GAMS

Medium voltage switching station system

ESA ELEKTROSCHALTANLAGEN GRIMMA GmbH

How ESA's medium-voltage switching stations can be applied

You can use these type-tested, factory-built and air-insulated medium-voltage switching stations for a wide variety of applications. For instance, they can be used both for public power supply companies and industrial operations. Medium-voltage switching stations can also be used as a universal party line switching station or complex energy distribution systems. Our switchboard sections are equipped with all of the operational equipment, locks and accessories needed for providing a high level of safety and reliability for the staff and plant.

We have the following designs available or we can combine them:

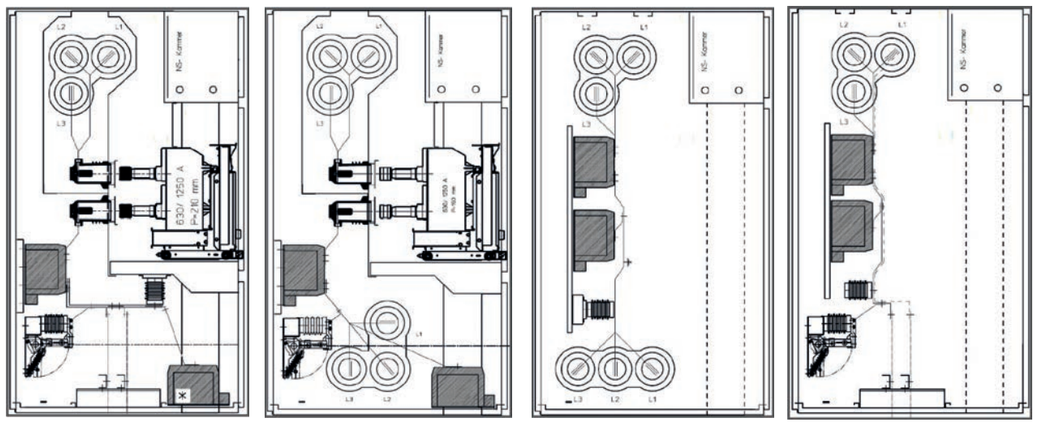
- Vacuum circuit breakers using fixed-mounted and slide-in technology
- Vacuum contactor using fixed-mounted and slide-in technology
- Switch disconnectors using fixed-mounted and slide-in technology
- Measuring fields

A cross-section of how you benefit

- Air-insulated medium voltage switchgear, metal-partitioned, indoor installation
- More economical and higher flexibility thanks to the modular system
- Single or dual busbar system
- The highest degree in personal and system protection through arc fault testing, IAC A FLR 31,5 kA, 1 s
- Partition class PM: metal partitioning between all devices, busbar and cable compartments
- Can be optionally equipped with a certified pressure release duct
- Routine factory testing in accordance with VDE/EN/IEC standards and specific customer requirements

The arc fault testing for a medium voltage field with a pressure release channel

Field options



1 Input/outgoing feed panel 2 Coupler panel 3 High speed/measuring field 4 Direct incoming panel

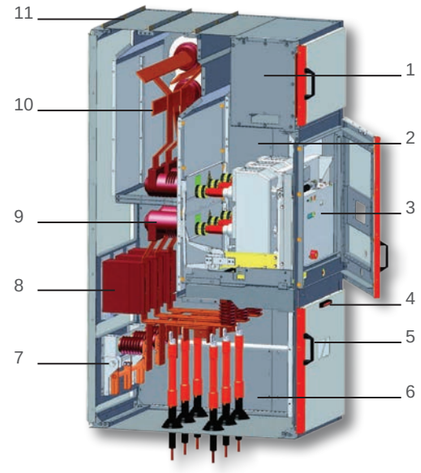
Field quantities for the power switch

- Switchgears (preferred): Siemens, ABB, TAVRIDA
- Slide-in technology
- Fixed-mounted technology
- Type tested in conformity with IEC 62271-200 / VDE 0671 parts 200-12 kV; 2500 A; 31,5 kA
- Arc fault tested PM / LSC 2B / IAC A FLR 31,5 kA; 1 s

Rated current Circuit breaker 12 kV	630 A...1250 A	1600 A...2000 A
Height	2200 mm	2200 mm
Height with deflector plates	2500 mm	2500 mm
Height with pressure release duct	2600 mm	2600 mm
Width	650 mm	800 mm
Depth at 12 kV	1250 mm	1250 mm

1 Low-voltage compartment
2 Circuit breaker compartment
3 Vacuum circuit breaker
4 Swing handle lock
5 Door handle
6 Cable terminal compartment
7 Earthing switch
8 Current transformer
9 Contact insulator
10 Busbars
11 Pressure release flap

Optional: potential transformer and overvoltage arrestor



Overview of an input/outgoing feed panel

Features of GAMS

- Maximum staff safety
- Maximum operational availability
- Type tested in conformity with IEC 62271- 200, factory-built
- Compact dimensions
- Modular design with a lot of options
- Easy-mounting cable connection room
- Ergonomic one-hand closing system with pressure-resistant doors
- Variable low-voltage room
- Easy to expand the system
- Individualised applications

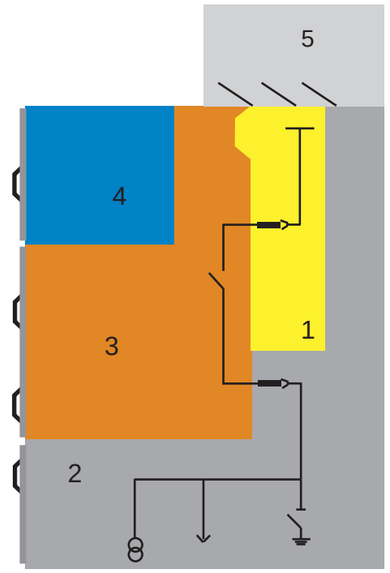
Function rooms or units

Each field consists of five function spaces or units

1 Busbar compartment
2 Cable terminal compartment
3 Switchgear compartment
4 Low-voltage compartment
5 Pressure release channel

The function rooms or units are physically and electrically partitioned off against one another by field separating walls and separation sections. They can stay under voltage, even though another function room is opened.

Input/outgoing feed panel



Function rooms or units

GAMS (same design as MALu) – Technical data

Rated voltage	U_r	12 kV
Rated lightning impulse withstand voltage	U_p	75 kV
Rated short-time power-frequency withstand voltage	U_d	28 kV
Rated operational current	I_r	2500 A
Rated short-time withstand current	I_k	31,5 kA
Rated short-circuit time	t_k	3 s
Rated impulse current	I_p	104 kA
Rated frequency	fr	50/60 Hz

Dimensions in mm		
Width	B	650, 800
Height	H	2200
Depth	T	1250

Operational safety		
Accessibility		A
Stray light arc qualification in conformity with IEC 62271-200	IAC	FLR-31,5 kA, 1 s
Operational availability	LSC	LSC 2B
Protective system	IP	IP 3x/4x
Weight <1250A	m	800kg
>1250A	m	1200kg

Principles in conformity with IEC 62271-200 / VDE 0671-200:2008-03

Rated current	PM	Metal partitioning
	PI	Insulating material cover
Operational availability	LSC 1	The bus bar and therefore the entire switchboard plant has to be switched off.
	LSC 2A	The bus bar and neighbouring switchboard sections can remain under voltage.
	LSC 2B	Other switchboard sections, the bus bar and all cable harnesses can remain in operation.
IAC class classification	accessibility	
	A	Metal-encapsulated switchboard plant that is only accessible to electricians.
	B	Metal-encapsulated switchboard plant that is accessible to an unlimited extent even in public.
	C	Systems mounted on a mast.
	FLR	Access from the front (F=front), from the side (L=lateral) and from the rear (R=rear)
GAMS	PM LSC 2B	With the certified stray light arc qualification
	31,5 kA 1 s	IAC A FLR to 31,5 kA and a second of electric arc duration,
	IAC A FLR	our switchboard plant offers the best-possible staff protection.

As of 04-2014

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