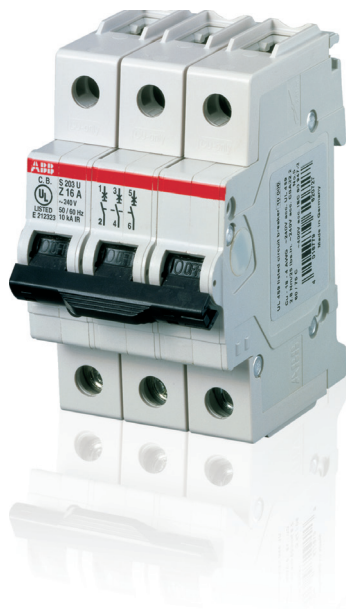
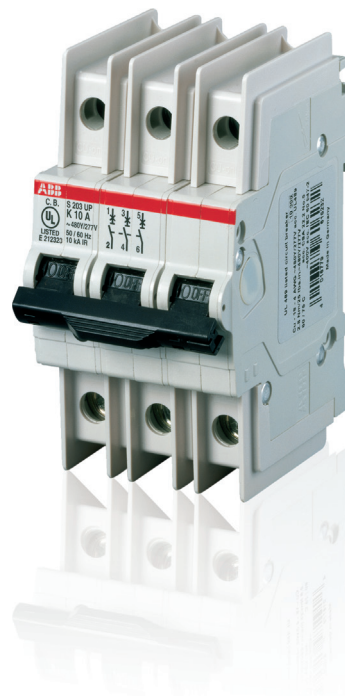


System pro M compact®

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

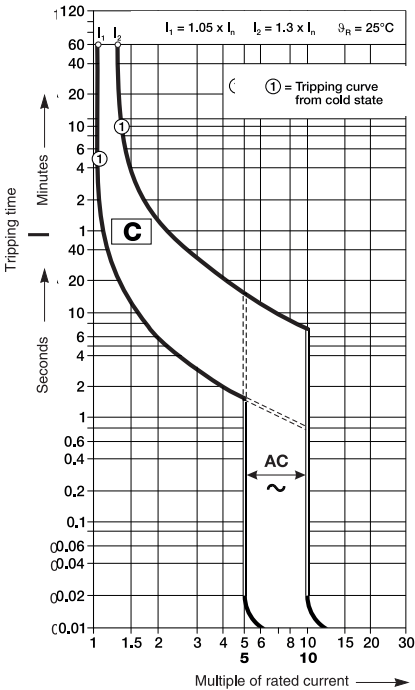
Installation		S 200 U	S 200 UP
Terminal		Failsafe bi-directional cylinder-lift terminal	
Cross-section of conductor (top/bottom)	Solid/stranded	25 mm ² / 25 mm ²	
	Flexible	16 mm ² / 16 mm ² , 18 - 4 AWG	
Cross-section of busbars (top/bottom)		10 mm ² / 10 mm ² , 18 - 8 AWG	
Tightening Torque		2.8 Nm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

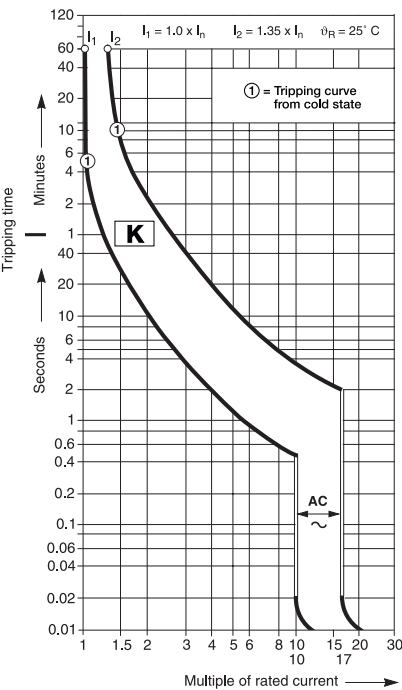
Tripping characteristics, internal resistance and power loss

Tripping characteristics

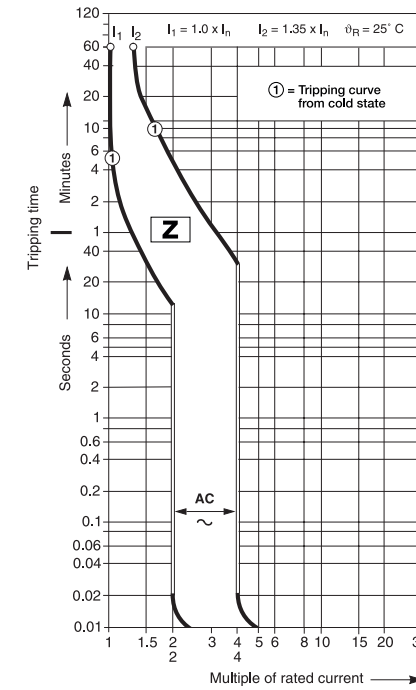
C characteristic



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

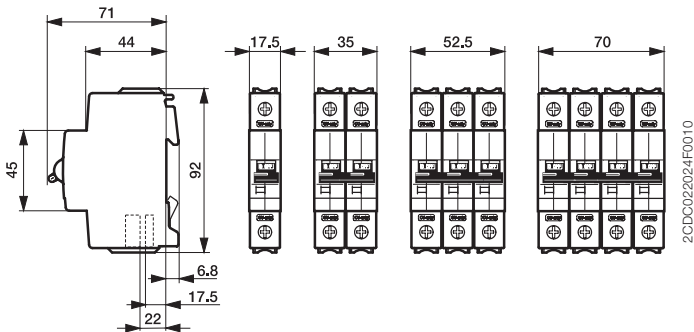
Influence of adjacent devices

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.

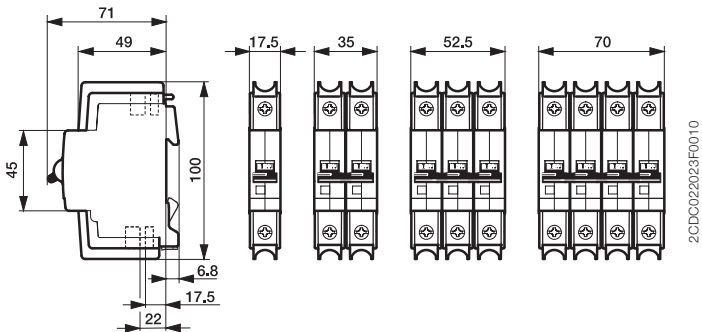
No. of adjacent devices	Factor F
1	1
2, 3	0.9
4, 5	0.8
≥ 6	0.75

Dimensional drawings

S 200 U



S 200 UP



Miniature Circuit Breaker S 200 U

Ordering data characteristic K



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	0.2	S201U-K0.2	2CDS271417R0087	4016779619226	10	0.140
	0.3	S201U-K0.3	2CDS271417R0117	4016779619233	10	0.140
	0.5	S201U-K0.5	2CDS271417R0157	4016779619240	10	0.140
	0.75	S201U-K0.75	2CDS271417R0187	4016779619257	10	0.140
	1	S201U-K1	2CDS271417R0217	4016779619264	10	0.140
	1.6	S201U-K1.6	2CDS271417R0257	4016779619271	10	0.140
	2	S201U-K2	2CDS271417R0277	4016779619288	10	0.140
	3	S201U-K3	2CDS271417R0317	4016779619295	10	0.140
	4	S201U-K4	2CDS271417R0337	4016779619301	10	0.140
	5	S201U-K5	2CDS271417R0357	4016779619318	10	0.140
	6	S201U-K6	2CDS271417R0377	4016779619325	10	0.140
	8	S201U-K8	2CDS271417R0407	4016779619332	10	0.140
	10	S201U-K10	2CDS271417R0427	4016779619349	10	0.140
	13	S201U-K13	2CDS271417R0447	4016779619356	10	0.140
	15	S201U-K15	2CDS271417R0457	4016779619363	10	0.140
	16	S201U-K16	2CDS271417R0467	4016779619370	10	0.140
	20	S201U-K20	2CDS271417R0487	4016779619387	10	0.140
	25	S201U-K25	2CDS271417R0517	4016779619394	10	0.140
	30	S201U-K30	2CDS271417R0527	4016779619400	10	0.140
	32	S201U-K32	2CDS271417R0537	4016779619417	10	0.140
	40	S201U-K40	2CDS271417R0557	4016779619424	10	0.140
	50	S201U-K50	2CDS271417R0577	4016779619431	10	0.140
	60	S201U-K60	2CDS271417R0587	4016779619448	10	0.140
	63	S201U-K63	2CDS271417R0607	4016779619455	10	0.140
2	0.2	S202U-K0.2	2CDS272417R0087	4016779619462	5	0.280
	0.3	S202U-K0.3	2CDS272417R0117	4016779619479	5	0.280
	0.5	S202U-K0.5	2CDS272417R0157	4016779619486	5	0.280
	0.75	S202U-K0.75	2CDS272417R0187	4016779619493	5	0.280
	1	S202U-K1	2CDS272417R0217	4016779619509	5	0.280
	1.6	S202U-K1.6	2CDS272417R0257	4016779619516	5	0.280
	2	S202U-K2	2CDS272417R0277	4016779619523	5	0.280
	3	S202U-K3	2CDS272417R0317	4016779619530	5	0.280
	4	S202U-K4	2CDS272417R0337	4016779619547	5	0.280
	5	S202U-K5	2CDS272417R0357	4016779619554	5	0.280
	6	S202U-K6	2CDS272417R0377	4016779619561	5	0.280
	8	S202U-K8	2CDS272417R0407	4016779619578	5	0.280
	10	S202U-K10	2CDS272417R0427	4016779619585	5	0.280
	13	S202U-K13	2CDS272417R0447	4016779619592	5	0.280
	15	S202U-K15	2CDS272417R0457	4016779619608	5	0.280
	16	S202U-K16	2CDS272417R0467	4016779619615	5	0.280
	20	S202U-K20	2CDS272417R0487	4016779619622	5	0.280
	25	S202U-K25	2CDS272417R0517	4016779619639	5	0.280
	30	S202U-K30	2CDS272417R0527	4016779619646	5	0.280
	32	S202U-K32	2CDS272417R0537	4016779619653	5	0.280
	40	S202U-K40	2CDS272417R0557	4016779619660	5	0.280
	50	S202U-K50	2CDS272417R0577	4016779619677	5	0.280
	60	S202U-K60	2CDS272417R0587	4016779619684	5	0.280
	63	S202U-K63	2CDS272417R0607	4016779619691	5	0.280