

GP-NER-11kV

Neutral Earthing Resistors Cabinet

202524K656002





About Us»

GreenPower promotes environmental awareness, and aims to create unprecedented happiness and wealth for our investors, employees, clients and partners. By focusing in the mid-to-high voltage and low voltage eld, and professionally working on R&D, manufacturing, marketing and service of high-end green intelligent switchgears, equipments and products.GreenPower sets to become a well-respected global company in the power industry.

GreenPower, is jointly established by a number of state-owned excellent industrial electrical professional manufacturers, we committed to meet the procurement needs of clients. It is a professional procurement service provider with entity of industrial electrical.

GreenPower provides ONE-STOP solutions service for all customers in the International area. It is located in the time-honored electrical industrial city, a collection of worldclass brand of industrial electrical products,excellent brand of domestic electrical products as the basis.

Innovative business philosophy, strong professional supply team, expert technical guidance, advanced Information network management platform, fast logistics, which makes GreenPower as your procurement expert by your side.

GreenPower adheres to its own brand and multi-brand integration, marketing dierentiated development strategy. The products involving low voltage, medium voltage and high voltage transmission and distribution products and industrial automation products.

It covering all aspects of distribution, logistics, warehousing, professional and technical engineering services, systems integration and complete sets of manufacturing. Stable business foundation for cooperation with customers and suppliers, and has established a good reputation to maintain its leading position in the market competition.

Human quests for transcendence, with transcendence we make progress, when the pursuit of unlimited become a belief, our dream began to realize.

Hard-working, dedicated GreenPower people, will be adhering to its past glory, beginners mind, let go sailing, to face the fierce competition in the future, and always help customers make the best choice, and strive to become the best and most reliable procurement service provider in the eld of industrial electrical.



01 Introductions

Distribution network system neutral point by way of resistance earthing in Europe and the United States and other developed countries have more than 100 years of application history, the application of power grids in China are also increasingly popular.

In order to better limit the over-voltage level of the system and to quickly select and remove the fault line when the compensation line of the arc-suppression coil earthing system compensation line cannot meet the needs of the rapid development of the system, a neutral point earthing method is adopted. In the power generation system in order to limit the engine outlet flow of fault current and limit the level of over-voltage, but also more use of neutral earthing resistance by way.

The earthing of the neutral point can effectively limit the intermittent arc earthing over-voltage, reduce the system operation over-voltage, eliminate the system resonance over-voltage, easy to configure single-phase ground fault protection, can effectively remove the fault line in a short time. So as to reduce the insulation level of the system equipment, delay the service life of the system equipment, and improve the safety and reliability of system operation.

We have professional R&D team and advanced equipment. The company introduces and localizes advanced foreign technologies, and has always focused on the research, development and production of neutral earthing products which have good effect on reducing overvoltage and improving security and reliability of power systems. The company developed series of neutral earthing stainless steel resistor cabinets with import special stainless-steel alloy for 6 – 35KV power systems. Earthing capacitance currents in a cable power system is comparatively large.

The product is made of high quality imported stainless steel or domestic stainless steel electric metal material. It has the characteristics of high conductivity, high temperature coefficient, corrosion resistance, high temperature resistance, high oxidation resistance, high tensile strength and stable resistance. The product runs safely and reliably.

In the medium voltage distribution system, if the transformer is delta connection, you need to install Z-type earthing transformer, in order to draw the neutral point for the system to install the neutral point earthing resistance.

02 General conditions

- Altitude: no more than 4000m
- Ambient temperature: -40°C ~ +60°C
- Relative humidity: no more than 95% (25°C)
- Installation site: there should be free of chemical etching gases, steam or explosive dust in the air
- Power frequency: 48 ~ 52Hz (50Hz system), 58 ~ 62Hz (60Hz system)
- Installation environment: indoor, outdoor
- Installation point of resistor: normally the neutral point voltage displacement shall not be more than 3% of phase voltage; Special operation conditions shall be stated at the time of ordering.

03 Standards

- **DL/T780-2001** Neutral point earthing resistors for distribution systems
- **GB6450** Dry-type power transformers
- **DL/T620-1997** Overvoltage protection and insulation coordination for AC electrical installations
- **GB/T16927.1-1997** High - voltage test techniques - Part 1: General test requirements
- **GB1208-1997** Current transformers
- **GB/T4208-2017** Shell protection class (IP code)
- **IEEE 32-1972** Standard Technical, terminology and tests for neutral earthing devices

04 General specifications and technical parameters

6.3kV, 10kV, 35kV neutral earthing resistors cabinet.

Model	System rated voltage (kV)	Short-time current (A)	Duration of short-time current (s)	Nominal resistance (Ω)	Remark
GP-NER-6/36.4	6.3	100	10	36.40	
GP-NER-6/18.20	6.3	200	10	18.20	
GP-NER-6/9.09	6.3	400	10	9.09	
GP-NER-6/6.06	6.3	600	10	6.06	
GP-NER-10/15.16	10.5	400	10	15.16	
GP-NER-10/10.10	10.5	600	10	10.10	
GP-NER-10/7.57	10.5	800	10	7.57	
GP-NER-10/6.06	10.5	1000	10	6.06	
GP-NER-35/20.20	35	1000	10	20.20	
GP-NER-35/10.10	35	2000	10	10.10	

Note:

- Various resistors may be designed and manufactured on request with resistance varies between 1Ω - 2000Ω ; allowable current $1A \sim 2000A$, and permitted duration of current of 10s, 15s, 30s, 60s and 2h. Resistance error is within $\pm 3\%$
- The resistance cabinet for indoor or outdoor, the cabinet with stainless steel plate or cold-rolled steel plate spray support, corrosion-resistant, high degree of protection.
- The installation of isolation switch, easy maintenance, but also heating and humidity control device.
- Can be installed intelligent monitoring device can monitor the normal operation of the resistance cabinet neutral point of unbalanced current, resistance, resistance of the temperature inside the cabinet can also monitor the moment of occurrence of single-phase ground fault current and record the number of earthing action, And set aside communication interface, can be detected, recorded information passed to the main control room, so that the operating personnel in the first time to get information.

05 Features

■ Targeted, and protection in place

GP-NER neutral earthing resistors cabinet for the system neutral point with a small resistance or resistance in the earthing of the occasion. At this point, the power grid single-phase ground fault occurs when the trip immediately cut off the fault line. When the power grid single-phase ground, the earthing resistance to the ground point to provide additional resistive current, so that the ground-current resistance was capacitive nature, so as to ensure that the over-voltage does not exceed 2.6 times the phase voltage.

■ Compact structure, easy to install

GP-NER neutral earthing resistors cabinet will be scattered Z-type earthing transformer (such as the system no neutral point leads to the need to install), resistors, current transformers, measuring instruments, earthing protection output terminals and other electrical equipment in a combination of the overall Enclosed metal cabinets, and can be equipped with isolation switch, surge arresters, complete sets of suppliers, safe and reliable, clear and neat layout, easy installation and operation and maintenance.

■ Selection of sophisticated, fully guarantee the quality of products

GP-NER neutral earthing resistors cabinet earthing transformer for high-quality dry-type transformers, the primary winding of the "Z"-shaped wiring; resistors made of stainless-steel nichrome (Cr20Ni80) material, high conductivity, flow capacity, High temperature, the maximum temperature of up to 1600°C ; temperature coefficient $\leq -0.045\%/^{\circ}\text{C}$, resistance stability, corrosion resistance, flameproof explosion-proof, high reliability. With the resistance of alloy components used in all the resistance unit to a number of units made of argon arc welded frame structure, resistance unit with high temperature insulator (polymer) support connection. According to different customer requirements, our company can provide imported resistors.

■ The monitoring function is complete, and provide analog output

GP-NER neutral earthing resistors cabinet can be equipped with intelligent monitoring device to monitor the resistance of the cabinet under normal operation of the neutral point of unbalanced current, resistors, resistors inside the temperature, can also monitor the occurrence of single-phase ground fault instantaneous Current and record the number of earthing action, and set aside communication interface, can be detected, recorded information passed to the main control room, so that the operating personnel in the first time to get information.

■ Strong technical force, courteous service

Our company is a professional manufacturer, strong technical force, pre-sale technical exchange advice at any time in place. After-sales installation of technical guidance according to user requirements in a timely manner.

06 Product packaging and transportation

The product should be placed on the base of the packing box and fastened with bolts. The plastic film should be put on the cabinet to prevent the dust or water vapor from being immersed in the transportation or storage. The place of the delivery, the name of the equipment and Transport weight, etc.; to the goods, the application of forklifts or crane unloading; unloading should be checked before to confirm the transport of goods in the process of non-destructive; recommended the original packaging equipment arrived at the installation site to prevent possible damage in the transport.

07 Inspection and acceptance

Users receive the product, should be immediately checked.

- Check the packing list the number of items in line with the physical.
- Check the product nameplate data and order the same contract.
- Check whether the factory file is complete.
- Check whether the appearance of bump products, deformation, internal electrical components and connections for damage, loss and relaxation, whether there is dirt or foreign body insulation and so on.

Unpacking inspection of finished products, if not immediately put into operation, should be properly preserved or repackaged.

08 Product installation, testing

■ Product installation

The installation, should meet the relevant standards, procedures, the equipment should meet the corresponding voltage level insulation distance requirements, taking into account the equipment of the Ventilation, cooling and equipment installation and maintenance requirements.

Use a forklift to transport the equipment to the installation site. Remove the bolts from the mounting base. Take care to unpack the equipment. Unpack the casing to prevent damage to the casing, top or side-mounted tubing (if any); Quasi-bottom shell at the angle, so as not to damage the equipment floor.

This product can be installed on a dedicated foundation or concrete platform, placed horizontally. Bolt holes (Φ 16mm) on the bottom of the cabinet are fixed on the foundation with anchor bolts. If it is installed on concrete foundation, it is recommended to fix it with expansion bolts.

The earthing terminal of the resistance element is reliably connected to the earthing grid through a single-core cable or a connection line. Cable end of the cable from the bottom up through the bottom of the cable hole into the resistance cabinet, good cable head, and the resistance element earthing or (zero sequence) current transformer output terminal reliable connection cable at the perforation at the use of cable retaining ring Has been provided) protection, and to block. The terminal of the resistance cabinet is connected with a single-core cable or a copper bar to the incoming terminal of the earthing variable resistor or the resistor. The second wiring of the cabinet is checked and tightened all the fixing and connecting bolts in the cabinet to ensure a firm and reliable connection. The shell is grounded reliably by the earthing bolt.

■ Put into operation before the inspection and testing

When the equipment is in place, open the front door with the nameplate, check the cabinet equipment and wiring, and note the following: before charging all packaging materials must be removed from the box to avoid fire; carefully check the insulators, Check all electrical connections to ensure that the connection is secure and reliable; all the fastening bolts are all; put into operation before the test, measuring the resistance of the resistance value of the components, measuring insulation (such as insulation, Resistance, according to the provisions of the standard frequency withstand voltage test, the test voltage is less than 85% of the factory test voltage; restore the front panel of the cabinet, ready to put into operation.

09 Product maintenance

■ Earthing resistance cabinet high reliability, generally do not need special power maintenance, it is recommended to use the station or the main transformer substation maintenance inspection opportunities for maintenance, inspection and maintenance must be strictly enforced safety procedures and safety procedures;

- Disconnect the cabinet from the system;
- Open the door, directly check the box with or without exception;
- Performing a cleaning process;
- Check whether the insulators and casing damage, with a shake table to confirm the porcelain insulation;
- Check the resistance of the integrity of components, measured resistance value, the value should be within 10% error;
- Check the internal connection is reliable;
- Check the tightness of the bolts.

10 Ordering Information

Please inform the following parameters when ordering.

1. The system rated voltage: (kV);
2. Short-term allowable current: (A);
3. The nominal resistance: (Ω);
4. Whether to install the current transformer (CT): CT ratio and capacity, compound error;
5. Into line mode: up and down, down into the next, optional;
6. Short-time allow flow time: (s);
7. The resistance of the cabinet material, cabinet (IP) protection, color and installation location;
8. Whether the need to install the ground record and temperature and humidity control device;
9. Whether to install isolation switch, for maintenance.

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Professional Power Equipment Provider

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