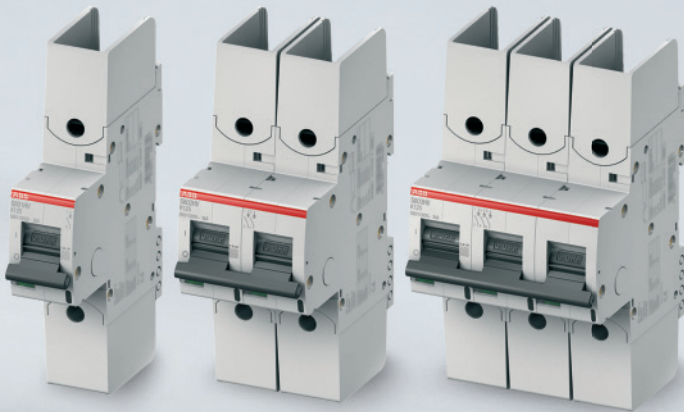


# High Performance Circuit Breaker S800HV

## for 1000 V AC applications



The High Performance Circuit Breaker S800HV is designed for voltages of 580/1000 V AC. The S800HV is available as 1-, 2- and 3-pole version.

The small pole width of only 27 mm allows a space-saving installation. The current range covers the rated operational current range from 6–125 A with a max. rated short-circuit breaking capacity ( $I_{cu}$ ) of 4 kA. Due to the high rated operational voltage of 580/1000 V AC the field of application is wide – from underground mining to distributions on high altitudes.

### Features

- Rated operational voltage of 580/1000 V AC (IEC) and 600 V AC (UL), Supplementary Protector
- Rated short-circuit breaking capacity ( $I_{cu}$ ) of 4 kA at 580/1000 V AC and 15 kA @ 600V V AC (UL) (only valid with XT2L 125 TMF 35-400)
- Fast modification on ring lug terminal is possible
- Compact
- Space saving

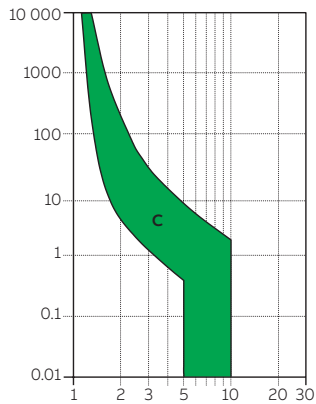
### Application

- Transformer protection
- Motor protection
- Mining industry, opencast and underground
- Power distribution systems e. g. tunnels
- Lighting systems protection
- Protection of ventilation equipment
- Used for application supplied by long wires

## Technical data

### S800HV

<b>General data</b>		
Tripping characteristic		C, K
Standard		IEC 60947-2, UL 1077
Poles		1 ... 3
Rated frequency f	Hz	50/60
Overtoltage category		III
Pollution degree		2
Suitability for isolation		yes
<b>Data acc. to IEC 60947-2</b>		
Rated operational voltage $U_e$	V	AC 580/1000
Rated operational current $I_e$	A	K: 6...125A C: 10A, 32A
Rated ultimate short-circuit capacity $I_{cu}$	kA	4 (6 ... 63 A) 3 (80 ... 125 A)
Rated service short-circuit capacity $I_{cs}$	kA	2.5 (6 ... 63 A) 2 (80 ... 125 A)
Rated insulation voltage $U_i$	V	AC 1000
Rated impulse withstand voltage $U_{imp}$	kV	8
Reference temperature for tripping characteristic	°C	K: 40 C: 30
Electrical and mechanical endurance	ops.	10 ... 32 A: 10000 electrical/10000 mechanical 40 ... 100 A: 1500 electrical/8500 mechanical 125 A: 4000 electrical/10000 mechanical
<b>Data acc. to UL1077, Supplementary Protector</b>		
Poles		3
Rated voltage $U_n$	V	AC 600 Y
Rated current $I_n$	A	10 ... 32
Characteristic		C, K
Short - circuit breaking capacity $I_{cc}$	kA	AC 600 Y = 15 kA with XT2L 125A TMF35-400
<b>Mechanical data</b>		
Housing		Material group I, RAL 7035
Toggle		black, lockable
Protection degree acc. to IEC / EN 60529		IP20; IP40 (actuating side only)
Classification acc. to NF F16-101, NF F 16-102		I3, F2
Classification acc. to IEC 61373 (shock and vibration)		Cat. 1, Class B
Shock resistance acc. to IEC / EN 60068-2-27		Test Ea: 5 g/30 ms Test Fc: 2 – 13.2 Hz/1 mm
Vibration resistance acc. to IEC / EN 60068-2-6		13.2 – 100 Hz/0.7 g with load 100 % x $I_e$ 12+12 cycle with 55 °C/90–96 % RH and 25 °C/95–100 % RH
Environmental conditions (damp heat) acc. to IEC / EN 60068-2-30		16 hours 55°C/2 hours 70°C/55% RH
Environmental conditions (dry heat) acc. to IEC / EN 60068-2-2		16 hours 55°C/2 hours 70°C/55% RH
Ambient temperature	°C	–25 ... +60
Storage temperature	°C	–40 ... +70
<b>Installation</b>		
Terminal		Failsafe cage terminal
Connection (top/bottom) – Cu only	mm <sup>2</sup>	1 ... 50 stranded 1 ... 70 flexible
Tightening torque	Nm	3.5
Screwdriver		POZI 2
Mounting		EN 60715
Mounting position		any
Supply side		any
<b>Dimension and weight</b>		
Pole dimension (H x L x W)	mm	142 x 82,5 x 26,5
Pole weight	kg	0,27

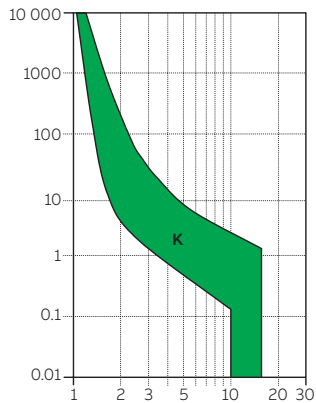


### Tripping characteristic

Characteristics	Currents	Thermal tripping Small test current	Thermal tripping Large test current	Electromagnetic tripping
C	10 A, 32 A	$1.05 \times I_n$	$1.30 \times I_n$	$8 \times I_n \pm 20\%$
K	6...125 A	$1.05 \times I_n$	$1.20 \times I_n$	$13 \times I_n \pm 20\%$

### Internal resistance at 25 °C ambient temperature and nominal power losses (per pole)

Rated current $I_n$ [A]	Internal resistance $R_i$ [mΩ]	Power loss $P_v$ [W]
6	51.7	1.8
8	27.2	1.7
10	15.2	1.5
13	12.1	2
16	12.1	3.1
20	8.7	3.5
25	6.8	4.3
32	3.1	3.2
40	2.3	3.7
50	1.7	4.3
63	1.6	6.4
80	1	6.4
100	0.8	8
125	0.6	9.4



### Influence of ambient temperature

The table refers to the conditions according to the product standard IEC 60947-2.

Max. operating current depending on the ambient temperature of S800 with characteristic C and K

C	Ambient temperature [°C]																				
	-25	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
$I_n$ [A]	12.0	11.8	11.7	11.5	11.3	11.1	10.9	10.7	10.6	10.4	10.2	10.0	9.8	9.6	9.4	9.3	9.1	8.9	8.7	8.5	8.3
	38.5	37.9	37.3	36.7	36.1	35.5	34.9	34.3	33.8	33.2	32.6	32.0	31.4	30.8	30.2	29.7	29.1	28.5	27.9	27.3	26.7

K	Ambient temperature [°C]																				
	-25	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
6	7.43	7.32	7.21	7.10	6.99	6.88	6.77	6.66	6.55	6.44	6.33	6.22	6.11	6.00	5.89	5.78	5.67	5.56	5.45	5.34	5.23
8	9.91	9.76	9.61	9.47	9.32	9.17	9.03	8.88	8.73	8.59	8.44	8.29	8.15	8.00	7.85	7.71	7.56	7.41	7.27	7.12	6.97
10	12.4	12.2	12.0	11.8	11.7	11.5	11.3	11.1	10.9	10.7	10.6	10.4	10.2	10.0	9.8	9.6	9.4	9.3	9.1	8.9	8.7
13	16.1	15.9	15.6	15.4	15.1	14.9	14.7	14.4	14.2	14.0	13.7	13.5	13.2	13.0	12.8	12.5	12.3	12.0	11.8	11.6	11.3
16	19.8	19.5	19.2	18.9	18.6	18.3	18.1	17.8	17.5	17.2	16.9	16.6	16.3	16.0	15.7	15.4	15.1	14.8	14.5	14.2	13.9
20	24.8	24.4	24.0	23.7	23.3	22.9	22.6	22.2	21.8	21.5	21.1	20.7	20.4	20.0	19.6	19.3	18.9	18.5	18.2	17.8	17.4
25	31.0	30.5	30.0	29.6	29.1	28.7	28.2	27.8	27.3	26.8	26.4	25.9	25.5	25.0	24.5	24.1	23.6	23.2	22.7	22.2	21.8
32	39.6	39.0	38.5	37.9	37.3	36.7	36.1	35.5	34.9	34.3	33.8	33.2	32.6	32.0	31.4	30.8	30.2	29.7	29.1	28.5	27.9
40	49.5	48.8	48.1	47.3	46.6	45.9	45.1	44.4	43.7	42.9	42.2	41.5	40.7	40.0	39.3	38.5	37.8	37.1	36.3	35.6	34.9
50	61.9	61.0	60.1	59.2	58.3	57.3	56.4	55.5	54.6	53.7	52.8	51.8	50.9	50.0	49.1	48.2	47.2	46.3	45.4	44.5	43.6
63	78.0	76.9	75.7	74.6	73.4	72.2	71.1	69.9	68.8	67.6	66.5	65.3	64.2	63.0	61.8	60.7	59.5	58.4	57.2	56.1	54.9
80	99.1	97.6	96.1	94.7	93.2	91.7	90.3	88.8	87.3	85.9	84.4	82.9	81.5	80.0	78.5	77.1	75.6	74.1	72.7	71.2	69.7
100	123.9	122.0	120.2	118.4	116.5	114.7	112.8	111.0	109.2	107.3	105.5	103.7	101.8	100.0	98.2	96.3	94.5	92.7	90.8	89.0	87.2
125	154.8	152.5	150.2	147.9	145.6	143.4	141.1	138.8	136.5	134.2	131.9	129.6	127.3	125.0	122.7	120.4	118.1	115.8	113.5	111.2	108.9