



MV/LV Transformer Substations for
Distribution Network Solutions

cms.m

Outdoor MV switchgear and
controlgear substation

Up to 40.5 kV

IEC standards

Reliable innovation. Personal solutions.

Preface

The **Ormazabal cms.m** is a kiosk-type prefabricated metal switching and breaking substation, non-walk-in type outdoor substation, installed at ground level, small in size, standard-built, tested and supplied from the factory as a single unit.

cms.m is designed for installations in electrical networks of rated voltage of up to 40.5 kV in alternating current. Its reduced weight and dimensions enable easy handling and transport.

cms.m can be supplied fully assembled with a replaceable voltage transformer HV fuse protected and IAC tested, for LV auxiliary supply or LV measure.

Safety

- » High personnel safety:
 - » Optional: IAC Class-AB 20 kA 1 s; tested according to IEC 62271-202
- » IP34D: MV enclosure

Reliability

- » Fully factory-assembled
- » Product tested as a unit
- » Corrosivity category C4 H (ISO 12944-1)
- » Ventilation grilles with dust-collection filter
- » Self-ventilating cover with insulation chamber

Efficiency

- » On-site quick and simple replacement
- » Easy to transport and operate

Sustainability

- » Reduced visual impact
- » Reduced dimensions and weight

Continuous innovation

- » Transportable in sea container HC 40' (up to 8 units)
- » Version for PV applications
- » Optional voltage transformer (two phase 600 VA/three phase 300 VA) HV fuse protected, for 230 V_{ac} supply
- » Optional control box for switchgear and controlgear automatization

Standard

cms.m is designed, following the requirements indicated in the standard IEC 62271-202.

Technical data

cms.m

- » Outdoor, fully gas-insulated MV switchgear with an independent metal enclosure with front access:
 - » Up to 24 kV: **cgmcosmos** or **ga** systems
 - » Up to 40.5 kV: **cgm.3** system
- » Medium-voltage interconnections
- » Earthing circuit connection

Technical specifications


Rated voltage	[kV]	24	36-40.5
Frequency	[Hz]	50 / 60 Hz	

MV Switchgear

Rated current	[A]	
cgmcosmos		400 / 630
ga		630
cgm.3		400 / 630


Short-time current	[kA / 1 s]	16 / 20 / 25*
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Internal arc classification (optional)	IAC Class AB – 20 kA 1 s
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 (*) in **cgmcosmos** and **cgm.3**

External dimensions and weights

		cms.m-3f	cms.m-4f
Length	[mm]	1404	1404
Width	[mm]	1766	2296
Height	[mm]	2224	2224
Weight [#]	[kg]	845-1025	1085-1415

 (*) Weight depending on MV diagram and without optional elements



Design



- 1** Medium-voltage switchgear
- 2** Metal enclosure
- 3** Automation control box (optional)

Configurations available in medium-voltage

cms.m-3f (up to 3 functional units): Three feeder functions or two feeder functions and a protection function (protected by fuses or circuit-breakers):


- » **cgmcosmos-3l**, **cgmcosmos-2lp**, **cgmcosmos-2lv**
- » **cgm.3-3l**, **cgm.3-2lp**, **cgm.3-2lv**
- » **ga-3k**, **ga-2k1ts**, **ga-2k1lsf** (1400 mm in height, versions 1 and 2)

cms.m-4f (more than 3 functional units):

- » **cgmcosmos-2l2p**, **cgmcosmos-5l**, **cgmcosmos-2l2v**, **cgmcosmos-3lv**, **cgmcosmos-2l2vp***, **cgmcosmos-3lvp***
- » **cgm.3-2l2p**, **cgm.3-4l**, **cgm.3-2l2v**
- » **ga-4k**, **ga-2k2ts**, **ga-2k2lsf** (1400 mm in height, versions 1 and 2)

Where:

- » l & k = Feeder function
- » p & ts = Fuse protection function
- » v & lsf = Circuit-breaker protection function
- » p* = VT HV fuse protected LV supply function

 Note: For other configurations / values contact **Ormazabal**