Medium Voltage Products

SafeLink 2
A compact ring main switchgear solution for secondary 12 kV distribution networks

Power and productivity
for a better world™

SafeLink 2 – compact 12 kV ring main switchgear

SafeLink 2 ring main switchgear from ABB delivers smart, safe and compact solutions for secondary distribution applications.

The result is an inherently safe, cost-effective, flexible and innovative solution.

Smart

Control and monitoring of distribution networks through:
- Modular plug and play automation options
- Customer interface panel allows networks to connect to SCADA or other control systems to ensure easy integration
- Ready for operation in smart networks

Safe

Installation and operation safety is provided by:
- All live and switching functions are hermetically sealed in an SF_6 insulated tank
- A fully mechanically interlocked solution for operation and access. The cable box and fuse compartment cannot be accessed when voltage is present
- Arc venting design of the tank and cable box complies with IEC 62271-200 on internal arc fault classification (IAC)

Compact

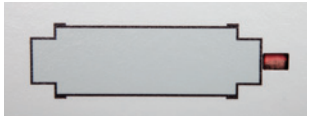
The compact design delivers solutions for:
- Integration in compact substations
- Indoor and outdoor installations
- Replacement of existing switchgear
- Installations where space is a premium

SafeLink 2 is designed for use in:

- Compact secondary substations
- Small industries
- Renewable power plants
- Hotels, shopping centres, office buildings, business centres

Design

1



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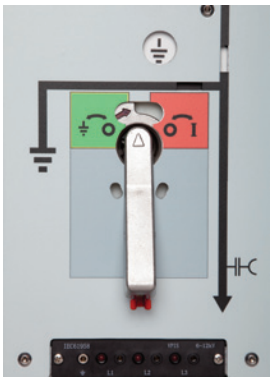

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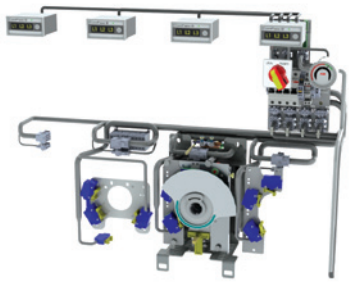
No.	Feature	Standard	Monitoring/control	Description
1	Fuse compartment	✓		Fuse compartment door interlocked with earth switch
2	Fuse blown indicator	✓	✓	Three phase fuse trip indicator – red flag
3	Local/Remote switch	Optional	✓	Local switch setting disables remote control
4	Fault passage indicators	Optional	✓	Fault passage indicators and LED indicators with remote status available
5	SF_6 gas density gauge	✓	✓	Temperature compensated, optional remote alarm and lockout available
6	Voltage indication	✓	✓	Capacative voltage indication, phase comparison testing
7	Cable bushings and connection	✓		DIN47636 in-line bolted cable connections
8	Individual cable compartments	✓		Door interlock, arc fault protection, all internal/ external panels removable

Functionality



Complete future proof solutions

Complex applications involving remote control and monitoring can now all be supplied from ABB as one complete solution.

SafeLink 2 automation is an optional system designed for controlling and monitoring the SafeLink range of 12 kV ring main switchgear.

This makes large scale implementation feasible, and simplifies engineering and procurement. The remote control and monitoring unit available for SafeLink is easily connected. This option is also readily available for retrofit where automation demands evolve after SafeLink 2 is put into service.

Key functions of SafeLink automation

– Switch position indication for both ring and fuse switches
– Control for ring switches when motor drive units are fitted
– Real time ring current and voltage measurement on all three phases
– Directional earth fault and phase to phase fault detection
– Space in the enclosure for customer communication equipment

Servicing

With a service life of 30 years for the main circuit without maintenance, SafeLink 2 delivers simple and reliable use.

Optional equipment

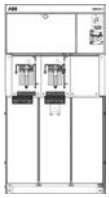
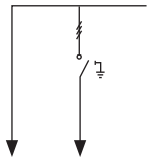
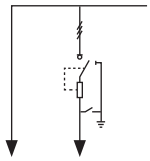
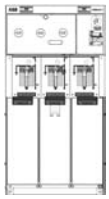
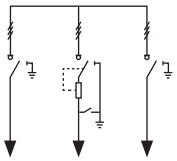
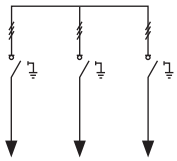
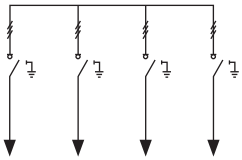
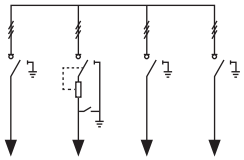
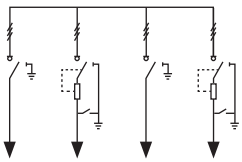
– Auxiliary switches on main and earth switches
– Fuse blown auxiliary switch
– Shunt trip for fuse switch
– Fault passage indicators
– Motor operation for load break switch
– Outdoor enclosure
– Gas density monitor
– Extended height plinth
– Removable cable termination boots
– Cable clamp support rails
– Gland plates
– Concrete base

Technical data

Electrical Data[1]		Ring Switch		Switch Fuse	
		Main Switch	Earthing Switch	Main Switch	Earthing Switch
Rated Voltage	Ur	12 kV	12 kV	12 kV	12 kV
Frequency	Fr	50 Hz	50 Hz	50 Hz	50 Hz
Rated Current	Ir	630 A		See note 2	
Lightning Impulse Withstand Voltage	Up	95 kV / 110 kV		95 kV / 110 kV	
Short-Time Withstand current	Ik	21 kA	21 kA		3.15 kA
Duration of Short Circuit	tk	3 s	3 s		3 s
Short Circuit Making Current	Ima	52.5 kA	52.5 kA		7.9 kA
Number of Load Break operations	n	100		100	
Power Frequency Withstand Voltage	Ud	28 kV / 32 kV		28 kV / 32 kV	
Electrical Endurance Class	Er	E3	E2		E2

SafeLink 2 is manufactured and tested in accordance with the latest edition of the following IEC regulations. IEC 62271-1, IEC 62271-102, IEC 62271-105, IEC 62271-200, IEC 60265-1 (1998-01), IEC 60137 (1995-12), IEC 60529 (1989-11), IEC 62271-206

1 General Ratings @ 1.1bar abs SF_6 Pressure
2 Dependent on fuse current rating.

Function	Configuration		Height	Width	Depth	Weight
2-Way	DC	DF	mm	mm	mm	kg
			1350 / 1380[1]	705 / 810[1]	700 / 838[1]	300 / 420[2]
3-Way	CFC	CCC				
			1350 / 1380[1]	705 / 810[1]	700 / 838[1]	300 / 420[2]
4-Way	CCCC	CFCC				
			1350 / 1380[1]	910 / 1015[1]	700 / 838[1]	320 / 453[2]
	CFCF					
			1350 / 1380[1]	1130 / 1235[1]	700 / 838[1]	400 / 550[2]

Configuration types:
C - Cable switch connection **D - Direct cable connection** **F - Switch-fuse connection**

1 Outdoor enclosure
2 Weight with SafeLink Automation box and outdoor enclosure.

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