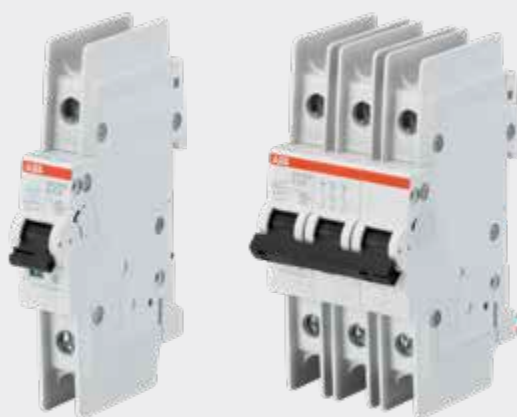


MINIATURE CIRCUIT BREAKERS

SUP 200 M data sheet

System pro M compact®



Miniature circuit breaker (MCB)
SUP 200 M complies with the
requirements of UL markets.

—
01 SUP 201 M
—
02 SUP 203 M

General Data	
Standards	UL 489
Poles	1P, 2P, 3P
Tripping characteristics	C, K, Z
Rated current I_n	1 A, 1.6 A, 2 A, 3 A, 4 A, 5 A, 6 A, 7 A, 8 A, 10 A, 13 A, 15 A, 16 A, 20 A, 25 A, 30 A, 32 A, 35 A, 40 A (C, Z)
Rated frequency f	50 / 60 Hz
UL / CSA	
Rated voltage	480Y / 277 V AC
Short-circuit current rating acc. to UL 489	14 kA
Reference temperature for tripping characteristics	40 °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 indicator	Real CPI (green OFF, red ON)
Protection degree acc. to DIN EN 60529	IP20 ¹⁾ , IP40 in enclosure with cover
Mechanical endurance	20,000 ops.
Shock resistance acc. to IEC/EN 60068-2-27	25 g - 2 shocks - 13 ms
Vibration resistance acc. to IEC/EN 60068-2-6	5g - 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

¹⁾ Also fulfilling the requirement acc. to the protection degree IPXXB

Miniature Circuit Breaker SUP 200 M

Technical data

Installation	
Terminal	Failsafe bi-directional cylinder-lift terminal
Cross-section of conductors (top/bottom)	Solid, stranded: 35 mm ² / 35 mm ² Flexible: 25 mm ² / 25 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 AWG 18-16: 13.3 in-lbs. AWG 14-10: 17.7 in-lbs. AWG 8-4: 39.8 in-lbs.
Screwdriver	No. 2 Pozidriv
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	Mounting dimension 3
Pole dimensions (H x D x W)	111 x 69 x 17.5 mm
Pole weight	Approx. 125 g
Combination with auxiliary elements	
Auxiliary contact	Yes
Signal contact	Yes
Shunt trip	Yes

Miniature Circuit Breaker SUP 200 M

Tripping characteristics

1) The thermal releases are calibrated to a nominal reference ambient temperature e.g. for UL 489 of 40 °C. In the case of higher ambient temperatures, the current values decrease by approx. 4 % for each 10 K temperature rise.

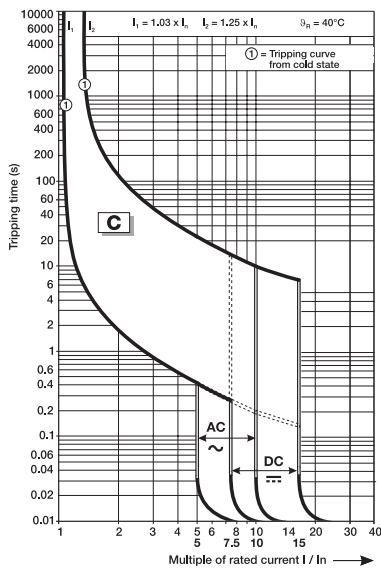
2) The indicated tripping values of electromagnetic tripping devices apply to a frequency of 50/60 Hz. The thermal release operates independent of frequency.

3) As from operating temperature (after $I_1 > 1h$)

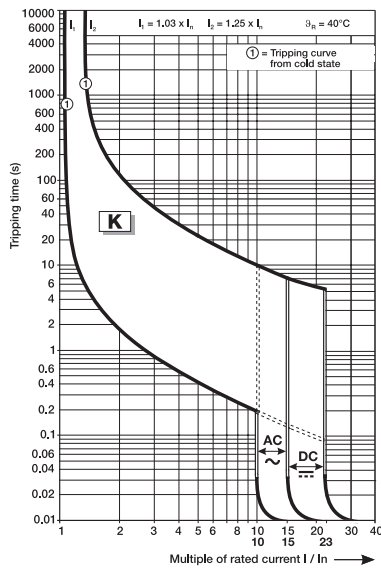
Tripping characteristics

Acc. to	Tripping characteristics	Rated current I_n	Thermal release ¹⁾ Currents:		Tripping time	Electromagnetic release ²⁾	
			conventional non-tripping current I_1	conventional tripping current I_2		Range of instantaneous tripping	Tripping time
UL 489	C	1 to 40 A	$1.03 \cdot I_n$	$1.25 \cdot I_n$	$> 1 h$ $< 1 h^{3)}$	$5 \cdot I_n$ $10 \cdot I_n$	$> 0.2 s$ $< 0.2 s$
	K	1 to 35 A	$1.03 \cdot I_n$	$1.25 \cdot I_n$	$> 1 h$ $< 1 h^{3)}$	$10 \cdot I_n$ $14 \cdot I_n$	$> 0.2 s$ $< 0.2 s$
	Z	1 to 40 A	$1.03 \cdot I_n$	$1.25 \cdot I_n$	$> 1 h$ $< 1 h^{3)}$	$2 \cdot I_n$ $3 \cdot I_n$	$> 0.2 s$ $< 0.2 s$

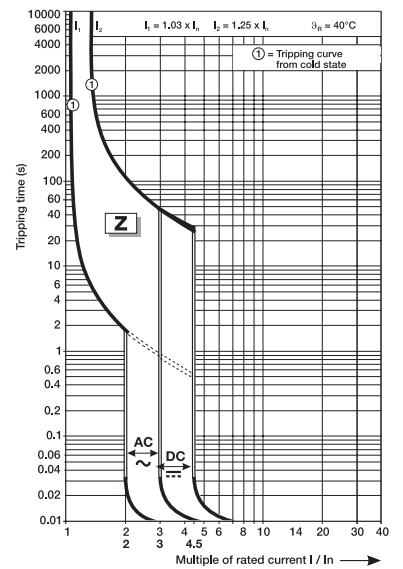
C characteristic



K characteristic



Z characteristic



Miniature Circuit Breaker SUP 200 M Derating

Deviating ambient temperature

The rated value of the current of a miniature circuit breaker of SUP 200 M series refers to a reference ambient temperature of 40 °C acc. to UL/CSA.

The following table shows derating factors for ambient temperature from -40 °C to 70 °C for the characteristics C, K, Z.

UL derating

Reference temp: 40 °C

UL 489 I_n (A)	ambient temperature (°C)											
	-40	-30	-20	-10	0	10	20	30	40	50	60	70
1	1.34	1.29	1.24	1.20	1.16	1.12	1.08	1.04	1	0.96	0.93	0.89
1.6	2.14	2.07	1.99	1.92	1.85	1.78	1.72	1.66	1.6	1.54	1.49	1.43
2	2.67	2.58	2.49	2.40	2.31	2.23	2.15	2.07	2	1.93	1.85	1.79
3	4.01	3.87	3.73	3.60	3.47	3.35	3.23	3.11	3	2.89	2.78	2.68
4	5.35	5.16	4.97	4.80	4.63	4.46	4.30	4.15	4	3.85	3.71	3.57
5	6.69	6.45	6.22	6.00	5.78	5.58	5.38	5.19	5	4.82	4.64	4.47
6	8.02	7.74	7.46	7.20	6.94	6.69	6.45	6.22	6	5.78	5.56	5.36
7	9.36	9.03	8.70	8.40	8.10	7.81	7.53	7.26	7	6.74	6.49	6.25
8	10.70	10.32	9.95	9.59	9.25	8.92	8.60	8.30	8	7.70	7.42	7.14
10	13.37	12.90	12.44	11.99	11.56	11.15	10.75	10.37	10	9.63	9.27	8.93
13	17.38	16.76	16.17	15.59	15.03	14.50	13.98	13.48	13	12.52	12.06	11.61
15	20.06	19.34	18.65	17.99	17.35	16.73	16.13	15.56	15	14.45	13.91	13.40
16	21.40	20.63	19.90	19.19	18.50	17.84	17.21	16.59	16	15.41	14.84	14.29
20	26.75	25.79	24.87	23.98	23.13	22.30	21.51	20.74	20	19.26	18.55	17.86
25	33.43	32.24	31.09	29.98	28.91	27.88	26.88	25.93	25	24.08	23.18	22.33
30	40.12	38.69	37.31	35.98	34.69	33.45	32.26	31.11	30	28.89	27.82	26.79
32	42.79	41.27	39.79	38.37	37.01	35.69	34.41	33.18	32	30.82	29.68	28.58
35	46.81	45.14	43.53	41.97	40.47	39.03	37.64	36.30	35	33.71	32.46	31.26
40	53.49	51.58	49.74	47.97	46.26	44.61	43.01	41.48	40	38.52	37.09	35.72

Miniature Circuit Breaker SUP 200 M Derating

Influence of adjacent devices, internal resistance and power loss

Influence of adjacent devices

If several miniature circuit breakers are installed directly side by side with high load on all poles, a correction factor has to 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

Internal resistance and power loss per pole

Rated current I_n [A]	C, K characteristics		Z characteristic	
	Internal resistance per pole R_i [mOhm]	Power loss P_v [W]	Internal resistance per pole R_i	Power loss P_v
1	1400	1.4	2200	2.2
1.6	703	1.8	1000	2.6
2	450	1.8	650	2.6
3	178	1.6	250	2.3
4	113	1.8	140	2.2
5	50	1.3	100	2.5
6	56	2.0	70	2.5
7	27	1.3	35	1.7
8	23	1.5	28	1.8
10	21	2.1	21	2.1
13	14	2.3	17	2.9
15	11	2.4	13	2.9
16	9.8	2.5	10	2.6
20	6.3	2.5	6.5	2.6
25	5.1	3.2	5.1	3.2
30	3.9	3.5	3.9	3.5
32	3.6	3.7	3.6	3.7
35	3.3	4.1	3.3	4.1
40	2.8	4.5	2.8	4.5

Internal resistances are subject to application-specific and environment-specific conditions and are therefore to be considered as typical values.

Miniature Circuit Breaker SUP 200 M

Ordering data characteristic C



Number of poles	Rated current I _n [A]	Type code	Order code	Weight per PCE [kg]	Packing unit [PCE]
1	1	SUP201M-C1	2CDS271336R0014	0.125	10
	1.6	SUP201M-C1,6	2CDS271336R0974	0.125	10
	2	SUP201M-C2	2CDS271336R0024	0.125	10
	3	SUP201M-C3	2CDS271336R0034	0.125	10
	4	SUP201M-C4	2CDS271336R0044	0.125	10
	5	SUP201M-C5	2CDS271336R0054	0.125	10
	6	SUP201M-C6	2CDS271336R0064	0.125	10
	7	SUP201M-C7	2CDS271336R0074	0.125	10
	8	SUP201M-C8	2CDS271336R0084	0.125	10
	10	SUP201M-C10	2CDS271336R0104	0.125	10
	13	SUP201M-C13	2CDS271336R0134	0.125	10
	15	SUP201M-C15	2CDS271336R0154	0.125	10
	16	SUP201M-C16	2CDS271336R0164	0.125	10
	20	SUP201M-C20	2CDS271336R0204	0.125	10
	25	SUP201M-C25	2CDS271336R0254	0.125	10
	30	SUP201M-C30	2CDS271336R0304	0.125	10
	32	SUP201M-C32	2CDS271336R0324	0.125	10
35	SUP201M-C35	2CDS271336R0354	0.125	10	
40	SUP201M-C40	2CDS271336R0404	0.125	10	
2	1	SUP202M-C1	2CDS272336R0014	0.250	5
	1.6	SUP202M-C1,6	2CDS272336R0974	0.250	5
	2	SUP202M-C2	2CDS272336R0024	0.250	5
	3	SUP202M-C3	2CDS272336R0034	0.250	5
	4	SUP202M-C4	2CDS272336R0044	0.250	5
	5	SUP202M-C5	2CDS272336R0054	0.250	5
	6	SUP202M-C6	2CDS272336R0064	0.250	5
	7	SUP202M-C7	2CDS272336R0074	0.250	5
	8	SUP202M-C8	2CDS272336R0084	0.250	5
	10	SUP202M-C10	2CDS272336R0104	0.250	5
	13	SUP202M-C13	2CDS272336R0134	0.250	5
	15	SUP202M-C15	2CDS272336R0154	0.250	5
	16	SUP202M-C16	2CDS272336R0164	0.250	5
	20	SUP202M-C20	2CDS272336R0204	0.250	5
	25	SUP202M-C25	2CDS272336R0254	0.250	5
	30	SUP202M-C30	2CDS272336R0304	0.250	5
	32	SUP202M-C32	2CDS272336R0324	0.250	5
35	SUP202M-C35	2CDS272336R0354	0.250	5	
40	SUP202M-C40	2CDS272336R0404	0.250	5	
3	1	SUP203M-C1	2CDS273336R0014	0.375	3
	1.6	SUP203M-C1,6	2CDS273336R0974	0.375	3
	2	SUP203M-C2	2CDS273336R0024	0.375	3
	3	SUP203M-C3	2CDS273336R0034	0.375	3
	4	SUP203M-C4	2CDS273336R0044	0.375	3
	5	SUP203M-C5	2CDS273336R0054	0.375	3
	6	SUP203M-C6	2CDS273336R0064	0.375	3
	7	SUP203M-C7	2CDS273336R0074	0.375	3
	8	SUP203M-C8	2CDS273336R0084	0.375	3
	10	SUP203M-C10	2CDS273336R0104	0.375	3
	13	SUP203M-C13	2CDS273336R0134	0.375	3
	15	SUP203M-C15	2CDS273336R0154	0.375	3
	16	SUP203M-C16	2CDS273336R0164	0.375	3
	20	SUP203M-C20	2CDS273336R0204	0.375	3
	25	SUP203M-C25	2CDS273336R0254	0.375	3
	30	SUP203M-C30	2CDS273336R0304	0.375	3
	32	SUP203M-C32	2CDS273336R0324	0.375	3
35	SUP203M-C35	2CDS273336R0354	0.375	3	
40	SUP203M-C40	2CDS273336R0404	0.375	3	

Miniature Circuit Breaker SUP 200 M

Ordering data characteristic K



Number of poles	Rated current I _n [A]	Type code	Order code	Weight per PCE [kg]	Packing unit [PCE]
1	1	SUP201M-K1	2CDS271336R0217	0.125	10
	1.6	SUP201M-K1,6	2CDS271336R0257	0.125	10
	2	SUP201M-K2	2CDS271336R0277	0.125	10
	3	SUP201M-K3	2CDS271336R0317	0.125	10
	4	SUP201M-K4	2CDS271336R0337	0.125	10
	5	SUP201M-K5	2CDS271336R0357	0.125	10
	6	SUP201M-K6	2CDS271336R0377	0.125	10
	7	SUP201M-K7	2CDS271336R0387	0.125	10
	8	SUP201M-K8	2CDS271336R0407	0.125	10
	10	SUP201M-K10	2CDS271336R0427	0.125	10
	13	SUP201M-K13	2CDS271336R0447	0.125	10
	15	SUP201M-K15	2CDS271336R0457	0.125	10
	16	SUP201M-K16	2CDS271336R0467	0.125	10
	20	SUP201M-K20	2CDS271336R0487	0.125	10
	25	SUP201M-K25	2CDS271336R0517	0.125	10
	30	SUP201M-K30	2CDS271336R0527	0.125	10
32	SUP201M-K32	2CDS271336R0537	0.125	10	
35	SUP201M-K35	2CDS271336R0547	0.125	10	
2	1	SUP202M-K1	2CDS272336R0217	0.250	5
	1.6	SUP202M-K1,6	2CDS272336R0257	0.250	5
	2	SUP202M-K2	2CDS272336R0277	0.250	5
	3	SUP202M-K3	2CDS272336R0317	0.250	5
	4	SUP202M-K4	2CDS272336R0337	0.250	5
	5	SUP202M-K5	2CDS272336R0357	0.250	5
	6	SUP202M-K6	2CDS272336R0377	0.250	5
	7	SUP202M-K7	2CDS272336R0387	0.250	5
	8	SUP202M-K8	2CDS272336R0407	0.250	5
	10	SUP202M-K10	2CDS272336R0427	0.250	5
	13	SUP202M-K13	2CDS272336R0447	0.250	5
	15	SUP202M-K15	2CDS272336R0457	0.250	5
	16	SUP202M-K16	2CDS272336R0467	0.250	5
	20	SUP202M-K20	2CDS272336R0487	0.250	5
	25	SUP202M-K25	2CDS272336R0517	0.250	5
	30	SUP202M-K30	2CDS272336R0527	0.250	5
32	SUP202M-K32	2CDS272336R0537	0.250	5	
35	SUP202M-K35	2CDS272336R0547	0.250	5	
3	1	SUP203M-K1	2CDS273336R0217	0.375	3
	1.6	SUP203M-K1,6	2CDS273336R0257	0.375	3
	2	SUP203M-K2	2CDS273336R0277	0.375	3
	3	SUP203M-K3	2CDS273336R0317	0.375	3
	4	SUP203M-K4	2CDS273336R0337	0.375	3
	5	SUP203M-K5	2CDS273336R0357	0.375	3
	6	SUP203M-K6	2CDS273336R0377	0.375	3
	7	SUP203M-K7	2CDS273336R0387	0.375	3
	8	SUP203M-K8	2CDS273336R0407	0.375	3
	10	SUP203M-K10	2CDS273336R0427	0.375	3
	13	SUP203M-K13	2CDS273336R0447	0.375	3
	15	SUP203M-K15	2CDS273336R0457	0.375	3
	16	SUP203M-K16	2CDS273336R0467	0.375	3
	20	SUP203M-K20	2CDS273336R0487	0.375	3
	25	SUP203M-K25	2CDS273336R0517	0.375	3
	30	SUP203M-K30	2CDS273336R0527	0.375	3
32	SUP203M-K32	2CDS273336R0537	0.375	3	
35	SUP203M-K35	2CDS273336R0547	0.375	3	

Miniature Circuit Breaker SUP 200 M

Ordering data characteristic Z



Number of poles	Rated current I _n [A]	Type code	Order code	Weight per PCE [kg]	Packing unit [PCE]
1	1	SUP201M-Z1	2CDS271336R0218	0.125	10
	1.6	SUP201M-Z1,6	2CDS271336R0258	0.125	10
	2	SUP201M-Z2	2CDS271336R0278	0.125	10
	3	SUP201M-Z3	2CDS271336R0318	0.125	10
	4	SUP201M-Z4	2CDS271336R0338	0.125	10
	5	SUP201M-Z5	2CDS271336R0358	0.125	10
	6	SUP201M-Z6	2CDS271336R0378	0.125	10
	7	SUP201M-Z7	2CDS271336R0388	0.125	10
	8	SUP201M-Z8	2CDS271336R0408	0.125	10
	10	SUP201M-Z10	2CDS271336R0428	0.125	10
	15	SUP201M-Z15	2CDS271336R0458	0.125	10
	16	SUP201M-Z16	2CDS271336R0468	0.125	10
	20	SUP201M-Z20	2CDS271336R0488	0.125	10
	25	SUP201M-Z25	2CDS271336R0518	0.125	10
	30	SUP201M-Z30	2CDS271336R0528	0.125	10
	32	SUP201M-Z32	2CDS271336R0538	0.125	10
35	SUP201M-Z35	2CDS271336R0548	0.125	10	
40	SUP201M-Z40	2CDS271336R0558	0.125	10	
2	1	SUP202M-Z1	2CDS272336R0218	0.250	5
	1.6	SUP202M-Z1,6	2CDS272336R0258	0.250	5
	2	SUP202M-Z2	2CDS272336R0278	0.250	5
	3	SUP202M-Z3	2CDS272336R0318	0.250	5
	4	SUP202M-Z4	2CDS272336R0338	0.250	5
	5	SUP202M-Z5	2CDS272336R0358	0.250	5
	6	SUP202M-Z6	2CDS272336R0378	0.250	5
	7	SUP202M-Z7	2CDS272336R0388	0.250	5
	8	SUP202M-Z8	2CDS272336R0408	0.250	5
	10	SUP202M-Z10	2CDS272336R0428	0.250	5
	15	SUP202M-Z15	2CDS272336R0458	0.250	5
	16	SUP202M-Z16	2CDS272336R0468	0.250	5
	20	SUP202M-Z20	2CDS272336R0488	0.250	5
	25	SUP202M-Z25	2CDS272336R0518	0.250	5
	30	SUP202M-Z30	2CDS272336R0528	0.250	5
	32	SUP202M-Z32	2CDS272336R0538	0.250	5
35	SUP202M-Z35	2CDS272336R0548	0.250	5	
40	SUP202M-Z40	2CDS272336R0558	0.250	5	
3	1	SUP203M-Z1	2CDS273336R0218	0.375	3
	1.6	SUP203M-Z1,6	2CDS273336R0258	0.375	3
	2	SUP203M-Z2	2CDS273336R0278	0.375	3
	3	SUP203M-Z3	2CDS273336R0318	0.375	3
	4	SUP203M-Z4	2CDS273336R0338	0.375	3
	5	SUP203M-Z5	2CDS273336R0358	0.375	3
	6	SUP203M-Z6	2CDS273336R0378	0.375	3
	7	SUP203M-Z7	2CDS273336R0388	0.375	3
	8	SUP203M-Z8	2CDS273336R0408	0.375	3
	10	SUP203M-Z10	2CDS273336R0428	0.375	3
	15	SUP203M-Z15	2CDS273336R0458	0.375	3
	16	SUP203M-Z16	2CDS273336R0468	0.375	3
	20	SUP203M-Z20	2CDS273336R0488	0.375	3
	25	SUP203M-Z25	2CDS273336R0518	0.375	3
	30	SUP203M-Z30	2CDS273336R0528	0.375	3
	32	SUP203M-Z32	2CDS273336R0538	0.375	3
35	SUP203M-Z35	2CDS273336R0548	0.375	3	
40	SUP203M-Z40	2CDS273336R0558	0.375	3	

ABB Group
Electrification Products Division,
Business Unit Building Products

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