MV Switchgear for Substation Solutions

cpg.0 & cpg.1
Single and double busbar panel type GIS system

Up to 40.5 kV
Up to 38 kV

IEC Standards
IEEE Standards

Reliable innovation. Personal solutions.

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Preface

MV/MV and HV/MV substations are one of the most critical nodes in any electrical network. The increasing demand for electricity, and for more power in these substations, requires that MV panels have to guarantee maximum reliability and service continuity for rated current levels.

Following the long years of design, development, manufacturing and commissioning experience in gas insulated switchgear (GIS) in secondary distribution, in 2005 Ormazabal introduced into the world markets the cpg system: High duty, flexible and extensible single and double busbar GIS panels up to 36 kV.

During the recent years cpg has been extended to higher electrical ratings, e.g. up to 2500 A and up to 40.5 kV.

The cpg system has already been integrated into several utility, RES, industry and big infrastructure applications. Currently more than 5,000 functional units of this system have been in service in more than 25 countries.

Safety

- Internal arc tested (25-31.5 kA 1s)
- Gas insulated & screened system
- Mechanical / electrical interlocks to prevent unsafe operations
- Switch position and voltage presence indicators

Reliability

- Gas insulated & sealed for life
- 100% routine tested at the factory
- Seismic tested as per IEEE 693-2005

Efficiency

- Modular design extensible to both sides without gas handling
- Easy frontal access to install and to test MV cables and fuses
- Optimised dimensions

Sustainability

- Continuous reduction in use of greenhouse gases
- End-of-life management
- Use of highly recyclable materials
- No SF6 gas use during installations

Continuous Innovation

- New values up to 40.5 kV
- Preventive cable fault diagnosis
- Partial discharge (PD) detection for network diagnosis

Standards

IEC

- IEC 62271-1
- IEC 62271-200
- IEC 62271-100
- IEC 62271-102
- IEC 62271-105
- IEC 62271-103

ANSI / IEEE

- CAN CSA C22.2
- IEEE Std C37.74
- IEEE Std C37.20.3
- IEEE Std 1247
- IEEE Std C37.123
- IEEE Std C37.20.4
- IEEE Std C37.04
- IEEE Std C37.06
- IEEE Std C37.09
- IEEE Std C37.20.7

Technical data

General

- Metal enclosed, cpg.0 single busbar, cpg.1 single and double busbar.
- Indoor use up to 1000* m altitude
- Ambient T*: Standard -5 °C to +40 °C*
- Loss of service continuity: LSC 2
- Partition class: PM

(*) Other conditions under consultation

IEC Standards

Rated values

- cpg.0: Up to 24 kV / 2500 A / 25 kA
- cpg.1: Up to 24 kV / 2000 A / 25 - 31.5 kA

Internal arc classification

- cpg.0: IAC AFL(R) 25 kA 1 s (R optional)
- cpg.1: AFL(R) 25 kA 1 s (R optional)

Functions

- cpg.0: v, f, s, rb, c
- cpg.1: v1, f1, s1, c / v2, f2, s2, cl, ct

ANSI / IEEE Standards

Rated values

- cpg.0: Up to 27 kV / 2250 A / 25 kA
- cpg.1: Up to 27-38 kV / 2000 A / 25 -31.5 kA

Internal arc qualified (IEEE C37.20.7 ID-S)

- cpg.0: AFL(R) 25 kA 1 s (R optional)
- cpg.1: AFL(R) 25 kA 1 s (R optional)

Functions

- cpg.0: v, f, s, rb, c
- cpg.1: v1, f1, s1, c / v2, f2, s2, cl, ct

Family

- cpg.0 / Single busbar
- cpg.1 / Single busbar
- cpg.1 / Double busbar

Design