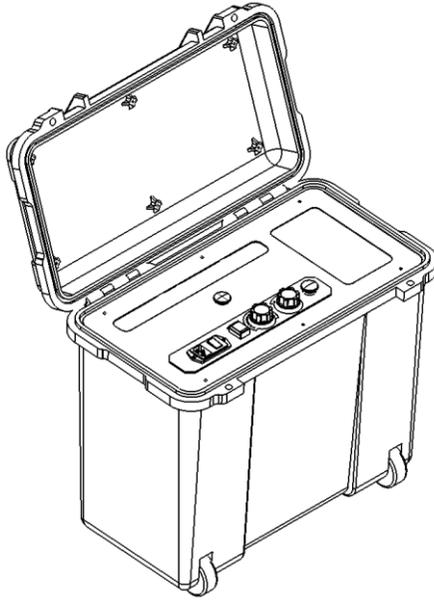


HVSG-500GN-4



Please read this user manual carefully, especially pay attention to the safety warnings and tips in it, before formally using this product.

The company is constantly improving the products. The equipment provided may be different from the contents of this manual in some places. Please refer to the accompanying information.

This product cannot be self-maintained, please do not dismantle the machine! If there is any fault, please contact the company in time.



The equipment is only operated by professionals in strict accordance with
the rules!

Connect the high voltage output wire and protection ground before starting!

High voltage output, be safe!

Move away from the output clamp while the device works!

Must discharge with a discharge stick!

Do not insert metal objects into the device!

Do not disassemble equipment! In case of electric shock!

Failure to follow the above safety warnings may result in serious injury.

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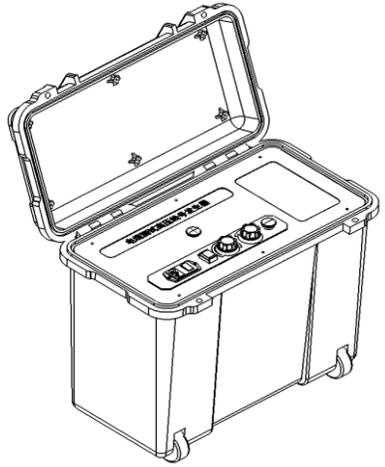
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1. GENERAL

The HVSG-500GN-4 cable location high voltage signal generator provides high voltage signal source for fault location and precise pinpointing of power cables, which can be used for fault location of power cables of various voltage levels.

Equipment uses modern power electronic technology, high frequency and high voltage power supply design, small volume, light weight.

This equipment needs to be used together with the power cable fault locator and cable fault pin-pointer series products produced by our company.



1.1 FEATURE

- Integrated design, compact structure, small volume, light weight.
- Multiple seed models are optional, suitable for different test requirements.
- Imported safety box structure, beautiful appearance, easy to move.
- Built-in energy storage capacitor, no high voltage exposure, safe and reliable.
- High voltage output directly connected to the fault cable, safe operation, simple wiring.
- Built-in high-power switching power supply, fast capacitor charging, short discharge cycle, fast fault point.
- Multiple safety protection, protection grounding detection, high voltage zero start, high voltage over-voltage alarm, automatic release of high voltage capacitor energy storage after power failure.
- It works in three modes: single, period and DC, adapting to various fault testing requirements.
- The output voltage is adjustable, LED display response speed is fast, capacitor discharge state at a glance.
- Power input with under voltage and over voltage protection function, prevent the engine power supply voltage instability damage equipment

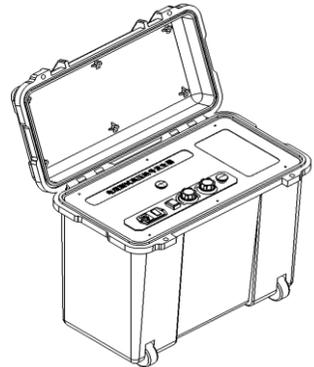
1.2 SPECIFICATION

MODEL	HVSG-500GN-A30-2	HVSG-500GN-4
Output voltage	0-32kV	
capacitor	2 μ F	4 μ F
Max. energy	1000J	2000J
Discharge interval	6s (period mode)	
Power	AC220V, 50Hz	
Input power	<1000W	
Vol.	400mmx460mmx50mm	
Weight	25kg	

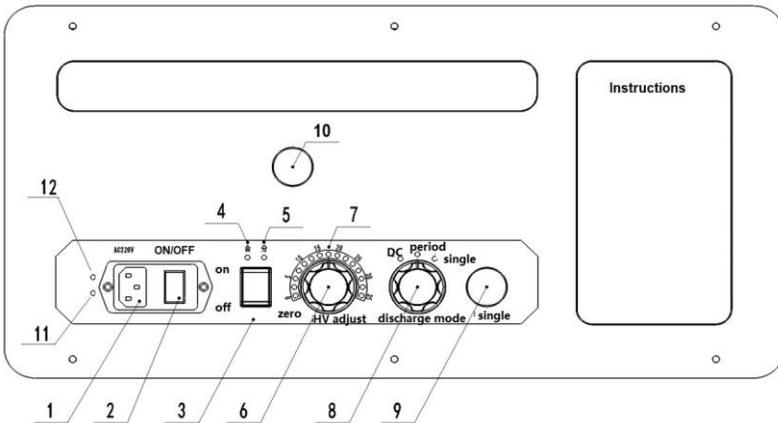
2. PHYSICAL CHARACTERISTICS

The appearance of the high voltage signal generator is shown below.

Various operation buttons/knobs are located on the upper panel, and the high voltage output wire and protective ground wire are led out and stored from the accessory pack at the rear of the unit.



2.1 FRONT PANEL



- AC220V socket: 220V, 50Hz AC power supply, power capacity requirements are not less than 2KW.

- Power switch and indicator: It is used to switch the power supply of the equipment. When the power is turned on, the indicator lights up.
- HV on/off: When the equipment is powered on, the high-voltage circuit does not work. Only when the voltage regulating knob is in the zero position, the high-voltage circuit can be started to work by pressing the high-voltage on/off button. At this time, the "high voltage close" indicator lights up and outputs high voltage. When the device is in the state of high voltage output, press the high voltage on/off button, the high voltage circuit will stop working, and the "high voltage off" indicator will light up. At the same time, the internal high voltage energy storage capacitor will be stored and the charge on the cable under test will be released. Only after ADJUSTING THE voltage REGULATING knob to ZERO, press the high voltage ON/OFF button to start the high voltage circuit again.
- High voltage closing indicator: This indicator lights up when the high voltage circuit is working.
- High voltage adjustment knob: adjusts the output voltage according to the voltage level of the cable under test. When the output voltage exceeds 5% of the rated value, the device stops output and an audible alarm is generated. After adjusting the knob to zero, press high voltage off to return.
- Voltage display: LED display output voltage. When the device makes a high-voltage impact on the cable, if the value displayed by the LED changes greatly, it indicates that the fault point has been broken down; If the value displayed by the LED changes slightly, it indicates that the fault point is not broken down.
- Discharge mode selection switch: Discharge mode has DC,
- single and period three levels. DC is specially set for flashover fault location and is usually used in conjunction with high voltage adjustment. Single time range is set for high resistance fault ranging, only press the "single discharge" button to carry out a discharge, period is set for the fault point, the equipment in the block will be set in accordance with the discharge cycle time cycle automatic discharge. The periodic discharge mode should be selected when the cable fault point meter is used for accurate fixing. The discharge period is about 6 seconds.
- Single discharge button: When the "Discharge Mode" selector switch is in the single discharge position, only one single discharge button is pressed to carry out a single discharge and signal output. When DC and cycle are selected, this button is invalid.
- Gradienter: Place the device horizontally when using it. Excessive tilt may cause damage to the device.

- Power under voltage indicator: When the indicator is on, it indicates that the power voltage is lower than the voltage required for normal operation of the device. In this case, the power supply inside the device is cut off to protect the device.
- Power over voltage indicator: When the indicator is on, it indicates that the power voltage is higher than the voltage required for normal operation of the device. In this case, the internal power supply of the device is cut off to protect the device.

2.2 OUTPUT WIRE

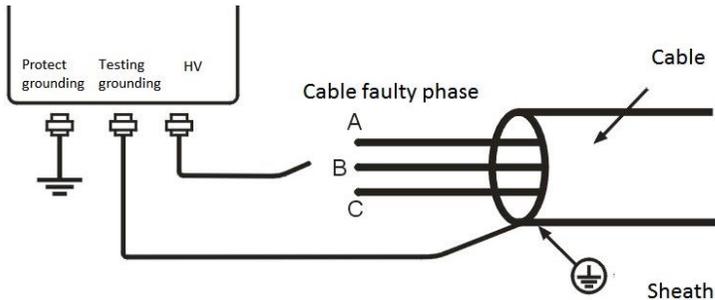
The high voltage output wire and protection ground wire are led out and stored from the accessory pack at the rear of the device.

- High voltage output line: connect the fault cable under test, and apply the high voltage and signal generated by the high voltage signal generator to the fault cable. The red clamp is negative high voltage output, and the black clamp is the test ground (that is, the working ground). In case of phase armour fault, the black clamp connects to the cable sheath, and the red clamp connects to the fault core wire. In case of phase armour fault, the black clamp and the red clamp connect to two fault core wires respectively. In order to ensure personal safety, the control unit is equipped with a device that can automatically discharge the cable after power failure. Keep away from the output clamp when the device is working. After the equipment is used, discharge first, and then remove the wire when the high voltage indicator is zero.
- Protection grounding: It is the protection ground point of the device. To ensure personal and device safety, it must be reliably grounded and grounded separately from the test ground. When the protection ground is not connected, the device sounds an alarm, and the device cannot work. When a generator is used for power supply, the grounding terminal of the generator must be connected to the ground. Otherwise, the device cannot work properly.

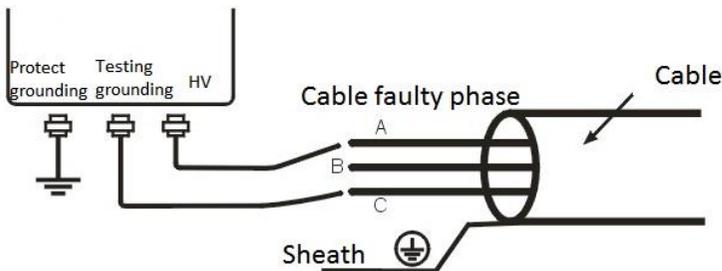
3. OPERATION METHOD

3.1 ALL SET DEVICES CONNECTION

- Phase-earth fault wiring as below



- Phase-phase fault wiring as below:



Connect the power cable and high-voltage output cable of the device (note: when wiring, connect the unused phase line to the ground together with the test ground). Then connect the protection grounding cable of the device to the ground grid of the substation to ensure good grounding. At the same time, connect the discharge rod on the test ground wire.

- Select a connection mode according to the test purpose, and connect the high-voltage output connector to the faulty cable. For details about the connection mode, see the operating instructions of the range finder and fixed point finder.
- Turn the voltage regulating knob to zero. Connect the AC220V power cable, turn on the power switch, and the power indicator lights up.
- Choose the discharge mode according to the fault nature of the cable, choose DC when the flashover fault location of the cable leakage current is very small, choose single time when the other fault location, choose period when the pinpointing.

- Check again whether the wiring and equipment work correctly!
- Turn the voltage adjusting knob to zero, zero indicator light on, press the high voltage on/off button, high voltage on indicator light on, indicating that the high voltage input power has been connected. If the high voltage split button fails, you can directly turn off the power and return to the factory for maintenance.
- Adjust the high voltage adjusting knob according to the voltage resistance level of the cable, so that the high voltage indicator reaches the specified voltage. When the voltage adjusting knob leaves zero, the zero indicator light goes out.
- Select discharge mode: generally single discharge mode is set for cable fault location, only press a single discharge button to carry out a discharge; The periodic discharge mode is set for the fault point, and the discharge period is about 6 seconds.
- For ranging or accurate point, according to the discharge voltage indication change size to determine whether the fault point breakdown. When the device makes a high-voltage impact on the cable, if the high-voltage indicator changes greatly, it indicates
- that the fault point has been broken down. If the high pressure indicator changes little, it indicates that the fault point is not broken down. When there is no breakdown of the fault point, the fault location and fault point cannot be carried out, and the output voltage needs to be further increased.
- After the work is finished, press the high-voltage on/off button, and the high-voltage indicator will light up. The device will automatically release the charge stored by the internal high-voltage energy storage capacitor, then turn off the power switch, and then use the discharge rod to discharge at the high-voltage output end. It is highly recommended to restore the high voltage adjustment button to zero before turning off the power switch!
- After discharge, when the high voltage indicator indicates zero, ensure that the instrument is not charged, remove the wiring, and put the cable and other accessories into the package for next use.

4. MAINTENANCE AND WARRANTY

- If there is a quality problem, the main machine and accessories of the instrument one year warranty. If the instrument is damaged due to improper use within the warranty period; Or over the warranty period of the product quality problems, our company is responsible for maintenance, maintenance only charge the cost of replacement components. If the above time limit is exceeded, only the cost of maintenance will be charged.
- There IS NO PART OF THE MACHINE THAT CAN be REPAIRED BY the user. If there is any problem, please do not try to repair by yourself, so as to avoid the expansion of the fault and even the danger of electric shock. Please contact our company immediately for maintenance.