Low-Voltage DC Switchgear

Applicable Scope

Low-voltage DC switchgear is applicable for the power plants, substations, industrial and mining enterprises, and other power users as the power conversion, distribution and control purposes in power, lighting and power distribution equipment in the distribution system with DC 1000V, rated current up to 3150A. The product has high breaking capacity and the rated short-time withstand current is up to 50kA. The circuit scheme has the features of flexible, convenient combination, practical and new structure. This product is one of the representative products of domestic assembled and fixed panel switchgear.


Structure Feature

- The cabinet of low-voltage DC switchgear is general cabinet format, and the frame is assembled with C profiles; the frame parts and special auxiliary parts are provided by the company to ensure the cabinet precision and quality. The cabinet parts are designed based on module principle, with the installation hole of 20-module, high general factor, which can be pre-produced in the factory. Thus, the production cycle is shortened and the efficiency is improved.
- The cabinet design sufficiently considers the heat radiation during the cabinet operation. There are different quantities of heat radiation slots at the upper and lower cabinet ends. When the electrical components in the cabinet generate the heat, the increasing heat energy is evaluated through the upper slot, while the cool wind is introduced into the cabinet through the lower slot, so that the cabinet forms a natural ventilation channel for cooling purpose.
- In accordance with modern industrial product design requirements, the cabinet adopts golden section method to design the cabinet outline and the partition size of each part, to ensure the entire cabinet elegant appearance.
- The cabinet door is connected with the frame through active hinge, to facilitate the installation and disassembly.
- The door of gauge with electrical components is connected with the frame through multi-strand copper wire. The installation pieces in the cabinet are connected with the frame through knurling washer. The entire cabinet forms a complete ground protection system.
- The cabinet surface is treated with high-voltage electrostatic spray powder process, with strong adhesion and good texture. The cabinet is in matte color, avoiding glare effect and creating a more comfortable visual environment for the duty personnel.
- The cabinet cover can be removed if necessary, to facilitate the on-site bus assembly and adjustment. Four corners of the cabinet top are equipped with flying rings for hoist and transportation.
- The cabinet protection grade is IP30, and the user can select within IP20-IP40 according to the environmental requirements.
Normal Working Condition

Main Technical Parameter

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage (V)</th>
<th>Rated current (A)</th>
<th>Rated short-circuit breaking current (kA)</th>
<th>Rated short-circuit withstand current (1s) (kA)</th>
<th>Rated peak withstand current (kA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NGG1-1000-15</td>
<td>AC400</td>
<td>400~1000</td>
<td>15</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td>NGG1-1600-30</td>
<td>AC400</td>
<td>630~1600</td>
<td>30</td>
<td>30</td>
<td>63</td>
</tr>
<tr>
<td>NGG1-3150-50</td>
<td>AC400</td>
<td>2000~3150</td>
<td>50</td>
<td>50</td>
<td>105</td>
</tr>
<tr>
<td>NGG1-1000-15</td>
<td>DC400</td>
<td>400~1000</td>
<td>15</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td>NGG1-1600-30</td>
<td>DC400</td>
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<td>30</td>
<td>30</td>
<td>63</td>
</tr>
</tbody>
</table>

Bus
Single copper line bus is used when the rated current is no more than 1600A, and dual copper line bus is used when the rated current is more than 1600A. Advanced anti-oxidation surface treatment is superior to traditional tinning treatment.