Outdoor compact prefabricated metal transformer substation

Up to 40.5 kV, 5000 kVA   IEC standards
Preface

The Ormazabal mb.m is a prefabricated (IEC 62271-202), outdoor, compact, metal transformer substation that is a non-walk-in-type, frame-mounted, installed at ground level, small in size, standard-built, tested and supplied from the factory as a single unit.

It is characterised by the fact that it includes a compact, medium-voltage grouped equipment assembly for use in distribution networks up to 40.5 kV.

mb.m is used in various Distribution Network Solutions (DNS) including conventional transformer substations, temporary-use transformer substations, and for renewable energy uses, such as the mb.m-pv model intended for PV plants.

Safety

» High personnel safety:
  » Optional: IAC Class-AB 20 kA 1; tested according to IEC 62271-202
  » IP34D: MV enclosure
  » IP1X: Transformer perimeter protection fence (optional).

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
» Optional oil collection device

Continuous innovation

» Transportable in sea container HC 40’
» Version for PV applications mb.m-pv model

Standard

mb.m designed according to the IEC 62271-202 requirements

Technical data

mb.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
» MV/LV transformer distribution transformer, dielectric-liquid completely-filled type up to 5 MVA.
» Medium-voltage interconnections
» Earthing circuit connection
» Self-supporting metal frame
» Optional:
  » IP1X perimeter protection fence for the transformer unit
  » Oil collection tank with an incorporated filter
  » MV and/or LV terminal cover box on the transformer

Technical specifications

Rated voltage  [kV] 24 36-40.5
Frequency  [Hz] 50
Transformer Power  [kVA] ≤5000**

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

Short-time current  [kA/1s] 16/20/25*
Internal arc classification (optional) IAC Class AB 1; 20 kA 1 s

External dimensions and weights
(without transformer)
Length  [mm] ≤2.5 MVA 2.5 MVA
Width of frame  [mm] 2997 4925
Height  [mm] 2296 2296
Weight*  [kg] 1400-2100 2400-3100

Note: For other configurations / values contact Ormazabal

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Confignations available in medium-voltage

mb.m: 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).

Optional:

» cgmcosmos-2l2p, cgmcosmos-4l, cgmcosmos-2l2v.
» 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

Note: For other configurations / values contact Ormazabal

Design

1 Medium-voltage switchgear
2 Transformer unit
3 Metal frame assembly