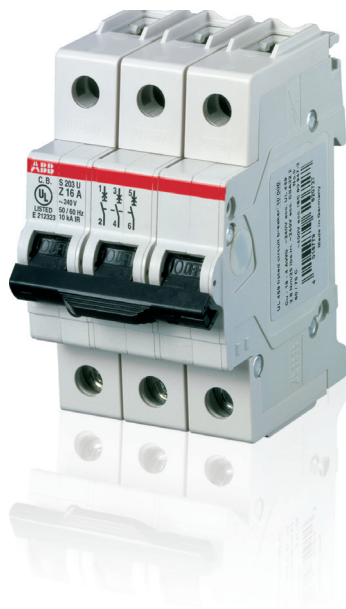
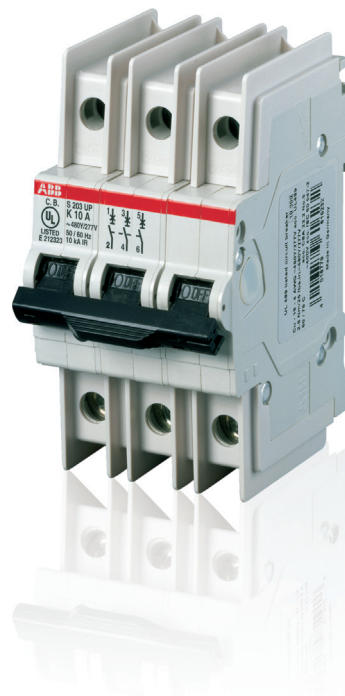


System pro M compact®

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 ground), 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)	28 cycles with 55°C/90-96% and 25°C/95-100%	
acc. to IEC/EN 60068-2-30		
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

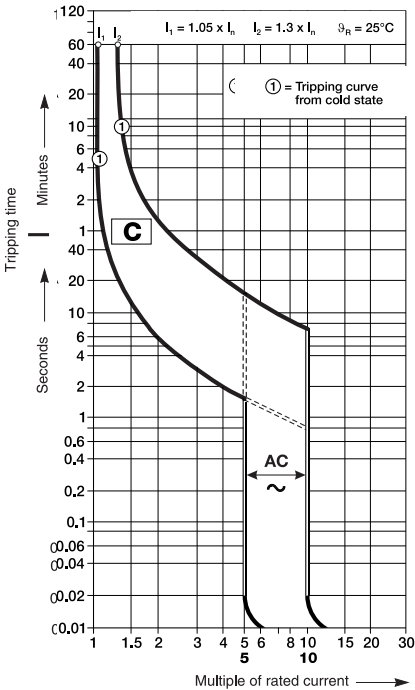
Installation		S 200 U	S 200 UP
Terminal		Failsafe bi-directional cylinder-lift terminal	
Cross-section of conductor (top/bottom)	Solid/stranded	25 mm ² / 25 mm ²	
	Flexible	16 mm ² / 16 mm ² , 18 - 4 AWG	
Cross-section of busbars (top/bottom)		10 mm ² / 10 mm ² , 18 - 8 AWG	
Tightening Torque		2.8 Nm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

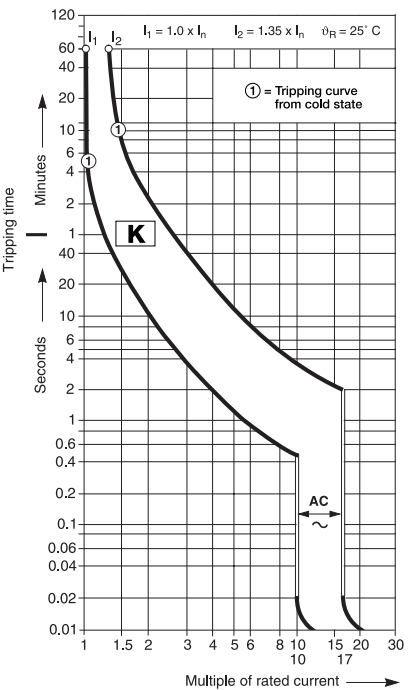
Tripping characteristics, internal resistance and power loss

Tripping characteristics

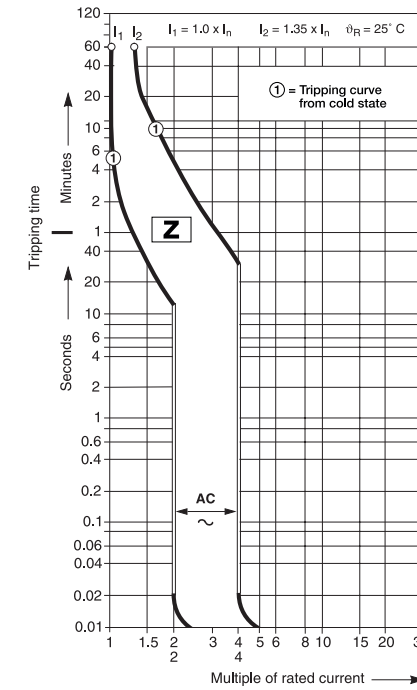
C characteristic



K characteristic



Z characteristic



Internal resistance and power loss

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

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

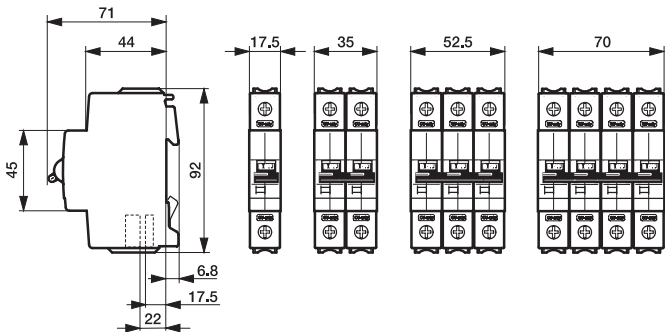
Influence of adjacent devices

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.

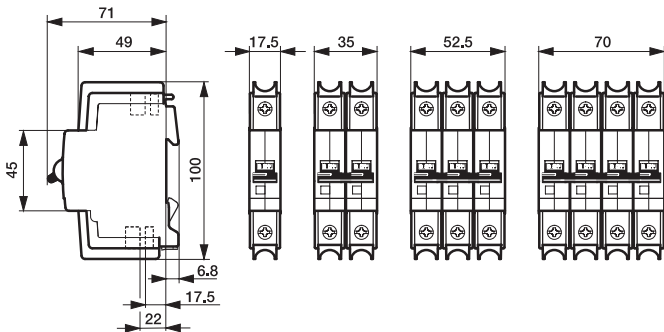
No. of adjacent devices	Factor F
1	1
2, 3	0.9
4, 5	0.8
≥ 6	0.75

Dimensional drawings

S 200 U



S 200 UP



Miniature Circuit Breaker S 200 U

Ordering data characteristic Z



S 201 U

2CDC021314F0004



S 202 U

2CDC021315F0004

Number of poles	Rated current I_n A	Type	Order code	bbn/EAN	Packing unit PCE	Weight per PCE kg
1	0.5	S201U-Z0.5	2CDS271417R0158	4016779620185	10	0.140
	1	S201U-Z1	2CDS271417R0218	4016779620192	10	0.140
	1.6	S201U-Z1.6	2CDS271417R0258	4016779620208	10	0.140
	2	S201U-Z2	2CDS271417R0278	4016779620215	10	0.140
	3	S201U-Z3	2CDS271417R0318	4016779620222	10	0.140
	4	S201U-Z4	2CDS271417R0338	4016779620239	10	0.140
	5	S201U-Z5	2CDS271417R0358	4016779620246	10	0.140
	6	S201U-Z6	2CDS271417R0378	4016779620253	10	0.140
	8	S201U-Z8	2CDS271417R0408	4016779620260	10	0.140
	10	S201U-Z10	2CDS271417R0428	4016779620277	10	0.140
	13	S201U-Z13	2CDS271417R0448	4016779620284	10	0.140
	15	S201U-Z15	2CDS271417R0458	4016779620291	10	0.140
	16	S201U-Z16	2CDS271417R0468	4016779620307	10	0.140
	20	S201U-Z20	2CDS271417R0488	4016779620314	10	0.140
	25	S201U-Z25	2CDS271417R0518	4016779620321	10	0.140
	30	S201U-Z30	2CDS271417R0528	4016779620351	10	0.140
	32	S201U-Z32	2CDS271417R0538	4016779620345	10	0.140
	40	S201U-Z40	2CDS271417R0558	4016779620352	10	0.140
	50	S201U-Z50	2CDS271417R0578	4016779620369	10	0.140
	60	S201U-Z60	2CDS271417R0588	4016779620376	10	0.140
	63	S201U-Z63	2CDS271417R0608	4016779620383	10	0.140
2	0.5	S202U-Z0.5	2CDS272417R0158	4016779620390	5	0.280
	1	S202U-Z1	2CDS272417R0218	4016779620406	5	0.280
	1.6	S202U-Z1.6	2CDS272417R0258	4016779620413	5	0.280
	2	S202U-Z2	2CDS272417R0278	4016779620420	5	0.280
	3	S202U-Z3	2CDS272417R0318	4016779620437	5	0.280
	4	S202U-Z4	2CDS272417R0338	4016779620444	5	0.280
	5	S202U-Z5	2CDS272417R0358	4016779620451	5	0.280
	6	S202U-Z6	2CDS272417R0378	4016779620468	5	0.280
	8	S202U-Z8	2CDS272417R0408	4016779620475	5	0.280
	10	S202U-Z10	2CDS272417R0428	4016779620482	5	0.280
	13	S202U-Z13	2CDS272417R0448	4016779620499	5	0.280
	15	S202U-Z15	2CDS272417R0458	4016779620505	5	0.280
	16	S202U-Z16	2CDS272417R0468	4016779620512	5	0.280
	20	S202U-Z20	2CDS272417R0488	4016779620529	5	0.280
	25	S202U-Z25	2CDS272417R0518	4016779620536	5	0.280
	30	S202U-Z30	2CDS272417R0528	4016779620543	5	0.280
	32	S202U-Z32	2CDS272417R0538	4016779620550	5	0.280
	40	S202U-Z40	2CDS272417R0558	4016779620567	5	0.280
	50	S202U-Z50	2CDS272417R0578	4016779620574	5	0.280
	60	S202U-Z60	2CDS272417R0588	4016779620581	5	0.280
	63	S202U-Z63	2CDS272417R0608	4016779620598	5	0.280