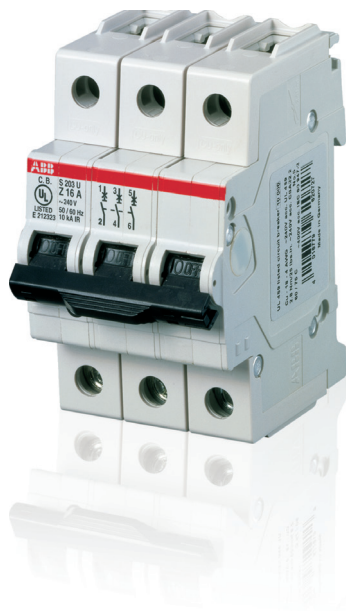
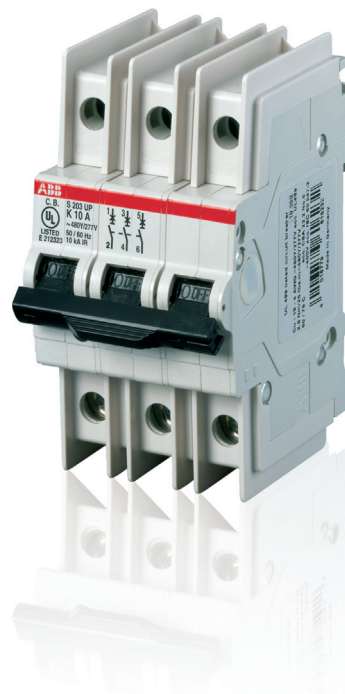


System pro M compact®

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

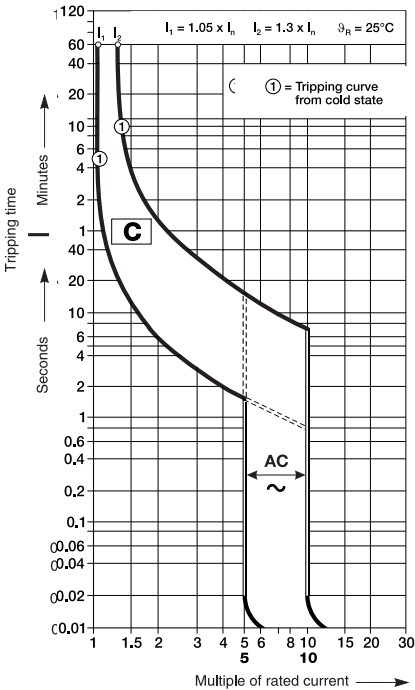
Installation		S 200 U	S 200 UP
Terminal		Failsafe bi-directional cylinder-lift terminal	
Cross-section of conductor (top/bottom)	Solid/stranded	25 mm ² / 25 mm ²	
	Flexible	16 mm ² / 16 mm ² , 18 - 4 AWG	
Cross-section of busbars (top/bottom)		10 mm ² / 10 mm ² , 18 - 8 AWG	
Tightening Torque		2.8 Nm 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

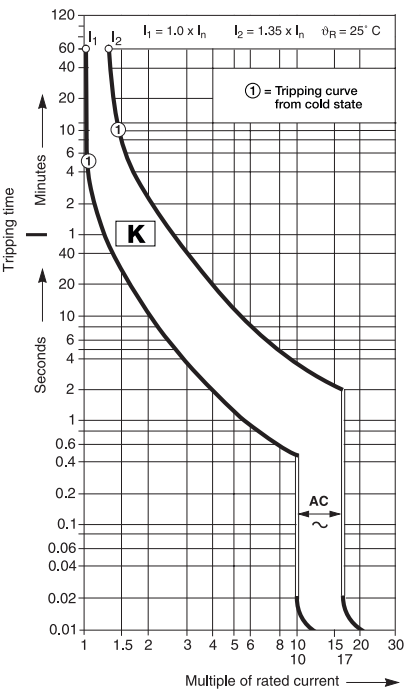
Tripping characteristics, internal resistance and power loss

Tripping characteristics

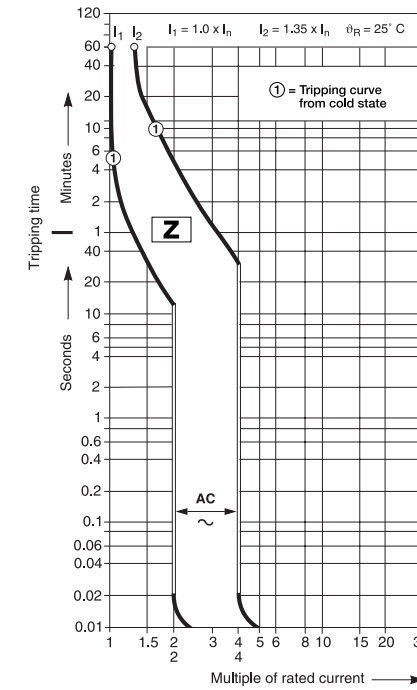
C characteristic



K characteristic



Z characteristic



Internal resistance and power loss

Rated current	Tripping characteristic					
	C		K		Z	
	Internal resistance	Power loss	Internal resistance	Power loss	Internal resistance	Power loss
I_n	R_i	P_v	R_i	P_v	R_i	P_v
A	mΩ	W	mΩ	W	mΩ	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

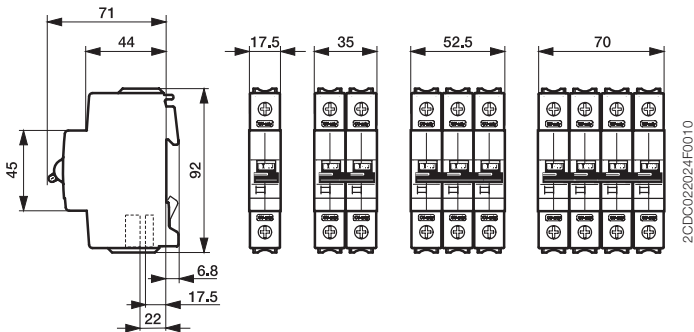
Influence of adjacent devices

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.

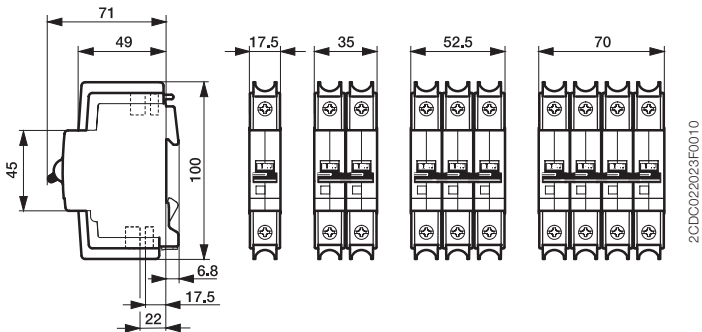
No. of adjacent devices	Factor F
1	1
2, 3	0.9
4, 5	0.8
≥ 6	0.75

Dimensional drawings

S 200 U



S 200 UP



Miniature Circuit Breaker S 200 UP

Ordering data characteristic Z



S 201 UP

2CDC021318F0004



S 202 UP

2CDC021319F0004



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
1	0.5	S201UP-Z0.5	2CDS271317R0158	4016779616591	10	0.140
	1	S201UP-Z1	2CDS271317R0218	4016779616607	10	0.140
	1.6	S201UP-Z1.6	2CDS271317R0258	4016779616614	10	0.140
	2	S201UP-Z2	2CDS271317R0278	4016779616621	10	0.140
	3	S201UP-Z3	2CDS271317R0318	4016779616638	10	0.140
	4	S201UP-Z4	2CDS271317R0338	4016779616645	10	0.140
	5	S201UP-Z5	2CDS271317R0358	4016779616652	10	0.140
	6	S201UP-Z6	2CDS271317R0378	4016779616669	10	0.140
	8	S201UP-Z8	2CDS271317R0408	4016779616676	10	0.140
	10	S201UP-Z10	2CDS271317R0428	4016779616683	10	0.140
	13	S201UP-Z13	2CDS271317R0448	4016779616690	10	0.140
	15	S201UP-Z15	2CDS271317R0458	4016779616706	10	0.140
	16	S201UP-Z16	2CDS271317R0468	4016779616713	10	0.140
	20	S201UP-Z20	2CDS271317R0488	4016779616720	10	0.140
	25	S201UP-Z25	2CDS271317R0518	4016779616737	10	0.140
2	0.5	S202UP-Z0.5	2CDS272317R0158	4016779616805	5	0.280
	1	S202UP-Z1	2CDS272317R0218	4016779616812	5	0.280
	1.6	S202UP-Z1.6	2CDS272317R0258	4016779616829	5	0.280
	2	S202UP-Z2	2CDS272317R0278	4016779616836	5	0.280
	3	S202UP-Z3	2CDS272317R0318	4016779616843	5	0.280
	4	S202UP-Z4	2CDS272317R0338	4016779616850	5	0.280
	5	S202UP-Z5	2CDS272317R0358	4016779616867	5	0.280
	6	S202UP-Z6	2CDS272317R0378	4016779616874	5	0.280
	8	S202UP-Z8	2CDS272317R0408	4016779616881	5	0.280
	10	S202UP-Z10	2CDS272317R0428	4016779616898	5	0.280
	13	S202UP-Z13	2CDS272317R0448	4016779616904	5	0.280
	15	S202UP-Z15	2CDS272317R0458	4016779616911	5	0.280
	16	S202UP-Z16	2CDS272317R0468	4016779616928	5	0.280
	20	S202UP-Z20	2CDS272317R0488	4016779616935	5	0.280
	25	S202UP-Z25	2CDS272317R0518	4016779616942	5	0.280
3	0.5	S203UP-Z0.5	2CDS273317R0158	4016779617017	3	0.420
	1	S203UP-Z1	2CDS273317R0218	4016779617024	3	0.420
	1.6	S203UP-Z1.6	2CDS273317R0258	4016779617031	3	0.420
	2	S203UP-Z2	2CDS273317R0278	4016779617048	3	0.420
	3	S203UP-Z3	2CDS273317R0318	4016779617055	3	0.420
	4	S203UP-Z4	2CDS273317R0338	4016779617062	3	0.420
	5	S203UP-Z5	2CDS273317R0358	4016779617079	3	0.420
	6	S203UP-Z6	2CDS273317R0378	4016779617086	3	0.420
	8	S203UP-Z8	2CDS273317R0408	4016779617093	3	0.420
	10	S203UP-Z10	2CDS273317R0428	4016779617109	3	0.420
	13	S203UP-Z13	2CDS273317R0448	4016779617116	3	0.420
	15	S203UP-Z15	2CDS273317R0458	4016779617123	3	0.420
	16	S203UP-Z16	2CDS273317R0468	4016779617130	3	0.420
	20	S203UP-Z20	2CDS273317R0488	4016779617147	3	0.420
	25	S203UP-Z25	2CDS273317R0518	4016779617154	3	0.420
4	0.5	S204UP-Z0.5	2CDS274317R0158	4016779617222	2	0.560
	1	S204UP-Z1	2CDS274317R0218	4016779617239	2	0.560
	1.6	S204UP-Z1.6	2CDS274317R0258	4016779617246	2	0.560
	2	S204UP-Z2	2CDS274317R0278	4016779617253	2	0.560
	3	S204UP-Z3	2CDS274317R0318	4016779617260	2	0.560
	4	S204UP-Z4	2CDS274317R0338	4016779617277	2	0.560
	5	S204UP-Z5	2CDS274317R0358	4016779617284	2	0.560
	6	S204UP-Z6	2CDS274317R0378	4016779617291	2	0.560
	8	S204UP-Z8	2CDS274317R0408	4016779617307	2	0.560
	10	S204UP-Z10	2CDS274317R0428	4016779617314	2	0.560
	13	S204UP-Z13	2CDS274317R0448	4016779617321	2	0.560
	15	S204UP-Z15	2CDS274317R0458	4016779617338	2	0.560
	16	S204UP-Z16	2CDS274317R0468	4016779617345	2	0.560
	20	S204UP-Z20	2CDS274317R0488	4016779617352	2	0.560
	25	S204UP-Z25	2CDS274317R0518	4016779617369	2	0.560