

SafeRing and SafePlus 36 kV SF₆ gas-insulated ring main unit and compact switchgear for secondary distribution

SafeRing and SafePlus - two products, one range
The SafeRing and SafePlus concepts represent a complete solution for secondary distribution networks.

Both products offer a completely sealed system with all live parts enclosed in a stainless steel tank ensuring constant atmospheric conditions. This enables a high level of reliability and safety besides ensuring a virtually maintenance-free system.

The SafeRing and SafePlus concepts offer a choice between a switch fuse combination or a circuit breaker with relay for protection of the transformer.

SafeRing is extendable and can be combined with SafePlus units.

SafePlus has a unique flexibility due to its extendable features and the possible combination of fully modular and semi modular configurations.

SafeRing and SafePlus have identical user interfaces.

Features and benefits

- SF₆ gas-insulated switchgear
- 36kV, 630A
- Auto-reclosing capability
- Metal-enclosed design
- Well proven technology - years of experience
- Type tested according to all relevant IEC standards
- Manufactured according to ISO 9001, 14001 and OHSAS 18 001
- Recyclable and very low environmental impact
- Maintenance free
- Internal arc classified (IAC)
- Extensible in both directions
- No exposure of live parts
- 420 mm wide functional units
- Arc suppressor as option
- Reduced height 1.700 mm as option

Common applications for SafeRing and SafePlus

- Small industries
- Wind power plants
- Buildings, hotels, shopping centers
- Mining applications
- Airports
- Railway systems
- Underground installations

In addition SafePlus is well suited for small utilities.

The most common application for SafeRing is in Compact Secondary Substations.



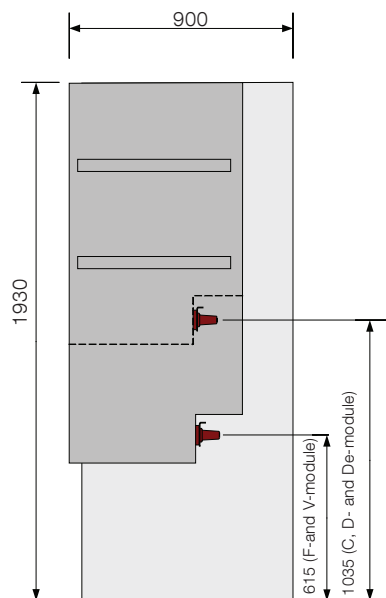
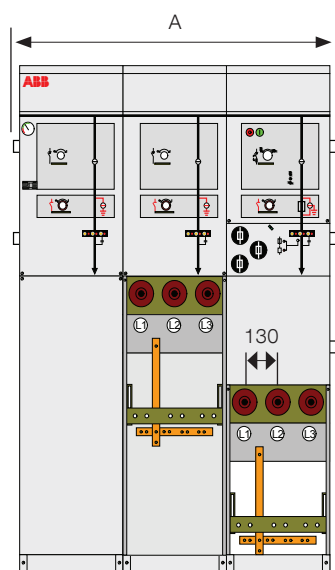
Technical data

		C-module		F-module		V-module	
		Switch disconnecter	Earthing switch	Switch-fuse disconnecter	Downstream earthing switch	Vacuum circuit-breaker	Earthing switch / disconnecter
Rated voltage	kV	36 / 40,5	36 / 40,5	36 / 40,5	36 / 40,5	36 / 40,5	36 / 40,5
Power frequency withstand voltage	kV	70 / 95	70 / 95	70 / 95	70 / 95	70 / 95	70 / 95
- across disconnecter	kV	80 / 110		80 / 110			80 / 110
Lightning impulse withstand voltage	kV	170 / 185	170 / 185	170 / 185	170 / 185	170 / 185	170 / 185
- across disconnecter	kV	195 / 215		195 / 215			195 / 215
Rated normal current	A	630 / 630 ¹⁾		200 / 200 ²⁾		630 / 630 ¹⁾	
Breaking capacities:							
- active load	A	630 / 630		200 / 200			
- closed loop	A	630 / 630		200 / 200			
- off load cable charging	A	20 / 21		20 / 21		50 (Class C1)	
- earth fault	A	60 / 63		60 / 63			
- earth fault cable charging	A	35 / 36		35 / 36			
- transfer current	A			840 / 750			
- short-circuit breaking current	kA			see ³⁾		20 / 20	
Making capacity	kA	50 / 50	50 / 50	see ³⁾	2,5 / 2,5	50 / 50	50 / 50
Class (Electrical endurance)		E3 / E2	E2 / E2	- / -	E2 / E2	E1 / E1	E2 / E2
Short time current 1 sec. ⁴⁾	kA	16 / 16	16 / 16		1 / 1	16 / 16	16 / 16
Short time current 1 sec. ⁵⁾	kA	25 / 25	25 / 25			25 / 25	25 / 25
Short time current 3 sec. ⁵⁾	kA	20 / 20	20 / 20			20 / 20	20 / 20
Internal arc classification IAC AFL, 1s	kA	20 / 20		20 / 20		20 / 20	

¹⁾ 400A for bushings Interface B (400 series plug-in) ²⁾ Depending on the current rating of the fuse-link ³⁾ Limited by high voltage fuse-links ⁴⁾ Max. rating for bushings Interface B (400 series plug-in)

⁵⁾ Valid for bushings Interface C

Dimensions



Unit	1-way	2-way	3-way	4-way
A (mm)	490	910	1330	1750

ABB AS
Power Products Division
P. O. Box 108, Sentrum
N-3701 SKIEN
NORWAY
Tel.: +47 35 58 20 00
Fax: +47 35 52 41 08
www.abb.com

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