ORMAZABAL
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Medium voltage switchgear for
Distribution Network Solutions

cgmcosmos

Modular compact system (RMU) with full gas insulation

Up to 24 kV
Up to 27 kV

IEC Standards
ANSI/IEEE Standards

Reliable innovation. Personal solutions.

www.ormazabal.com

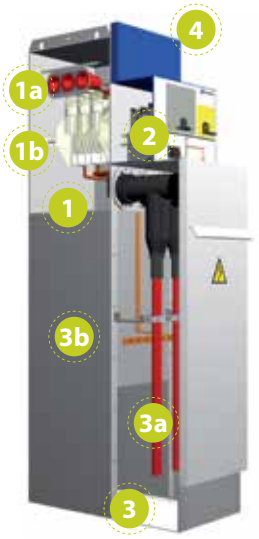
Foreword

The first **cgmcosmos** was launched in 2000, as the most flexible modular compact range (RMU) for secondary distribution networks up to 24 kV.

Since then, the **cgmcosmos** has evolved towards the most extensive range with the highest values, based on our customers' requirements.

The **cgmcosmos** system has been incorporated in numerous smart grid applications. There are currently more than 400,000 **cgmcosmos** functional units in service in over 60 countries.

Design



1 Gas tank
1a Busbar connection
1b Switching and breaking elements
2 Driving mechanisms
3 Base
3a Cable compartment
3b Gas expansion
4 Control box (optional)

Benefits

Safety

» Tested against internal arc
» All live parts are housed in a hermetically-sealed gas tank
» Mechanical/electrical interlocking to prevent unsafe operation
» Indicators for switch position, voltage presence and acoustic alarm

Reliability

» Full insulation with lifetime sealing
» Factory routine tests on 100% of the units

Efficiency

» Modular design extensible on both sides thanks to **ormalink**
» Uninterrupted motorisation of supply
» Easy front access to install and test medium voltage cables and fuses
» Compact size and lightweight

Sustainability

» Ongoing reduction in the use of greenhouse gases
» End-of-life and recycling management
» Use of highly-recyclable materials
» Self-powered protection units

Continuous innovation

» Cubicles operating at - 30 °C
» Evolution in the driving mechanisms
» Protection and automation units integrated in the cubicle
» System prepared for smart grids
» Voltage and current sensors
» Cable faults preventive diagnosis
» Partial discharge (PD) detection for network diagnosis

Standard

IEC
IEC 62271-1
IEC 62271-200
IEC 62271-100
IEC 62271-102
IEC 62271-105
IEC 62271-103
IEC 60529
IEC 62271-206

ANSI/IEEE
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

Others: SANS, HN, GB, SDMS...

Technical details

General

» Metal enclosure, single busbar
Indoor use up to altitude 2000* m
» **Environmental temp:**
Standard - 5°C to + 40°C*
Extended - 30°C to + 40°C*
» **Loss of service continuity:**
LSC 2B
» **Compartmentalisation class:** PM
» **Rated frequency** 50/60 Hz
(*) Other conditions to order

	IEC	IEEE
Rated voltage	**Up to 24 kV**	**Up to 27 kV**
Rated current	**Up to 630 A**	**Up to 600 A**
Classification of internal arc[1]	AFL 16 - 20 - 25 kA (1 s)	AFL 16 - 20[2] - 25 kA (1 s)
Rated short-time withstand current	16 - 20 kA[2] (1 - 3 s)/25 kA (1 s)	20[2] kA (1 - 3 s)/25 (1 s)
Functions	I, p, v, s, rc, rb, r2c, m, 2Ip, 2Iv, 2I, 3I, 3Ip, 2I2p, rIp	I, p, v, s, rc, r2c, m

[1] For the AFLR option, please check with **Ormazabal**
[2] Tests carried out at 21 kA/52.5 kA (50 Hz) - 54.6 kA (60 Hz)

Product range

Unifunctional units

l

Feeder

p

Fuse protection

v

Circuit-breaker with AV/ RAV driving mechanism

v

Circuit-breaker with AV3 driving mechanism

s

Busbar switch

s-pti

Busbar switch with left-hand earthing

s-ptd

Busbar switch with right-hand earthing

a

Auxiliary services supply

rb

Busbar rise

rb-pt

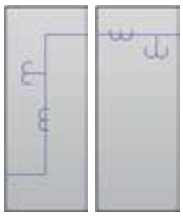
Busbar rise with earth connection

rc

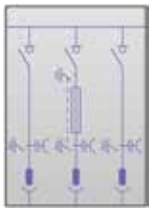
Cable rise

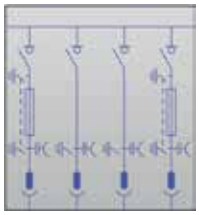
r2c

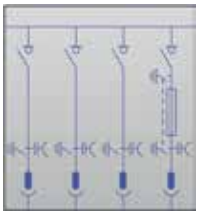
Double-busbar rise

m

Metering

Multifunctional units

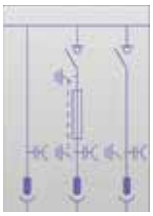
2lp **(RMU)**

Fuse-protection and double feeder

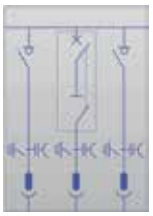
2l2p

Double fuse-protection and double feeder

3lp

Fuse-protection and triple feeder

3l

Triple feeder

rlp

Protection with fuses, feeder and busbar rise

2lv

Circuit-breaker with AV3 driving mechanism and double feeder

Dimensions and weights

Module	Height [mm]	Width [mm]	Depth [mm]	Weight [kg]
-l	1300 1740	365	735	90 100
-p	1300 1740	470	735	140 150
-s	1300 1740	450	735	110 115
-a	1300 (AS) 1740 (busbar voltage metering)	470	875	195 237
-v (AV/RAV)	1740	480	845	240
-v (AV3)	1300 1740	460	845	205 215
-rb /-rb-pt	1300 1740	365	735	90 100
-rc	1740	365	735	40
-r2c	1740	550	735	60
-m	1740	800	1025	165
-2l	1300 1740	730	735	210
-3l	1300 1740	1095	750	320 340
-rlp	1300 1740	1190	735	275 295
-2lp	1300 1740	1190	735	290 310
-2lv	1300 1740	1046	845	365 385

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