



MV Switchgear
for Distribution Network Solutions

gae630

Fully Gas Insulated
Modular System

Up to 24 kV

IEC Standards

Reliable innovation. Personal solutions.

Preface

ga type fully GIS ring main units were first designed in 1985 as one of the earliest compact ring main units (RMU) for secondary distribution networks up to 24 kV. Being one of the smallest RMUs that incorporates the minimum amount of gas in its gas tanks compared to its competitors, **ga** has been recognized as one of the world's pioneer RMUs.

Following the market success of its antecedents (**ga** & **ge**) **gae630** was first launched in 2001, as a fully gas insulated and modular cubicle range, mainly for secondary distribution applications. In 2004, the **gae** system upgraded its busbar current ratings to 1250 A based on our customer's demands for electrical utility, RES and industrial applications. Finally in 2013, **gae1250kmax** series has been further upgraded to 25 kA ratings.

Recently **gae** family has already been installed for smart grid applications of many electrical utilities worldwide. Today more than 350,000 **gae** feeders have been installed in more than 40 countries.

Safety

- » Internal arc tested (Up to IAC AFL 20 kA 1 s)
- » Optional passive & maintenance free arc absorber technology
- » All live compartments are inside a hermetically sealed stainless steel tank
- » Anti-reverse mechanical / electrical interlocks to prevent unsafe operations
- » Switch position and capacitive voltage presence indicators

Reliability

- » Fully insulated and sealed for life
- » Screened cable connectors
- » Completely designed in Germany
- » 100% routine tested at the factory

Efficiency

- » Modular design suitable to any electrical single line diagram
- » Small size and light weight
- » Easy frontal access to install and to test MV cables and HRC fuses
- » Smart grid ready systems (Optional)
- » Customized protection and automation systems (Client specifications)

Sustainability

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

Continuous innovation

- » Ambient temperature in -5/-25°C
- » Adaptation to smart grid

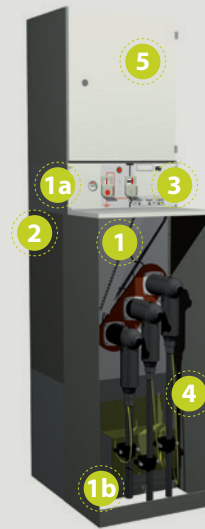
Standards

IEC

IEC 62271-1
IEC 62271-200
IEC 62271-100
IEC 62271-102
IEC 62271-105
IEC 61243-5
IEC 60265-1
IEC 60529



Design



- 1 Gas Tank
- 1a Switching and breaking devices
- 1b Pressure relief duct
- 2 Busbar compartment
- 3 Driving mechanism and operator interface
- 4 Cable Compartment
- 5 Control Box

Family

1k(*1) Load-break switch (LBS)	1a Cable connection	1ts Fused LBS	1lsf(*2) SF ₆ Circuit breaker (CB)
1h(*3) Bus riser	1e Busbar earthing	1lsv(*4) Vacuum CB	1m(*5) Metering
2k Two feeders	2ts Two transformer feeders	2k1ts Two feeders and one transformer feeder	
3k Three feeders	2k1lsf Two feeders and one SF ₆ CB		

- (*) Available versions:
 (1) 1k, 1kb and 1kg
 (2) 1lsf and 1lsfg
 (3) 1h1 and 1h2
 (4) 1lsv and 1lsvg
 (5) 1m1, 1m2, 1m4, 1m5, 1m5ü, 1m6

Technical data

Rated values

7.2-12-17.5-24 kV
630 A
16 kA, 20 kA 1-3 s

50/60 Hz

Type-tested, factory-built, metal-encapsulated, single busbar
Indoor use up to 1000* m altitude

Ambient temperature

Standard -5°C to +40°C*

(* Other conditions under consultation)

Loss of service continuity

LSC 2A

Partition class: PM

Internal arc class

IAC AFL 20 kA 1 s

Functions

Modular:

1k, 1kg, 1a1, 1ts, 1lsf, 1lsfg, 1h1, 1e, 1h2, 1lsv, 1lsvg, 1m1, 1m2, 1m4, 1m5, 1m5ü, 1m6

Extensible compacts:

2k, 2ts, 2k1ts, 3k, 2k1lsf

kg, lsfg and lsvg functions are designed for connecting with 1m1 or 1m5ü functions