

# Neutral Grounding Resistor Specification

Model: KgN



## 1. Scope of supply



For neutral grounding resistor FNGR11kV-300A-21.1Ω-30s-23, supply list for each set is as follows:

| No. | Name                | Specification                                                  |
|-----|---------------------|----------------------------------------------------------------|
| 1   | Cabinet             | Hot-dip galvanized sheet ; spraying RAL7035                    |
| 2   | Resistor            | 11kV, 300A, 30s; stainless steel 304                           |
| 3   | Isolating switch    | GN19-12/630                                                    |
| 4   | Current Transformer | LZZBJ9-12 300-150/5A 5P10 15VA                                 |
| 5   | insulator           | 12kV                                                           |
| 6   | Lightning Arrester  | YH5WZ-10/27                                                    |
|     | VT                  | LZZBJ9-10A 300-150/5<br>5P10-15VA<br>JDZ10-10 11/0.1KV<br>10VA |



## 2. Technical Standard



Except for the technical parameters and requirements of this regulation, all equipment and its spare parts shall comply with the latest version of national standards ( ), electric power industry standards (DL) and international system of units (SI), which is the minimum for equipment Require. If the supplier has its own standard or specification, the standard number and related content should be provided, and it can be adopted only after the purchaser's consent, but in principle, higher standards are adopted.

DL/T 780-2001 Neutral point grounding resistor for power distribution system

50150IEC - 1991 over test of electric equipment electric equipment installation engineering

311.1 - 2012 insulation coordination of high-voltage power transmission apparatus

IEC 311.2-6 High Voltage Test Technology

IEC 4208 ( 93 ) Shell protection grade

IEC 1028 - 1997 current transformer

IEC/T8287-2008 " Internal and outdoor post insulators for users of systems with a nominal voltage higher than 1000V "

IEC 191-2008 "Packaging, Storage and Transportation Signs"

## 3. The Main Components Technical Parameters



### 3.1 Grounding Resistor

- (1) Type: metal fin resistor
- (2) Resistor material: stainless steel 304;
- (3) Rated resistance value:  $21.1 \Omega \pm 5\%$ ;
- (4) Rated voltage:  $11/\sqrt{3}$  kV;
- (5) Rated current: 300A;
- (6) Insulation level: rated short-time power frequency withstand voltage (effective value): 42kV/1min;
- (7) Rated lightning impulse withstand voltage (peak value): 75kV;

- (8) Temperature rise: 760K/ 30s;  
385K/2h;
- (9) Short-time flow:  $\leq 30$  seconds;
- (10) Natural cooling

### 3.2 Cabinet

- (1) Enclosure: hot-dip galvanized;
- (2) Protection level: IP23;
- (3) Cabinet color: RAL7035;
- (4) Wire entry mode: Incoming: bottom; outgoing: side; door opening in the front;
- (5) Installation method: floor installation;
- (6) Dimensions: subject to the drawings confirmed by both parties (width x depth x height).



## 4. Applicable Environment for Equipment



Installation location: indoor

Altitude: less than 1000m

Maximum temperature: 55°

Lowest temperature: -20°

Maximum daily temperature difference 25°

The highest daily average temperature 30°

The daily average relative humidity is not more than 95%



## 5. Parameters for Neutral Grounding Resistor FNGR11kV-300A-21.1Ω-30s-23



| Item                                       | Unit                       | Value                            |
|--------------------------------------------|----------------------------|----------------------------------|
| Rated voltage                              | kV                         | $11/\sqrt{3}$                    |
| System rated frequency                     | Hz                         | 50                               |
| Short-time allowable current               | A                          | 300                              |
| Continuous flow                            | A                          | 30                               |
| Short flow time                            | A/s                        | 300/30                           |
| Short-time flow allows temperature rise    | K                          | 760                              |
| Resistor resistance ( 25 ℃ )               | Ω                          | $21.1 \pm 5\%$                   |
| Resistance element material                |                            | Stainless steel 304              |
| Resistivity                                | $\mu \cdot \Omega \cdot m$ | 0.72                             |
| Temperature Coefficient of Resistor        | $\Omega / \%$              | $1.05 \times 10^{-4}$            |
| Melting point of resistance material       | °C                         | 1350~1500                        |
| Power frequency withstand voltage ( 1min ) | kV                         | 42                               |
| Lightning impulse withstand voltage        | kV                         | 75                               |
| Ingress Protection                         |                            | IP23                             |
| Cable Entry and Out                        |                            | Incoming: bottom; Outgoing: side |
| Enclosure color                            |                            | RAL7035                          |
| Enclosure type                             |                            | Hot dip galvanized               |
| Operating life                             | year                       | 20                               |
| weight                                     | kg                         | About 500                        |

## 6. Service



- (1) Within one week after signing the technical agreement and contract, provide the buyer with the external dimensions and installation drawings, and ask the buyer and the designer to confirm.
- (2) Matters not covered shall be implemented in accordance with relevant standards and order contracts.
- (3) English version factory test report, installation manual, certificate of conformity, packing list are provided with the goods, 2 copies of the data for each set.

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