Parameters of Pinggao 35kV Busbar

Article Overview

Pinggao 35kV busbars are typically copper or aluminum conductors in gas-insulated switchgear, designed for medium-voltage distribution with rated currents up to several kiloamperes, following IEC standards for thermal and electrical performance.

Electrical Parameters

o Rated Voltage: 35 kV AC, suitable for medium-voltage distribution systems .
o Rated Current: Depends on busbar cross-section and material; typical copper busbars carry 1.0-1.6 A/mm2, while aluminum busbars carry 0.7-1.2 A/mm2 .
o Short-Circuit Withstand: Designed to handle short-circuit currents according to IEC 62271 series, with mechanical endurance up to 10,000 operations for circuit breakers .
o Insulation: Gas-insulated (SF6) enclosures provide compact, hermetically sealed insulation, reducing space requirements and improving safety .

Mechanical and Thermal Parameters

o Material: Copper or aluminum, with surface finish options (bare, tinned, or painted) to reduce contact resistance .
o Cross-Section: Determined by design current and allowable temperature rise; calculated using A_min = I / J, where I is design current and J is current density .
o Temperature Rise: Typically limited to 70 K above 35?C ambient, following IEC 61439-1 guidelines .
o Mounting Orientation: Horizontal flat or edgewise, with derating factors applied for multiple conductors or enclosure constraints .

Design and Operational Features

o Busbar Configuration: Single-busbar or double-busbar arrangements are supported in Pinggao GIS .
o Safety: Capacitive voltage detection systems allow verification of safe isolation; all high-voltage parts are metal-enclosed and safe-to-touch .
o Service Life: Expected >=40 years under normal operating conditions, limited by switching device cycles .
o Standards Compliance: Designed according to IEC 61439 for busbar assemblies and IEC 62271 for medium-voltage switchgear .

Summary

Pinggao 35kV busbars in GIS systems are compact, high-reliability conductors designed for medium-voltage power distribution. They combine high current capacity, thermal stability, and mechanical endurance with SF6

insulation for safe, long-term operation. Proper sizing involves selecting the material, cross-section, and current density while considering temperature rise, derating factors, and IEC compliance .

Learn the IEC Standard for Busbar Contact Resistance, including applicable IEC standards,

Distance Module OMICRON Tutorial Webinar presented by Tim Walker

This standard covers busbars used for low-voltage assemblies, power distribution, photovoltaic power systems, and

Important characteristics of laminated bus bars are resistance, series inductance, and capacitance. As performance parameters of

The core principle is that the system automatically adjusts the generator"s voltage, frequency, and phase angle to precisely match

The model"s parameters were optimized with a two-step procedure to determine the optimal ranges of the parameters.

PINGGAO provides the service for renewable energy sources connection about frequency adjustment and peak load shifting.

Pinggao Group Co., Ltd. is a leading manufacturer of electrical equipment in China, specializing in high, medium, and low voltage

Pinggao has a full range of circuit breakers for all voltage ratings from 72.5kV up to 1,100kV, with a high degree of reliability and

Generally, a primary substation includes a high-voltage busbar system, medium-voltage busbar system, auxiliary

PINGGAO GROUP CO., LTD. ZF12D-145 (L) ZF12D-145 (L) GIS 145kV E24z, 145kV GIS is a well proven modular product with

Pinggao Group is a subsidiary of China Electric Equipment Group Co., Ltd., founded in 1970. It is a major technical equipment pillar

It adopts double-action self-energy arc extinguishing chamber, three-position integrated design of

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Busbar Design and Sizing Calculations This document provides specifications for an electrical busbar including its size, number of

This document is a graduation thesis on the electrical primary design of a 35kV substation. It includes an abstract that outlines the

This paper addresses the extraction of accurate frequency-dependent per-unit-length RLGC parameters for busbar distribution

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