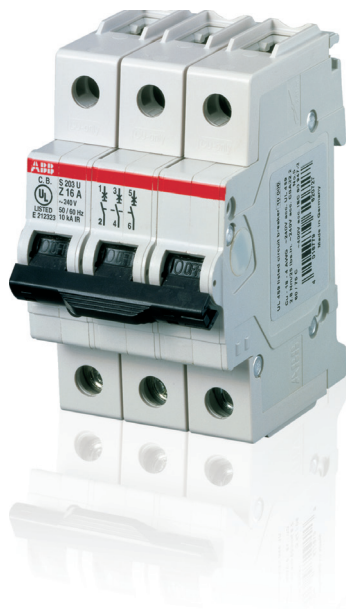
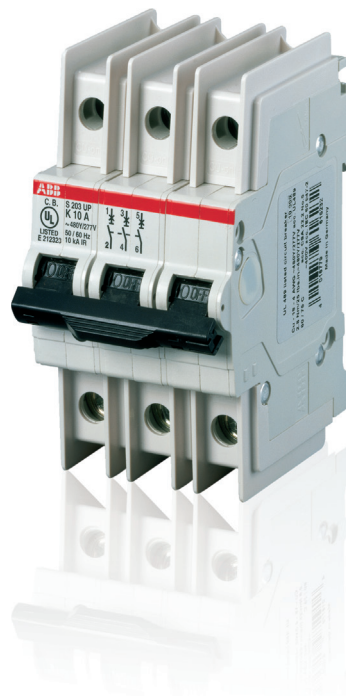


System pro M compact®

Miniature Circuit Breaker S 200 U and S 200 UP



2CDC021316F0004



2CDC021320F0004

The S 200 U and S 200 UP ranges are miniature circuit breakers conforming to UL, CSA and IEC standards. They are a valuable addition to the well known system System pro M compact® range which allow most of the UL 489 and CSA 22.2 No. 5 approved components to be combined effortlessly.

Standards and approvals

Standards

UL 489

CSA 22.2. No. 5

IEC/EN 60947-2

Approvals

UL 489

US

CSA 22.2 No. 5

CA

VDE

DE

CCC* GB 14048.2

CN

* K- and Z-characteristic only

Miniature Circuit Breaker S 200 U and S 200 UP

Technical data

General Data		S 200 U	S 200 UP
Standards	IEC/EN 60947-2, UL489, CSA22.2 No.5		
Poles	1P, 2P, 3P, 4P		
Tripping characteristics	C, K, Z		
Rated current I _n	0.2...63 A		0.2...25 A
Rated frequency f	50/60 Hz		
Rated insulation voltage U _i	250 V AC (phase to groud), 500 V AC (phase to phase)		
Overvoltage Category	III		
Pollution Degree	3		
IEC/EN 60947-2			
Rated operational voltage U _n	1P: 230 V AC 2...4P: 400 V AC		
Max. power frequency recovery voltage U _{max}	1P: 253/440 V AC 2...4P: 440 V AC		
Min. operating voltage	12 V AC		
Rated short-circuit capacity I _{cn}	10 kA		
Rated service short-circuit breaking capacity I _{cs}	7.5 kA		
Rated impulse withstand voltage U _{imp} (1.2/50µs)	4 kV (test voltage 6.2kV at sea level, 5kV at 2,000m)		
Dielectric test voltage	2 kV (50 / 60Hz, 1 min.)		
Reference temperature for tripping characteristics	C, K, Z: 20°C		
Electrical endurance	I _n < 32A: 20,000 ops (AC), I _n ≥ 32A: 10,000 ops. (AC); 1 cycle (2s - ON, 13s - OFF, I _n ≤ 32A), 1 cyle (2s - ON, 28s - OFF, I _n > 32A)		
UL/CSA			
Rated operational voltage U _n	1P: 240 V AC 2...4P: 240 V AC		1P: 277 V AC 2...4P: 480Y / 277 V AC
Short-circuit current rating acc. to UL 489	10 kA		
Application	Suppl. prot. for general use. Application Codes: TC2, OL0, SC: U1		
Reference temperature for tripping characteristics	C, K, Z: 25°C		
Electrical endurance	6,000 ops (AC), 1 cycle (1s - ON, 9s - OFF)		
Mechanical data			
Housing	Insulation group I, RAL 7035		
Toggle	Insulation group II, black, sealable		
Contact position indication	Marking on toggle (I ON / 0 OFF), Real CPI (red ON / green OFF)		
Protection degree acc. to DIN EN 60529	IP20*, IP40 in enclosure with cover		
Mechanical endurance	20,000 ops.		
Shock resistance acc. to IEC/EN 60068-2-27	30 g - 3 shocks - 11 ms		
Vibration resistance acc. to IEC/EN 60068-2-6	5 g - 20 cycles at 5...150...5 Hz with load 0.8 I _n		
Environmental conditions (damp heat cyclic) acc. to IEC/EN 60068-2-30	28 cycles with 55°C/90-96% and 25°C/95-100%		
Ambient temperature	-25 ... +55 °C		
Storage temperature	-40 ... +70 °C		

* only with accessory: IP20 terminal clip

Miniature Circuit Breaker S 200 U and S 200 UP

Technical data

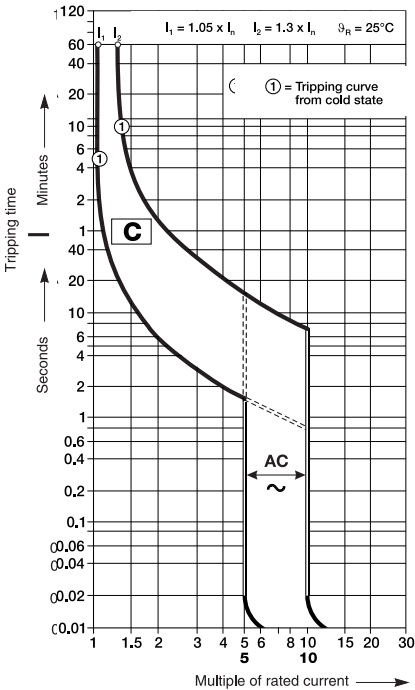
Installation		S 200 U	S 200 UP
Terminal		Failsafe bi-directional cylinder-lift terminal	
Cross-section of conductor (top/bottom)	Solid/stranded	25 mm ² / 25 mm ²	
	Flexible	16 mm ² / 16 mm ² , 18 - 4 AWG	
Cross-section of busbars (top/bottom)		10 mm ² / 10 mm ² , 18 - 8 AWG	
Tightening Torque		2.8 Nm 25 in-lbs.	
Screw driver		No. 2 Pozidrive	
Mounting		On DIN rail 35 mm acc. to EN 60715 by fast clip	
Mounting position		any	
Supply		optional	
Dimensions and weight			
Mounting dimensions acc. to DIN 43880		–	
Pole dimensions (H x D x W)		92 x 71 x 17.5 mm	100 x 71 x 17.5 mm
Pole weight		approx. 140 g	
Combination with auxiliary elements			
Auxiliary contact		Yes	
Signal contact		Yes	
Shunt trip		Yes	
Undervoltage release		No	
Motor operating device		No	

Miniature Circuit Breaker S 200 U and S 200 UP

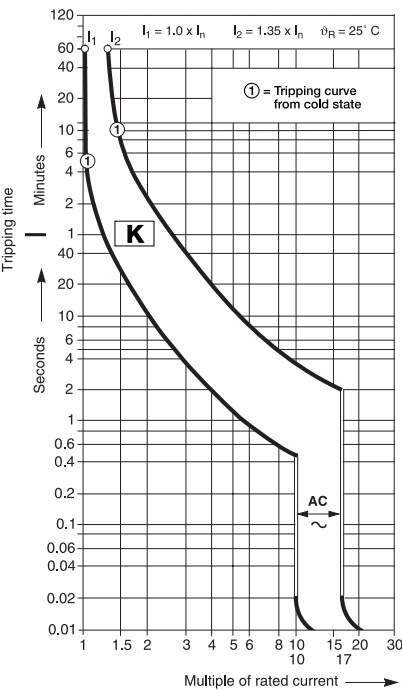
Tripping characteristics, internal resistance and power loss

Tripping characteristics

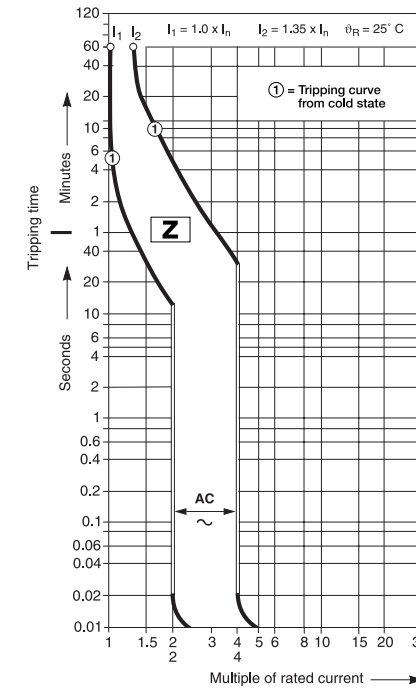
C characteristic



K characteristic



Z characteristic



Internal resistance and power loss

Rated current	Tripping characteristic								
	C	Power loss		K	Power loss		Z	Power loss	
	Internal resistance			Internal resistance			Internal resistance		
I _n A	R _i mΩ	P _v W		R _i mΩ	P _v W		R _i mΩ	P _v W	
0.2	—	—		42500	1.7		—	—	
0.3	—	—		20000	1.8		—	—	
0.5	5500	1.4		6340	1.6		10100	2.5	
0.75	—	—		2500	1.4		—	—	
1	1440	1.4		1400	1.4		2270	2.3	
1.6	630	1.6		625	1.6		1100	2.8	
2	460	1.8		460	1.8		619	2.5	
3	150	1.3		211	1.9		211	1.9	
4	110	1.8		163	2.6		163	2.6	
5	55.0	2.0		67	2.4		104	3.7	
6	55.0	2.0		67	2.4		104	3.7	
8	15.0	1.0		45	2.9		55	3.5	
10	13.3	1.3		19	1.9		21	2.1	
13	13.3	2.3		8.2	2.1		—	—	
15	7.0	1.8		8.2	2.1		10.9	2.8	
16	7.0	1.8		8.2	2.1		10.9	2.8	
20	6.25	2.5		7.3	2.9		7.3	2.9	
25	5.0	3.2		5.6	3.5		5.6	3.5	
30	3.6	3.7		4.1	4.2		4.1	4.2	
32	3.6	3.7		4.1	4.2		4.1	4.2	
40	3.0	4.8		4.0	6.4		4.0	6.4	
50	1.3	3.25		1.2	3.0		1.8	4.4	
60	1.2	4.8		1.3	5.2		1.3	5.2	
63	1.2	4.8		1.3	5.2		1.3	5.2	

Miniature Circuit Breaker S 200 U and S 200 UP

Derating and dimensional drawings

Deviating ambient temperature

The rated value of the current of a miniature circuit breaker refers to a temperature of 20 °C for circuit-breakers with characteristics C, K and Z. The following table contains the derating of load capability of S 200 U/UP MCBs with temperature from -40 °C to 70 °C for the curves C, K, and Z.

For installations of miniature circuit breakers at other temperatures than the reference value and installations of several miniature circuit breakers directly side by side, derating factors have to be considered.

Tripping charac- teristics	Rated current I_n A	Maximum operating current at ambient temperature T											
		°C											
	- 40	- 30	- 20	- 10	0	10	20	30	40	50	60	70	
C, K, Z	0.5	0.67	0.64	0.61	0.59	0.56	0.53	0.50	0.47	0.43	0.40	0.35	0.31
	1.0	1.32	1.27	1.22	1.17	1.12	1.08	1.00	0.94	0.87	0.79	0.71	0.61
	1.6	2.12	2.04	1.96	1.88	1.79	1.70	1.60	1.50	1.39	1.26	1.13	0.98
	2.0	2.65	2.55	2.45	2.35	2.24	2.12	2.00	1.87	1.73	1.58	1.41	1.22
	3.0	4.0	3.8	3.7	3.5	3.4	3.2	3.0	2.8	2.6	2.4	2.1	1.8
	4.0	5.3	5.1	4.9	4.7	4.5	4.2	4.0	3.8	3.5	3.2	2.8	2.4
	6.0	7.9	7.6	7.3	7.0	6.7	6.4	6.0	5.8	5.2	4.7	4.2	3.7
	8.0	10.8	10.2	9.8	9.4	8.9	8.5	8.0	7.5	6.9	6.3	5.7	4.9
	10.0	13.2	12.7	12.2	11.7	11.2	10.6	10.0	9.4	8.7	7.9	7.1	6.1
	13.0	17.2	16.6	15.9	15.2	14.5	13.8	13.0	12.2	11.3	10.3	9.2	8.0
	16.0	21.2	20.4	19.6	18.8	17.9	17.0	16.0	15.0	13.9	12.6	11.3	9.8
	20.0	26.5	25.5	24.5	23.5	22.4	21.2	20.0	18.7	17.3	15.8	14.1	12.2
	25.0	33.1	31.9	30.6	29.3	28.0	26.5	25.0	23.4	21.7	19.8	17.7	15.3
	32.0	42.3	40.8	39.2	37.5	35.8	33.9	32.0	29.9	27.7	25.3	22.6	19.6
	40.0	52.9	51.0	49.0	46.9	44.7	42.4	40.0	37.4	34.6	31.6	28.3	24.5
	50.0	66.1	63.7	61.2	58.6	55.9	53.0	50.0	46.8	43.3	39.6	35.4	30.6
	63.0	83.3	80.3	77.2	73.9	70.4	66.8	63.0	58.9	54.6	49.8	44.5	38.5

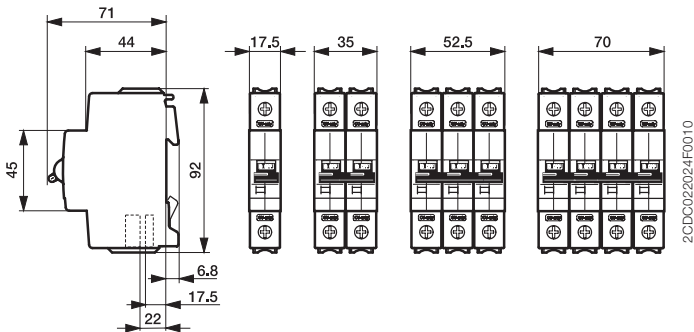
Influence of adjacent devices

If several miniature circuit breakers are installed directly side by side with high load on all poles, a correction factor must be applied to the rated current (see table). If distance pieces are used, the factor is not to be considered.

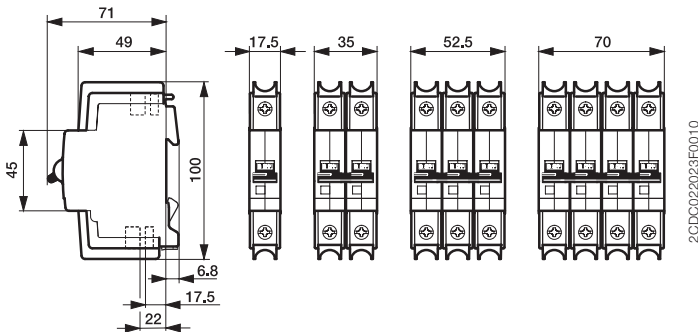
No. of adjacent devices	Factor F
1	1
2, 3	0.9
4, 5	0.8
≥ 6	0.75

Dimensional drawings

S 200 U



S 200 UP



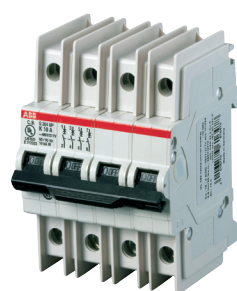
Miniature Circuit Breaker S 200 UP

Ordering data characteristic K



S 203 UP

2CDC021320F0004



S 204 UP

2CDC021321F0004

Number of poles	Rated current I_n A	Type	Order code	bbn/EAN	Packing unit PCE	Weight per PCE kg
3	0.2	S203UP-K0.2	2CDS273317R0087	4016779616119	3	0.420
	0.3	S203UP-K0.3	2CDS273317R0117	4016779616126	3	0.420
	0.5	S203UP-K0.5	2CDS273317R0157	4016779616133	3	0.420
	0.75	S203UP-K0.75	2CDS273317R0187	4016779616140	3	0.420
	1	S203UP-K1	2CDS273317R0217	4016779616157	3	0.420
	1.6	S203UP-K1.6	2CDS273317R0257	4016779616164	3	0.420
	2	S203UP-K2	2CDS273317R0277	4016779616171	3	0.420
	3	S203UP-K3	2CDS273317R0317	4016779616188	3	0.420
	4	S203UP-K4	2CDS273317R0337	4016779616195	3	0.420
	5	S203UP-K5	2CDS273317R0357	4016779616201	3	0.420
	6	S203UP-K6	2CDS273317R0377	4016779616218	3	0.420
	8	S203UP-K8	2CDS273317R0407	4016779616225	3	0.420
	10	S203UP-K10	2CDS273317R0427	4016779616232	3	0.420
	13	S203UP-K13	2CDS273317R0447	4016779616249	3	0.420
	15	S203UP-K15	2CDS273317R0457	4016779616256	3	0.420
	16	S203UP-K16	2CDS273317R0467	4016779616263	3	0.420
	20	S203UP-K20	2CDS273317R0487	4016779616270	3	0.420
	25	S203UP-K25	2CDS273317R0517	4016779616287	3	0.420
4	0.2	S204UP-K0.2	2CDS274317R0087	4016779616355	2	0.560
	0.3	S204UP-K0.3	2CDS274317R0117	4016779616362	2	0.560
	0.5	S204UP-K0.5	2CDS274317R0157	4016779616379	2	0.560
	0.75	S204UP-K0.75	2CDS274317R0187	4016779616386	2	0.560
	1	S204UP-K1	2CDS274317R0217	4016779616393	2	0.560
	1.6	S204UP-K1.6	2CDS274317R0257	4016779616409	2	0.560
	2	S204UP-K2	2CDS274317R0277	4016779616416	2	0.560
	3	S204UP-K3	2CDS274317R0317	4016779616423	2	0.560
	4	S204UP-K4	2CDS274317R0337	4016779616430	2	0.560
	5	S204UP-K5	2CDS274317R0357	4016779616447	2	0.560
	6	S204UP-K6	2CDS274317R0377	4016779616454	2	0.560
	8	S204UP-K8	2CDS274317R0407	4016779616461	2	0.560
	10	S204UP-K10	2CDS274317R0427	4016779616478	2	0.560
	13	S204UP-K13	2CDS274317R0447	4016779616485	2	0.560
	15	S204UP-K15	2CDS274317R0457	4016779616492	2	0.560
	16	S204UP-K16	2CDS274317R0467	4016779616508	2	0.560
	20	S204UP-K20	2CDS274317R0487	4016779616515	2	0.560
	25	S204UP-K25	2CDS274317R0517	4016779616522	2	0.560