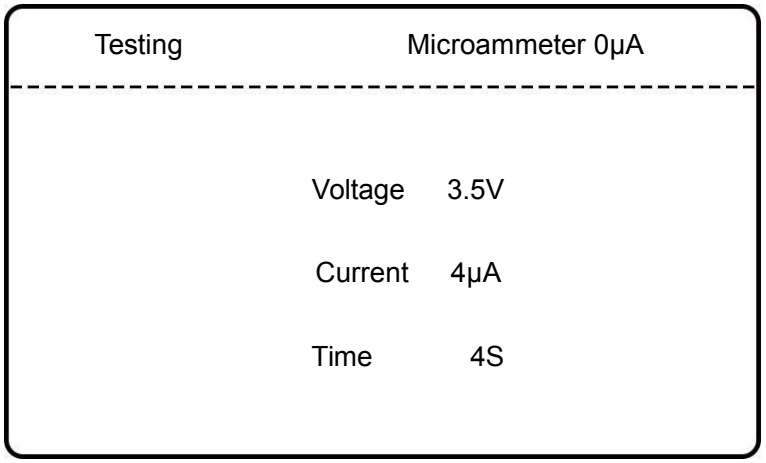
DC high voltage generator test：

1.Manual Test

In the function selection interface, select the manual test and press the start and stop key to enter the manual test setting interface.



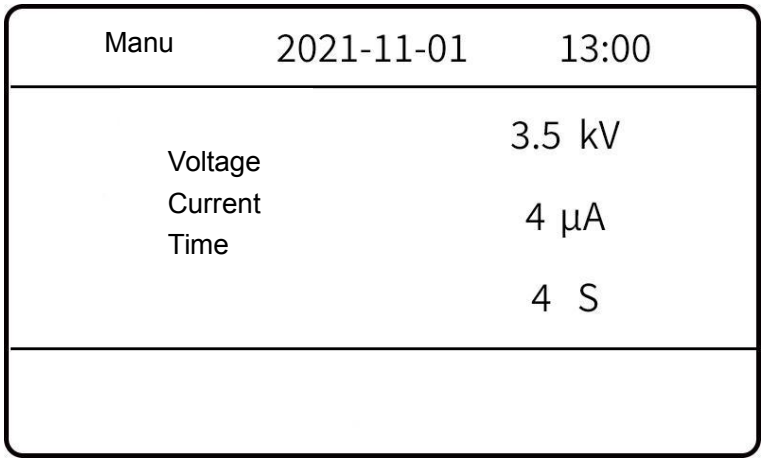
At this time, press the function key to move the cursor to the corresponding parameter to modify the value through "+" or "-" or "Start and Stop". After modifying the parameters, move the cursor to "Start" and press "Start and Stop" to enter the test.



At this point, gently twist the voltage regulator knob to make the voltage rise slowly, and observe the current size.。

When the boost is completed, press the "Start and Stop" button to turn off the high voltage output, and the automatic discharge screen will be displayed.

Then enter the results interface

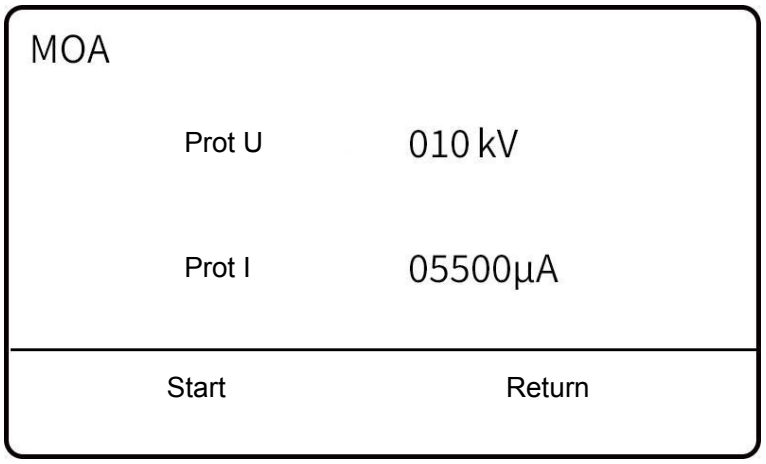


At this time, press the select key to "Save" to store the test results.

At this time, press the select key to "Print" to print the test results.

At this time, press the select key to "Exit" the instrument returns to the function selection interface

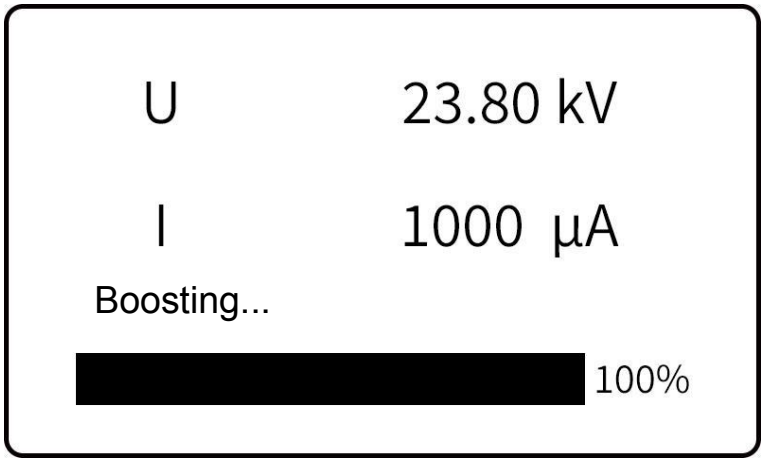
2.Zinc oxide arrester test：



In the function selection interface, move the cursor to MOA TEST, press the "Start and Stop" key,

Display the parameter setting interface of zinc oxide arrester.

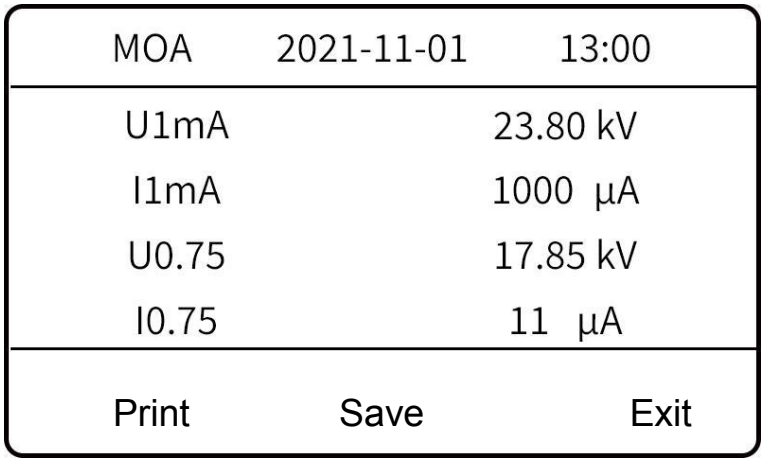
At this time, press the "Function" key to move the cursor to the corresponding parameter and modify the value with the "+" key or "-" key. After modifying the parameters, move the cursor to the start test, and press the "Start and Stop" key to enter the test.



When the current rises to 1000uA, the instrument stops boosting, at this time the 1mA current starts timing, and the default timing is 5 seconds. Or according to the set time to complete. After the timing is over, the instrument starts to reduce the voltage. When the voltage drops to 0.751mA, wait for 5 seconds.

Then quickly turn off the high pressure. Automatic discharge.

If the discharge voltage is very slow, it is recommended to use a discharge rod to discharge manually. When the discharge is completed, the instrument displays the result interface



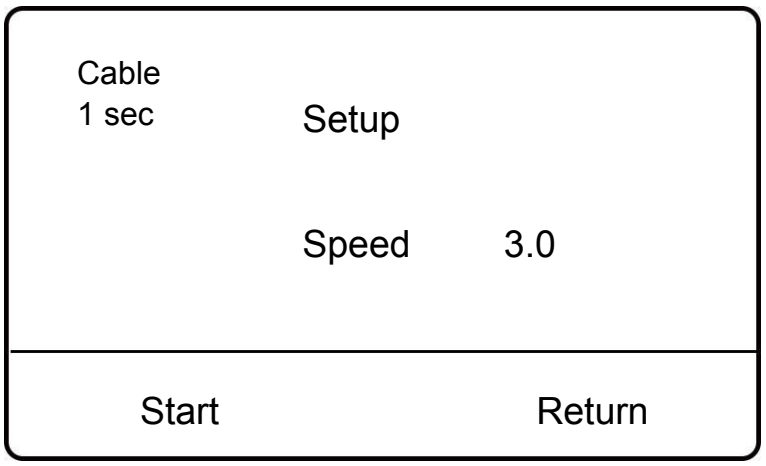
At this time, press the select key to "Save" to store the test results.

At this time, press the select key to "Print" to print the test results.

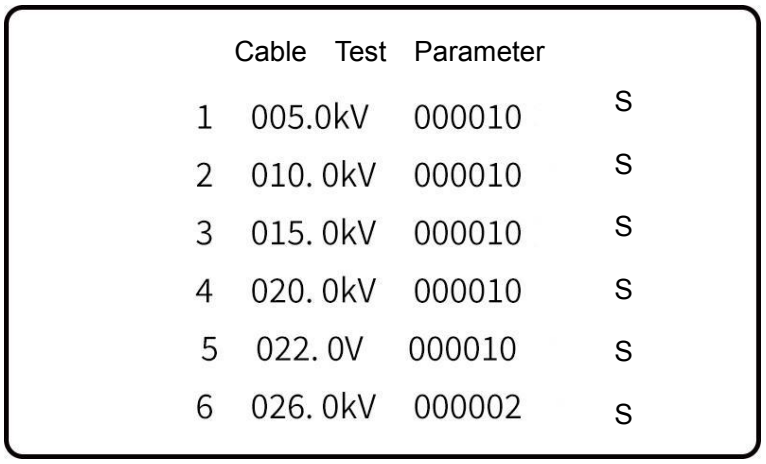
At this time, press the select key to "Exit" the instrument returns to the function selection interface

3.Cable segment withstand voltage test：

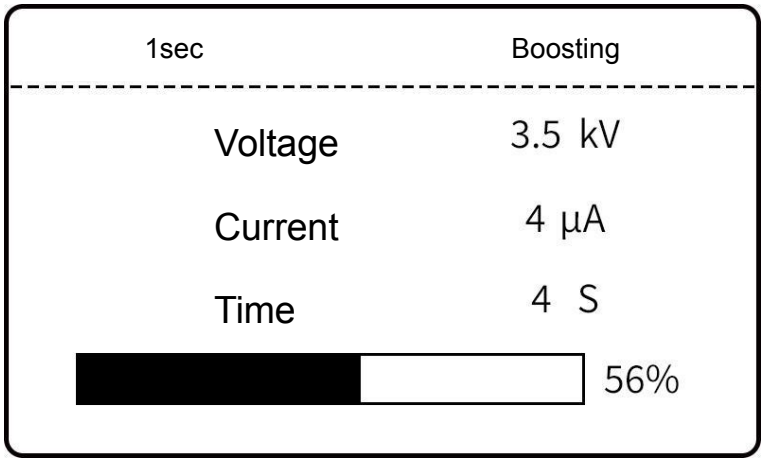
In the function selection interface, select Cable Test, press Start and Stop, and the Cable Test setting page is displayed.



Select "Setup" to display detailed parameter settings.



At this time, press the function key to move the cursor to the corresponding parameter and modify the value through the increase or decrease key or the start and stop keys. Set the voltage and withstand voltage time, after modifying the parameters, click the "Start and Stop " to exit to the parameter setting interface, move the cursor to the "start" test, and press the “start and stop” button to enter the test.



When the voltage rises to the first stage voltage, start timing, when the timing ends, start the second stage boost

The instrument will turn off the high pressure when the 6th stage of the boost timer is completed. Automatic discharge.

If the discharge voltage is very slow, it is recommended to use a discharge rod to discharge manually.

When the discharge is completed, the instrument displays the cable segment withstand voltage test result interface. Press the up and down keys to turn pages

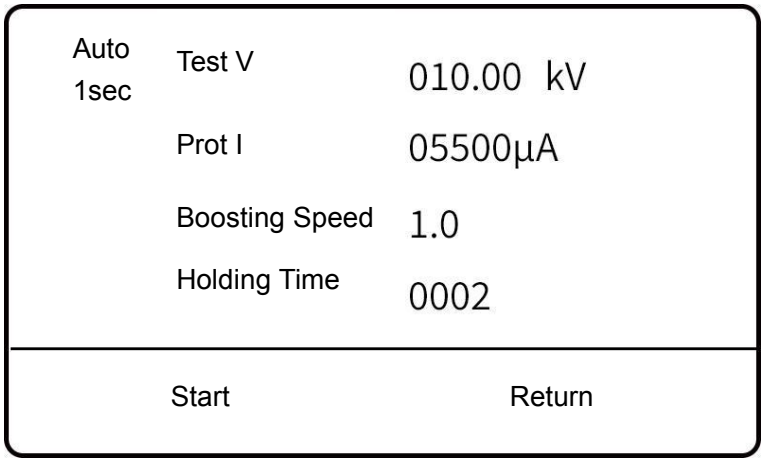
At this time, press the select key to "Save" to store the test results.

At this time, press the select key to "Print" to print the test results.

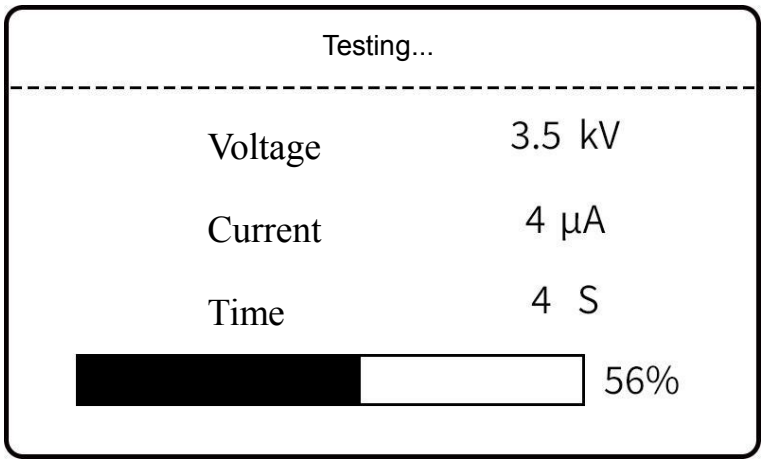
At this time, press the select key to "Exit" the instrument returns to the function selection interface.

4.Auto Test

In the function selection interface, select the Auto Test, and press the Start and Stop keys to enter the automatic boost test parameter setting interface.



At this time, press the function key to move the cursor to the corresponding parameter and modify the value through“+” or“-”and “Start and Stop” buttons. After modifying the parameters, select Start, and press the "Start and Stop" key to enter the test.



When the voltage rises to the set voltage, the timer starts, and the instrument will turn off the high voltage after the timer is over. Automatic discharge. The automatic discharge screen is displayed. If the discharge voltage is very slow, it is recommended to use a discharge rod to discharge manually.

When the discharge is completed, the instrument displays the automatic withstand voltage test result interface.

Auto	2021-11-01	13:00
	Voltage	3.5 kV
	Current	4 μA
	Time	4 S
Print	Save	Exit

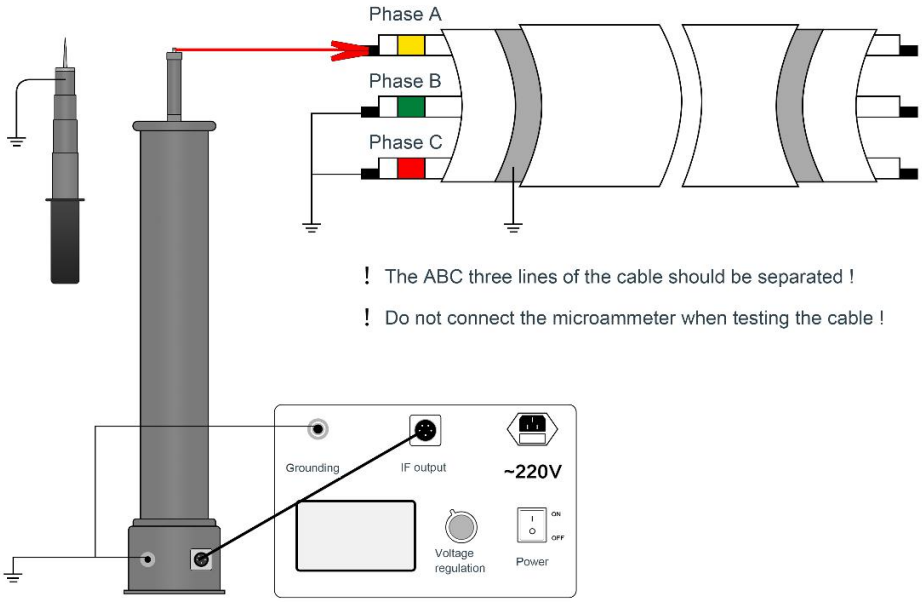
At this time, press the select key to "Save" to store the test results.

At this time, press the select key to "Print" to print the test results.

At this time, press the select key to "Exit" the instrument returns to the function selection interface.

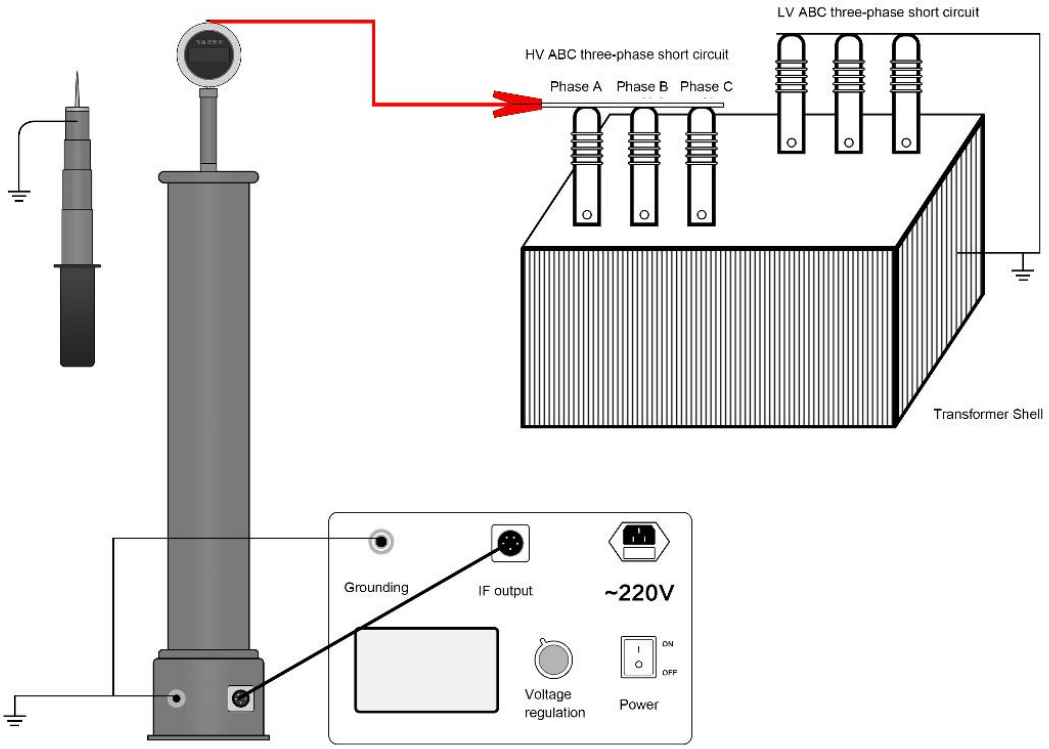
V.Test wiring method

（1）Test cable

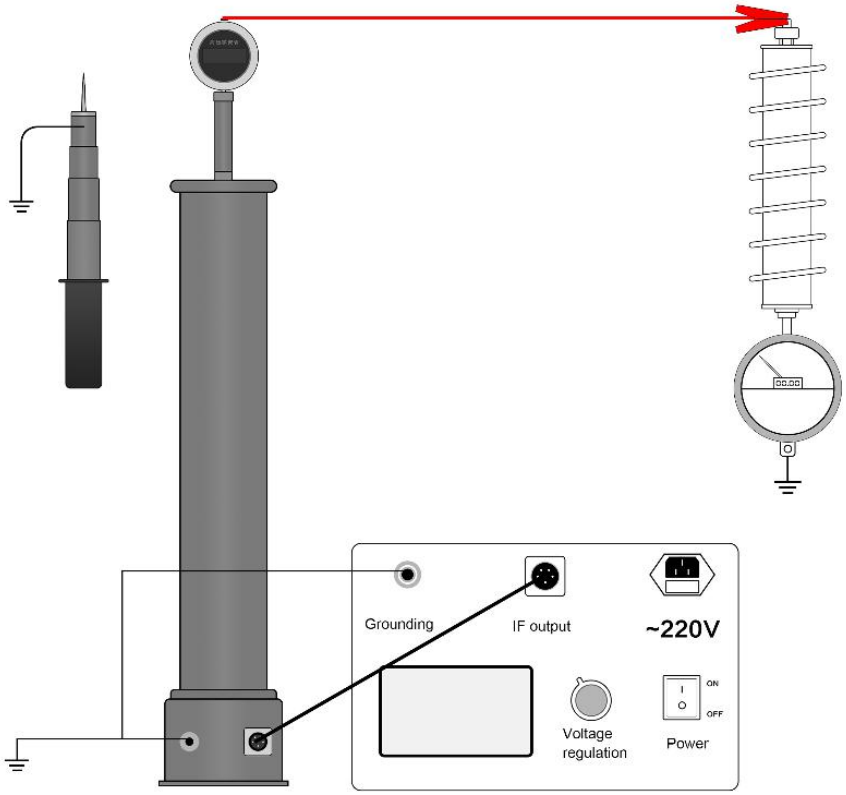


When testing the cable, it is strictly forbidden to connect the microammeter for testing.

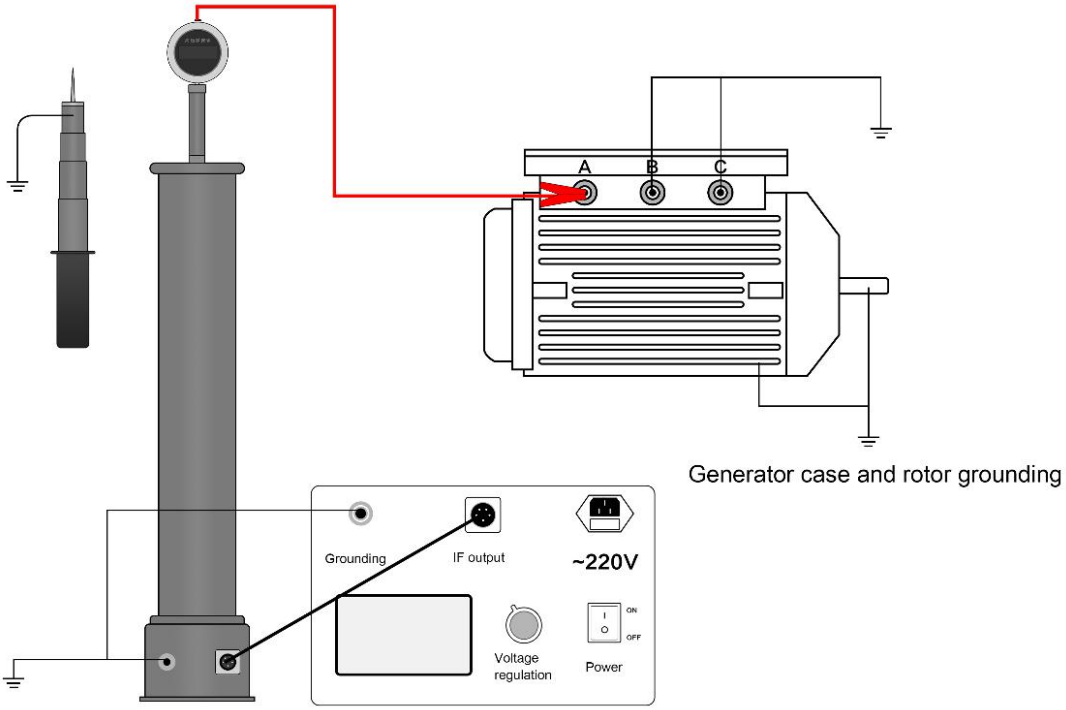
(2)Transformer



（3）MOA



(4)Test generator



VI.The use of discharge rod

1. The special discharge rod should not be in direct contact with high-voltage DC discharge, and should be kept at a distance. When the tip of the discharge rod initially produces corona discharge, and the voltage on the test object gradually drops by 20% of the test voltage, then touch the discharge rod to the shell of the microammeter. discharge. Finally, hang the ground wire of the grounding end of the discharge rod directly on the test object.

2. Special attention is not allowed to directly discharge the ground wire on the shell of the high-voltage microammeter, so as to avoid the damage of the high-voltage microammeter caused by the strong impulse discharge current.