

A circuit breaker for all applications
S800 High Performance Circuit Breaker

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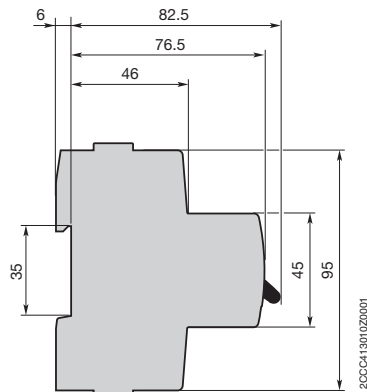
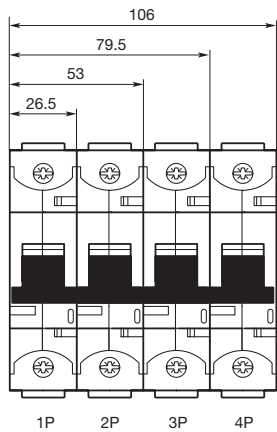
Protect and switch

Maximum rated ultimate breaking capacity = 50 kA

The S800 High Performance Circuit Breaker is a miniature circuit breaker with a maximum rated ultimate breaking capacity (I_{cu}) of 50 kA. For customer, this means maximum safety.

Only 27 mm overall width

Through its modular construction (available as 1- to 4-pole version) and the low pole width of only 27 mm, a space saving installation on DIN-rail is secured.



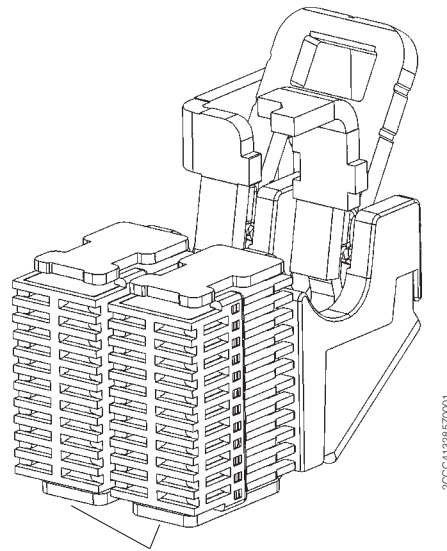
Fast and safe arc extinction

The S800 High Performance Circuit Breaker possesses the so-called double chamber system, i. e. each pole has an arcing chamber.

This is also the additional benefit against devices with only one arcing chamber.

Two arcing chambers effect a faster arc extinction.

The advantage of a faster extinction is, in case of a short-circuit all downstream devices and cables carry no defect away.



Each an arcing chamber

Extensive range off accessories

The S800-range includes an extensive range of accessories, which makes the use of the S800 High Performance Circuit Breaker even easier and therefore more user-friendly.

The accessories are after assembling not only connected over lever of S800, even with the pin located on the side it is connected directly with the switching mechanism of the main device (S800).

This guarantee always a safe release and/or signalisation.

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The range

The range of S800 High Performance Circuit Breaker includes several version, which differ in their rated ultimate breaking capacity (I_{cu}).

Furthermore there are differences between AC- and DC-version, a range for the American/Canadian market (listed acc. to UL) or a range for photovoltaics only.

Wherever high power requirement is over several levels distributed, the use of S800 High Performance Circuit Breaker offers the best solution.

On the following pages, some examples are shown where the S800 High Performance Circuit Breaker is used so far.



Type	Characteristic		Rated operational voltage U_e	No. of poles	I_{cu}	Rated operational current I_n	IEC 60947-2	IEC 60898-1
S800S	B, C, D, K	AC/DC	up to 400/690 VAC / 125 VDC per pole	1- to 4-pole	50 kA	6–125 A	■	■
	KM	AC/DC	up to 400/690 VAC / 375 VDC	3-pole	50 kA	20–80 A	■	
S800S-UC	B, K	DC	250 VDC per pole	1- to 4-pole	50 kA	10–125 A	■	
S800N	B, C, D	AC/DC	up to 400/690 VAC / 125 VDC per pole	1- to 4-pole	36 kA	6–125 A	■	■
S800C	B, C, D, K	AC/DC	up to 500 VAC / 125 VDC per pole	1- to 4-pole	25 kA	10–125 A	■	■
S800B	B, C, D, K	AC/DC	up to 230/400 VAC / 75 VDC per pole	1- to 4-pole	16 kA	32–125 A	■	
S800HV	K	AC	580/1000 VAC	1- up to 3-pole	4 kA	6–125 A	■	

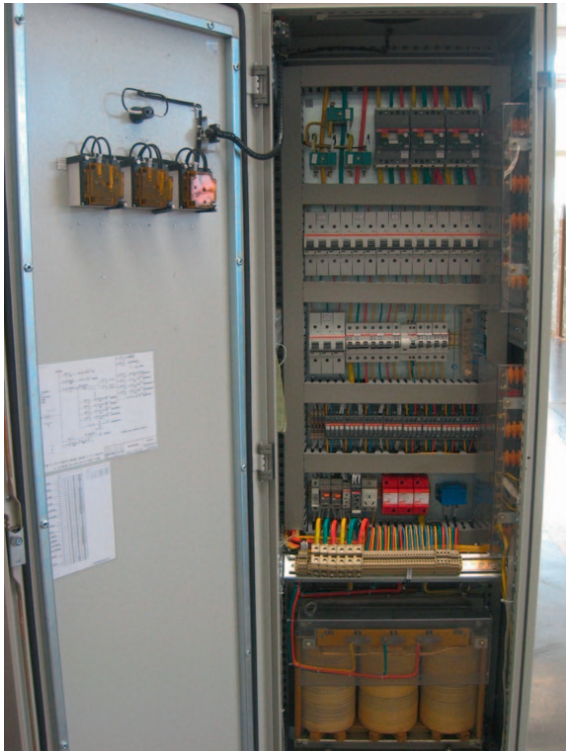
Type	Characteristic		Rated operational voltage U_e	No. of poles	I_{cu}	Rated operational current I_n	IEC 60947-2	IEC 60947-3	UL489B (USA)
S800PV-S		DC	up to 1200 VDC	2- up 4-pole	5 kA	10–125 A	■		
S800PV-M		DC	up to 1200 VDC	2- up 4-pole	1.5 kA	32, 63, 125 A		■	
S802PV-M-H		DC	1000 VDC	2-pole	1.5 kA	32, 63, 100 A		■	
S804U-PVS5		DC	1000 VDC	4-pole	3 kA	5 A			■

Type	Characteristic		Rated operational voltage U_e	No. of poles	I_{cu}	Rated operational current I_n	IEC 60947-2	UL489 (USA / Canada)
S800U	K, Z	AC	240 VAC	1- to 4-pole	50 kA	10–100 A	■	■
S804U-UC	Z	DC	600 VDC	4-pole	10 kA	10–80 A		■

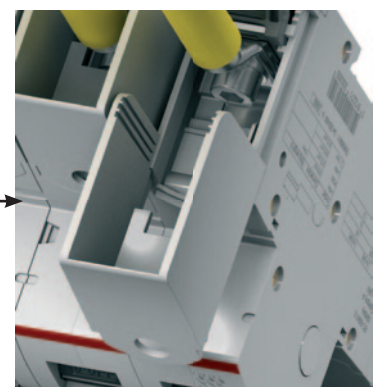
S800 High Performance Circuit Breaker Wind Turbine

The S800 High Performance Circuit Breaker is used at various wind power operators. In this example the S800 is used with ring terminals.

The conversion to ring terminals can be done quickly and easily by the customer. The standard terminals cover is removed and replaced with the ring terminal kit (S800-RT).



Modification from cage terminal to ring terminal connection



Main features

- Easy and fast conversion from cage to ring terminal is possible
- High rated ultimate breaking capacity of up to 50 kA, in combination with self-resetting short-circuit limiter (S800S-SCL-SR) up to 100 kA
- Various range of accessories available
- High availability due to reclosing after fault

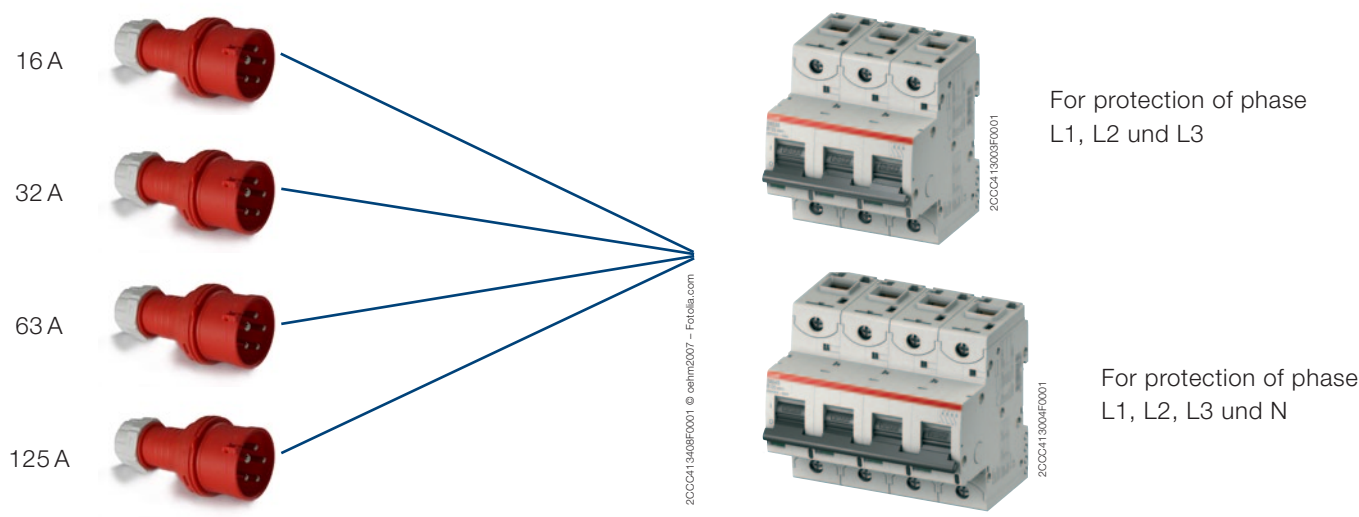
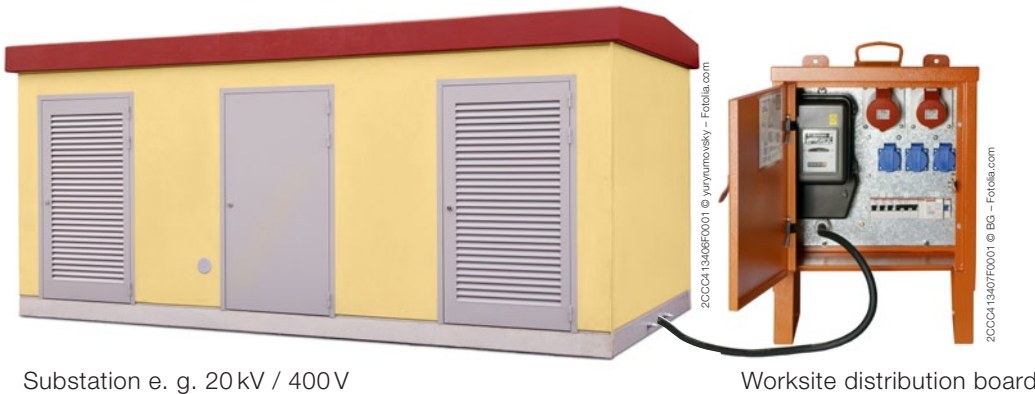
S800 High Performance Circuit Breaker Worksite distribution boards

The S800 can be excellently used for protection inside of worksite distribution boards.

The advantage against a fuse is the disconnection of all poles at the same time, the high availability and the low power dissipation.

After a fault each lay person can switch on the S800 again. This increases the availability, because long waiting times by replacing the faulty fuse are inapplicable.

The S800 is available up to a rated ultimate breaking capacity of up to 50 kA. By short cable lengths between substation and worksite distribution boards such high short-circuits can occur, but even here the S800 range offers the ideal solution.



Main features

- Low power dissipation
- After a fault, the S800 can be switched on again through each lay person
- High availability
- Low maintenance costs, because no replacement after fault is necessary
- Disconnecter properties, i. e. you can switch under load
- Rated operational current from 6 to 125 A

S800 High Performance Circuit Breaker Distribution cabinet in general

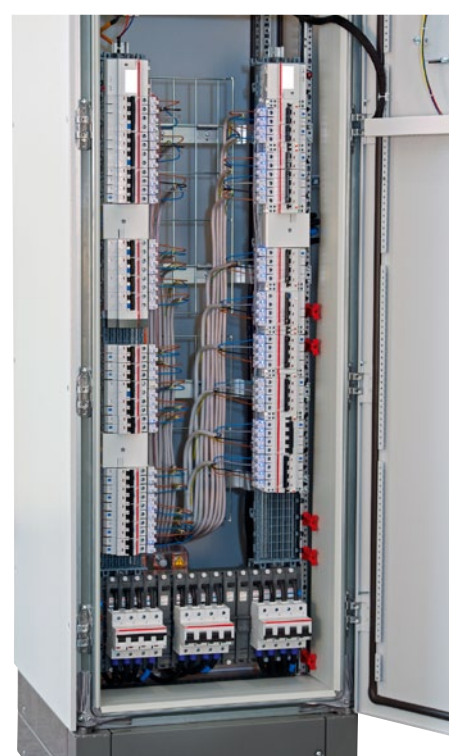
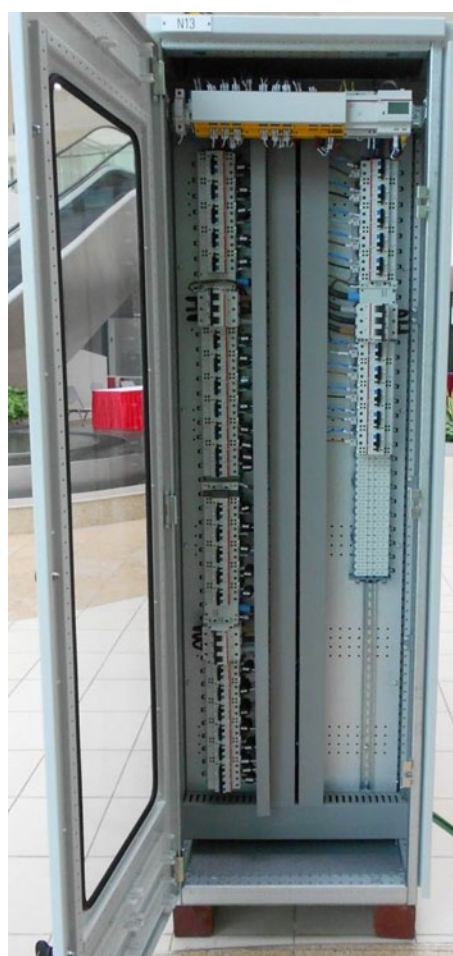
The S800 High Performance Circuit Breaker is used in various application for protection.

Whether horizontal or vertical assembling, the S800 High Performance Circuit Breaker can be used in each mounting position.

The three upper pictures show examples of the S800, used to feed and protect the SMISLINE touch proof system.

On the right upper picture the S800 is mounted on Unix H, a cabling system for e.g. ArTu enclosures. On all SMISLINE devices, CMS current measuring system is mounted.

In the right lower picture you can see a distribution board from a football stadium.



Main features:

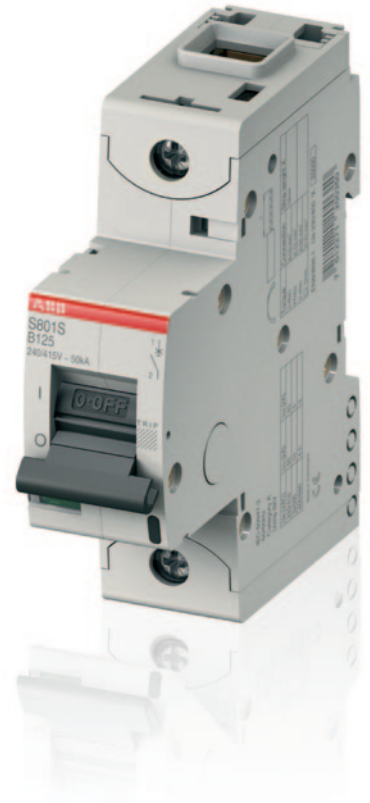
- Low power dissipation
- Any mounting position – horizontal or vertical
- Can be used for feeding the SMISLINE touch proof system
- Various version of rated ultimate breaking capacities (S800S, S800N, S800C, ...)
- Rated operational voltage of up to 690 VAC and 1000 VDC

S800 High Performance Circuit Breaker References

The S800 High Performance Circuit Breaker is used worldwide.

Attached some examples:

- Wind power plants
- Protection of electronic in public transportation, e. g. metro, railway
- Distribution boards in:
 - Automotive industry
 - Hotels
 - Football stadiums
 - Shopping centers
 - Iron- and steel industry
- Telecom station
- Low-voltage switchboards (LVS)
- Replacement of fuses, e. g. as main fuse or worksite distribution board
- Protection of heating circuits
- Protection of point heater in railway
- Protection of ventilation systems
- Used in standby power supply (UPS-systems)
- Photovoltaic
- ...



The main arguments, why the S800 is to be used

- Very good DC-performance
 - Up to 250 VDC per pole by S800S-UC
- Space-saving due to compact dimension
 - Only 27 mm overall width
- High breaking capacity
 - Up to $I_{cu} = 50 \text{ kA}$; in combination with self-resetting short-circuit current limiter S800S-SCL-SR up to 100 kA
- Fast arc extinguishment
 - $< 2.5 \text{ ms}$ by a rapid arc extinction excellent selectivity properties is obtained. Downstream devices and cables will not getting damaged.

For the replacement of fuses, following main arguments apply:

- Prompt switching on again after fault, even of lay person
- Very good energy efficiency due to low power dissipation
- Max. 9.4 W per pole (applies for a 125 A device)

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