Regards

First of all, you are welcome to use the integrated high-frequency high-voltage power supply produced by our company. Secondly, this product is a high-voltage equipment, please do not operate this instrument before reading the instruction manual to avoid personal danger.
Before turning on the power, please check whether the wiring is correct, whether the protective grounding is reliable, and whether the discharge rod is connected for backup. In addition, check and make sure that the emergency stop button is in the state of pressing the emergency stop.
Before disconnecting the connection, please turn off the power supply and use a discharge rod to fully discharge the cable. After not less than 5 seconds, remove the high-voltage cable, power cable, etc., and finally remove the protective grounding cable.
We will continue to improve and perfect it. If you have valuable comments, please feel free to contact us.

Integrated High Frequency and High Voltage Power Supply Manual

Chapter 1. Overview

HZ-G35A is our company's newly developed innovative integrated high-voltage power supply product, with the advantage of stable performance, leading technology, portable and safe. The equipment meets the "Standards of the Electric Power Industry of the People's Republic of China-General Technical Requirements for High Voltage Test Equipment". This product adopts the principle of switching power supply and can output maximum 35KV DC negative high voltage. It equipped with built-in capacitor, vacuum shock ignition, emergency stop and automatic discharge function, safe and reliable. Cooperating with any cable fault tester produced by our company, it can easily use multiple pulse method or current flashover method for rough measurement, pre-locating or accurately locating of cable fault.

Chapter 2. Performance characteristics

1. Integrated design, built-in capacitor, simple wiring.
2.Touch screen, simple setting and operation, intuitive and convenient display.
3. With voltage regulation, automatic voltage stabilization and automatic protection functions.
4. The output high voltage has the function of single pulse and continuous pulse.
5. The output high voltage has a DC output, which can work with an external ball gap, and has a variety of applications.
6. The software controls vacuum impulse ignition and discharge, self-adaptive discharge and pulse period.
7. With emergency stop button, automatic discharge function, safe and reliable.
8. The continuous working time is not less than 6 hours, meeting the longest working time of cable fault test.
9. Engineering chassis design, compact structure, small size, light weight, easy to carry by one person.

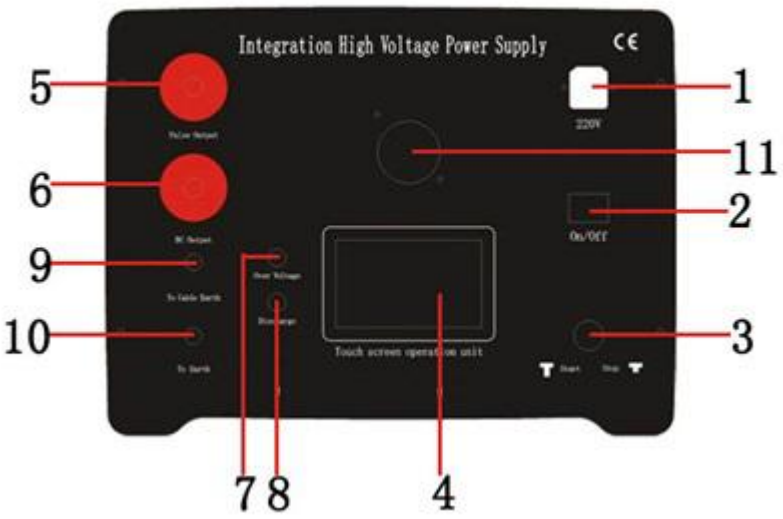
Chapter 3. Technical parameters

This product is mainly used for impulse discharging when sample high-resistance fault waveforms of power cable of 35KV and below, and for impulsive discharge when precisely locate fault point. It can also be used for the burn-through of high-resistance faults of power cables and external sheath precisely locating for extra-high voltage cables above 110KV. It can burn through the breakdown point in a short time and

reduce resistance in the breakdown point.

1. Output mode: pulse output, DC output
2. Output voltage: negative voltage, 0 ~ -35kv continuously adjustable
3. Working current: ≤40mA
4. Working mode: single pulse, continuous pulse, DC output
5. Built-in capacitance: 2.8uF/35kv
6. Discharge energy: ≤1715J
7. Pulse period: 3s ~ 8s adaptive
8. Automatic discharge: automatic discharge after shutdown
9. Working power supply: power frequency 220V±10%
10. Display screen: 800×480 resolution touch screen
11. Working temperature: -10℃ ~ 40℃
12. Working humidity: ≤80%
13. Altitude: ≤1000m
14. Dimensions: 478(L)*370(W)*448(H) mm
15. Weight: ≤28kg

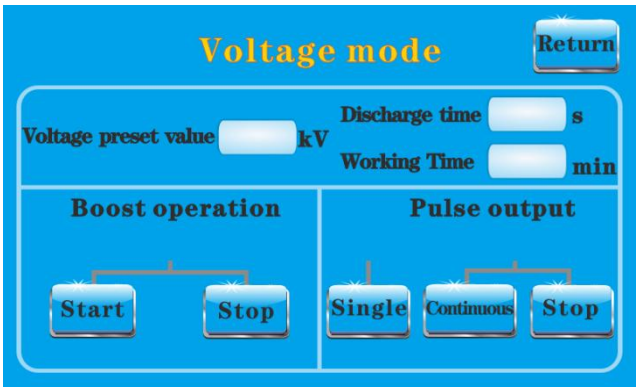
Chapter 4. Operating panel



1. Power supply: power frequency 220V/50Hz standard three-core socket;
2. Power switch: switch on/off the instrument.
3. Emergency stop button: press for emergency stop; turn clockwise and automatically pop up to start. In any case, you should press this button to stop working and automatically discharge high voltage.
4. Display screen: 800×480 resolution touch screen, can set voltage, single pulse, continuous pulse, etc., display the discharge time and working time of the instrument.
5. Pulse output port: This is a commonly used port which outputs a single high-voltage pulse or continuous high-voltage pulse. It is the wiring port for multiple-pulse test, flashover current test, fault location.
6. DC output port: this is an expansion port, which directly outputs negative high voltage, used for connecting external ball gap, DC test, high resistance burn-through.
7. HV indicator light: The instrument will automatically boost the voltage and the indicator light will be on.

8. Discharge indicator: Automatic discharge indicator after an emergency stop or power failure. As the internal high voltage of the instrument gradually discharges, the light gradually changes from bright to dark.
9. Cable grounding: This grounding is a high-voltage working ground, and it must be connected to a reliable grounding pole.
10. Protective grounding: This is the chassis grounding specially set for safety protection.
A separately grounding is strongly recommended and it should be as far as you can away from cable grounding if possible. The grounding resistance is less than 6 ohms.
11. Voltmeter: Display the working value of the power supply voltage, and judge whether the fault point is breakdown and discharge through the pointer step-down and step-up.

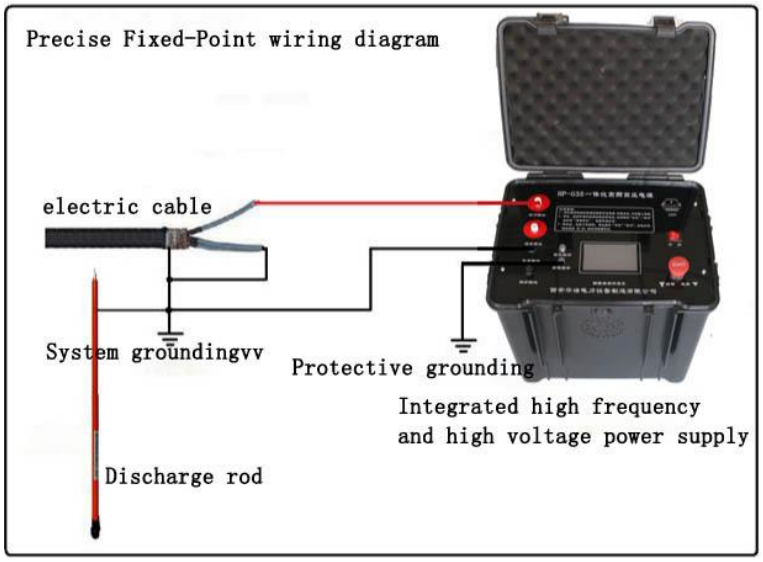
Chapter 5. Touch screen



1. Voltage setting: Click "voltage preset value" to set the voltage. The setting range is 5-35KV;
2. Boost control: After setting the preset voltage, in "boost operation" interface and
① Click the "Start" button, the machine will automatically boost the voltage, and the indicator will turn green;
② Click the "Stop" button, the machine will stop boosting, and the indicator will turn red.
3. Pulse output: After the voltage boost is completed, in the "pulse output" interface and
① Click the "Single" button, the instrument will automatically stop after outputting a single pulse;
② Click the "Continuous" button, the instrument will continuously output high-voltage pulse, and the continuous pulse indicator turns green;
③ Click the "Stop" button, the instrument stops continuous high-voltage pulse output, and the continuous pulse indicator turns red.
4. Discharge time: display discharge time according to the set voltage.
5. Working time: display continuous pulse working time of the instrument.

Chapter 6 Instructions for use

A. Pulse output mode
This mode is used for multi-pulse test, flashover current test and fault locating. It can output single high-voltage pulse or continuous high-voltage pulse(output period is 3s-8s).
The operation process will be described in the mode of fault locating, the others refer to the corresponding wiring schematic diagram.



1. Wiring steps of the system:

a. Pulse output wiring: the red high-voltage line plug is inserted into the "pulse output" jack on the panel, and the clamp is terminated with the faulty cable core.

b. Cable ground connection: the plug of the black test wire is inserted into the "cable ground" jack on the panel, and the black clip is terminated to the system ground of the test site.

c. Protective grounding wire: dedicated 4m ground wire, one end clamps the panel "protective grounding" terminal, and the other end clamps the field grounding rod. The grounding rod must be far away from the "system ground".

(Special note: In the power distribution room, if the grounding rod cannot be inserted, the cable ground is connected to the system ground, and the "protective grounding" is connected to the yellow-green ground row on the wall of the power distribution room. Confirm on-site that the system ground and the yellow-green ground row are independent ground.).

d. Connection of the remaining core wires of the cable: Except for the high-voltage loaded cable core wires, the remaining cable cores and armor are short-circuited and then connected to the system ground.

e. Wiring of the discharge rod: The discharge rod is equipped with a 3m single-ended clip line, and the clip is connected to the system grounding.

2. Check:

Check whether the switch is in the "off" state, whether the emergency stop button is pressed down and whether the wiring is correct. If normal, turn on power.

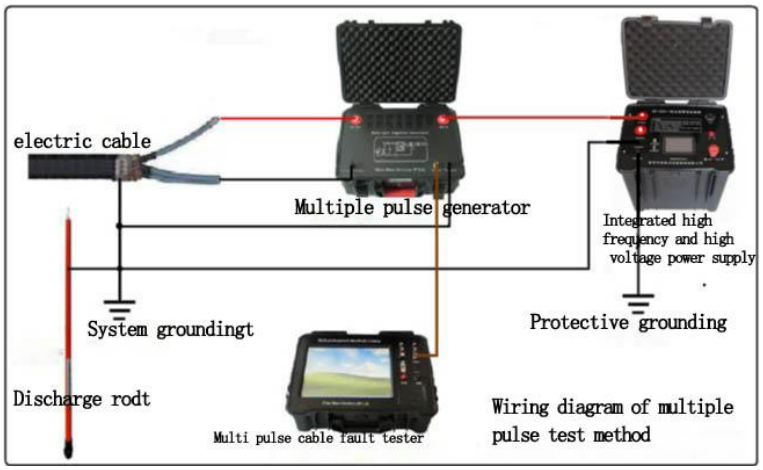
3. Operation:

Turn on the switch, touch the screen to light up, the discharge time is displayed for 3s. Rotate the "emergency stop" key clockwise to start, click "voltage preset value" to set the voltage, and then click "voltage boost". When the expected voltage is reached, click the "single" button the instrument will make a sound of mechanism action, and the voltage of the voltmeter will swing from high to low to high. If this change occurs, it indicates that the fault point has been discharged, and you can directly click the "Continuous" button to continuous output high-voltage pulses; if there is no such change, it indicates that the voltage is low, you can continue to boost the voltage until the fault point is discharged.

4. Shutdown:

After the fault point is determined, click the "Stop" button on the "Pulse Output" interface and the "Stop" button on the "Boost Operation" interface, then press down the "Emergency Stop" button. After about 5

seconds, the panel "discharge indicator" light turns from bright to dark, the voltage displayed by the voltmeter returns to about 0kV, turn off the switch and discharge the residual power of the cable under test with a discharge rod. After waiting for about 5 seconds, remove the equipment power line, high-voltage output line, and cable ground wire in sequence, and finally remove the protective ground wire and discharge rod.

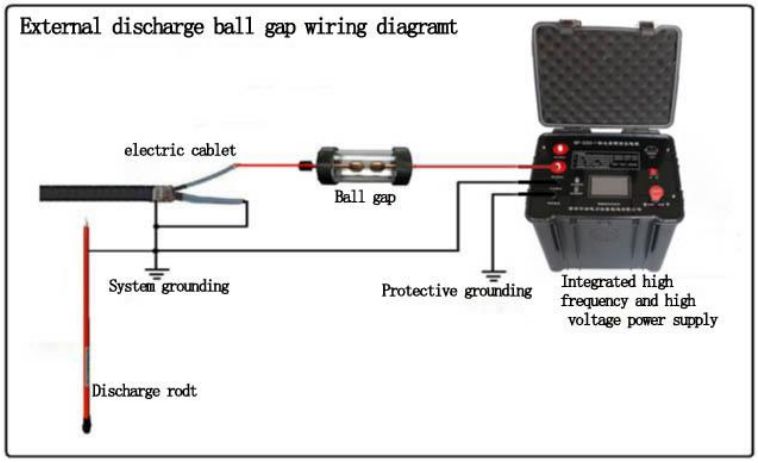




5. DC output mode

This mode is used for external ball gap discharge, DC test, and high-resistance burn-through. Refer to the following diagram for wiring, and the operation is as described in steps 2-4 above.

Note: When the ball gap is connected, the high-voltage output line is connected to the "DC" output port, and do not click on the "Pulse output" interface of the touch screen.



Chapter 7. Special Attentions

1. This instrument is an integrated high-frequency and high-voltage power supply. It is a special equipment for cable fault testing. It can also be used for high-resistance burn-through, DC tests, etc., but it should not be used frequently for DC tests, otherwise it will affect the performance of the instrument.
2. When stopping automatic discharge, wait for about 5 seconds, the discharge indicator light will turn from bright to dark.
3. There is high voltage in this instrument. If you encounter any abnormal situation, please contact us as soon as possible. You are not allowed to disassemble and repair without authorization, so as not to cause further damage to the instrument or even threaten the personal safety. Failure or damage caused by the user's private repair and disassembly is not covered by the warranty.

Warning

Please follow the instructions strictly!

This product is a high-voltage equipment, and some malfunctions may cause electric discharge or open flame. Please note that it is strictly forbidden to use it in a high gas, high concentration of flammable gas environment. If you encounter this situation, please contact the manufacturer and take other measures to test. Our company is not responsible for all consequences caused by incorrect operation.