Technical Data

System pro *M*
System pro *M* compact®

Miniature Circuit-Breakers for Railway Applications

ABB

1. Fire Resistance

Miniature circuit-breakers of the S 200 P and S 280 UC series, including auxiliary contacts and busbars, comply with hazard Level HL 4 according to NF F16-101/-102, prEN 45545-1/-2.

2. Shock and vibration resistance S 200 P and S 280 UC

Shock and vibration tests carried out pursuant to DIN IEC 60068, DIN EN 50155/EN 61373 (railway application) fulfilled in all directions.

Contact stability of auxiliary contacts at 24 V DC, 4 mA
Automatic reclosing permissible below 10 ms

Standard Terms for Delivery and Sale

For domestic business, the Standard Terms for Delivery of Products and Services of the Electrical Industry (ABB Form 2292) shall apply in connection with the Standard Sales Terms (ABB Form 2327) in their then applicable version. For foreign business, the Standard Terms for Delivery of Products and Services of the Electrical Industry (ABB Form 2293 German-English, or ABB Form 2294 German-French) shall apply in connection with the Standard Sales Terms (ABB-Form 2381 English) in their then applicable version.

Warranty
We assume warranty in accordance with the standard sales and delivery terms. Complaints shall be made in writing within eight days following receipt of the goods.

Technical information and illustrations are not binding and subject to change without notice.

Contents

Contents

Miniature circuit-breakers
Protection objectives

Description

Miniature circuit-breakers of the S 200 P series have a current-limiting effect. They have two different trip releases acting on the contact mechanism:

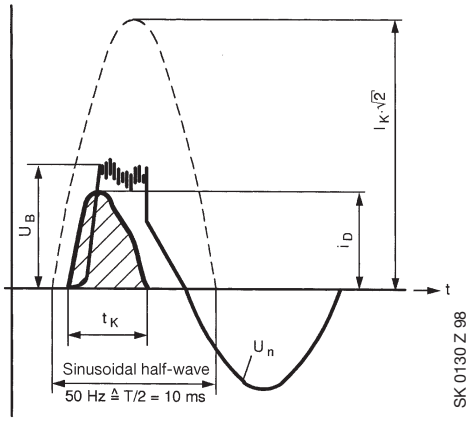
1. the delayed thermal release providing overload protection
2. the electromechanical instantaneous release with “hammer trip” solenoid providing short-circuit protection.

They offer: high short-circuit capacity
high selectivity for back-up protection
low loads in the case of a short circuit on the line and/or the damaged area through massive limitation of the let-through I^2t/A^2s (ohmic thermal figure)

Task

Protection against excessive temperature rises of electric items in the case of overcurrents caused by overload, short circuit or earth-fault current if assigned according to DIN VDE 0100 Part 430. Protection against electric shock in the case of excessive touch voltage caused by insulation fault if assigned according to DIN VDE 0100 Part 410.

Oscillogram of a disconnection procedure



$I_K \cdot \sqrt{2}$ = Peak value of prospective fault current

i_D = Max. let-through current of device S 200/S 200 M

U_n = Supply voltage

U_B = Build-up and collapse of arc voltage of device

t_K = Operating time of device

Tripping behavior S 200 P series

according to standard	Tripping characteristic and rated currents		**Thermal tripping**② conventional: trip. current I_1	non-conventional trip. current I_2	Tripping time test current	**Electromagnetic tripping** ① test current: hold current rushes from	switch latest off at	Tripping time
DIN EN 60 898 (VDE 0641 Part 11)	B	6 to 63 A	1.13 · I_n	1.45 · I_n	> 1 h < 1 h	3 · I_n	5 · I_n	0.1 … 45 s ≤ 32 A/0.1 … 90 s > 32 A < 0.1 s
DIN EN 60 947-2 (VDE 0660 Part 101)	K	0.2 to 63 A	1.05 · I_n	1.2 · I_n 1.5 · I_n 6.0 · I_n	> 1 h < 1 h ③ < 2 min. ③ > 2 s (T1)	10 · I_n	14 · I_n	> 0.2 s < 0.2 s
DIN EN 60 947-2 (VDE 0660 Part 101)	Z	0.5 to 63 A	1.05 · I_n	1.2 · I_n 1.5 · I_n 6.0 · I_n	> 1 h < 1 h < 2 min. > 2 s (T1)	2 · I_n	3 · I_n	> 0.2 s < 0.2 s

① The indicated tripping values of electromagnetic tripping devices apply to a frequency range from $16^2/_3$ ... 60 Hz. In the case of diverging frequencies or direct current, the values change by the factor indicated below:

	Alternating current			Direct current
	100 Hz	200 Hz	400 Hz	
factor ca.	1.1	1.2	1.5	1.5

The thermal release operates independent of the frequency.

② The thermal releases are calibrated to a nominal reference ambient temperature; for Z and K, the value is 20 °C/68°F, for B and C = 30 °C/86 °F In the case of higher ambient temperatures, the current values fall by ca. 6 % for each 10 K temperature rise.

③ as from operating temperature (after I_1 > 1 h or 2 h, respectively).

Tripping behavior S 280 UC series

S 280 UC according to standard	Tripping characteristic and range of rated current		**Thermal tripping** ① test currents conventional trip. current I_1	non-conventional trip. current I_2	Tripping time	**Electromagnetic tripping** ② Test current hold current rushes from at ≂	switch latest off at ~	at –	Tripping time at ~	at –
DIN EN 60 898 (VDE 0641 Part 12)	**B**	6 to 25 A	1.13 · I_n	1.45 · I_n	> 1 h < 1 h	3 · I_n	5 · I_n	7.5 · I_n	> 0.1 s < 0.1 s	> 0.1 s < 0.1 s
DIN EN 60 947-2 (VDE 0660 Part 101)	**K**	0.2 to 63 A	1.05 · I_n	1.2 · I_n 1.5 · I_n 6.0 · I_n	> 1 h < 1 h ③ < 2 min > 2 s (T1)	10 · I_n	14 · I_n	21 · I_n	> 0.2 s < 0.2 s	> 0.2 s < 0.2 s
DIN EN 60 947-2 (VDE 0660 Part 101)	**Z**	0.5 to 63 A	1.05 · I_n	1.2 · I_n 1.5 · I_n	> 1 h < 1 h ③ < 2 min	2 · I_n	3 · I_n	4.5 · I_n	> 0.2 s < 0.2 s	> 0.2 s < 0.2 s

① The max. permissible operating currents depend on the following factors: ambient temperature and mutual thermal influence. See page 13.

② The indicated tripping values of electromagnetic tripping devices apply to a frequency range from 162/3 ... 60 Hz. In the case of diverging frequencies or direct current, the values change by the factor indicated in the table below.

③ as from operating temperature (after I_1 > 1 h)

	Alternating current			
	100 Hz	200 Hz	400 Hz	DC
factor ca.	1.1	1.2	1.5	ca. 1.5

The thermal release operates independent of the frequency.

	rated current	hold current rushes from	switch non-delayed at AC/DC ≥ 48 % ripple	DC ≤ 5 % ripple
S 280 UC-Z	0.5 A	1 A	1.5 A	2.4 A
	1 A	2 A	3.0 A	4.8 A
	1.6 A	3.2 A	4.8 A	7.7 A
	2 A	4 A	6 A	9 A
	3 A	6 A	9 A	15 A
	4 A	8 A	12 A	19 A
	6 A	12 A	18 A	29 A
	8 A	16 A	24 A	38 A
	10 A	20 A	30 A	48 A
	16 A	32 A	48 A	77 A
	20 A	40 A	60 A	96 A
	25 A	50 A	75 A	120 A
	32 A	64 A	96 A	153 A
	40 A	80 A	120 A	192 A
	50 A	100 A	150 A	240 A
	63 A	125 A	189 A	315 A

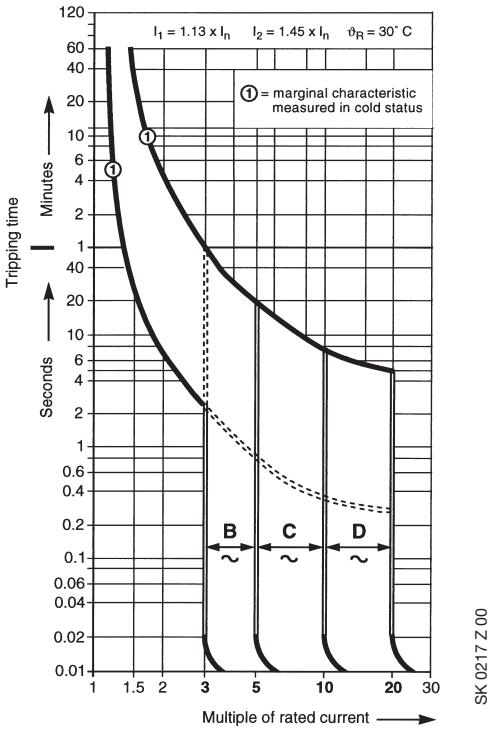
Tripping characteristics for MCBs Assignment

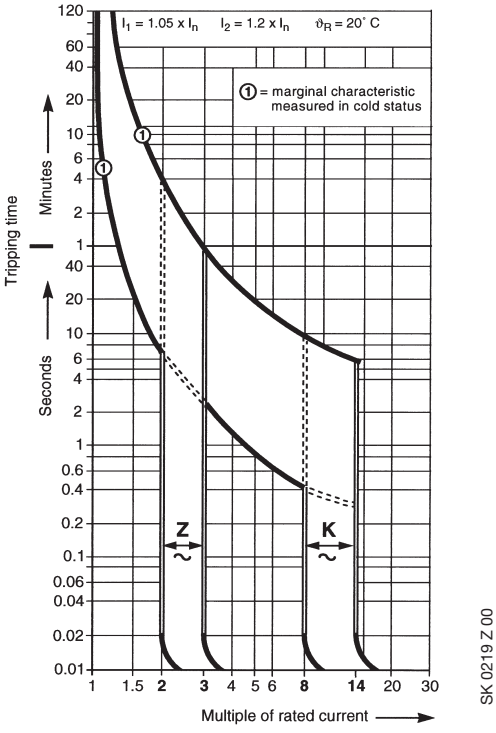
Tripping Characteristic: B, C, D

according to VDE 0641 Part 11
DIN EN 60898 and IEC 898
Design requirements for circuit-breakers for overcurrent protection for household and similar installations

Tripping Characteristic: Z, K

according to VDE 0660 Part 101
DIN EN 60947-2 and IEC 947-2
Design requirements for miniature circuit-breakers





Summary

Compared to tripping characteristics “B”, “C” and “D”, the “K” and “Z” types offer more protection for planning and during operation.

Assignment

“B” and “C” according to VDE 0641 Part 11
DIN EN 60898 and IEC 898
→ for overcurrent protection of lines

“K” according to VDE 0660 Part 101
DIN EN 60947-2 and IEC 947-2
→ for overcurrent protection of lines
→ for current circuits where current-consuming apparatus causes functional current peaks

“Z” according to VDE 0660 Part 101
DIN EN 60947-2 and IEC 947-2
→ for overcurrent protection of lines
→ for control circuits with high impedances, yet without functional peaks
→ voltage transformer circuits
→ semiconductor protection with selected assignment

Max. operating current depending on the ambient temperature of a circuit-breaker in load circuit of characteristics type B and C

B and C	Ambient temperature T (°C/°F)											
I_n (A)	– 40	–30/–22	– 20/–4	– 10/14	0/32	10/50	20/68	30/86	40/104	50/122	60/140	70/158
0.5	0.67	0.65	0.62	0.60	0.58	0.55	0.53	0.50	0.47	0.44	0.41	0.37
1.0	1.33	1.29	1.25	1.20	1.15	1.11	1.05	1.00	0.94	0.88	0.82	0.75
1.6	2.13	2.07	2.00	1.92	1.85	1.77	1.69	1.60	1.51	1.41	1.31	1.19
2.0	2.67	2.58	2.49	2.40	2.31	2.21	2.11	2.00	1.89	1.76	1.63	1.49
3.0	4.0	3.9	3.7	3.6	3.5	3.3	3.2	3.0	2.8	2.6	2.4	2.2
4.0	5.3	5.2	5.0	4.8	4.6	4.4	4.2	4.0	3.8	3.5	3.3	3.0
6.0	8.0	7.7	7.5	7.2	6.9	6.6	6.3	6.0	5.7	5.3	4.9	4.5
8.0	10.7	10.3	10.0	9.6	9.2	8.8	8.4	8.0	7.5	7.1	6.5	6.0
10.0	13.3	12.9	12.5	12.0	11.5	11.1	10.5	10.0	9.4	8.8	8.2	7.5
13.0	17.3	16.8	16.2	15.6	15.0	14.4	13.7	13.0	12.3	11.5	10.6	9.7
16.0	21.3	20.7	20.0	19.2	18.5	17.7	16.9	16.0	15.1	14.1	13.1	11.9
20.0	26.7	25.8	24.9	24.0	23.1	22.1	21.1	20.0	18.9	17.6	16.3	14.9
25.0	33.3	32.3	31.2	30.0	28.9	27.6	26.4	25.0	23.6	22.0	20.4	18.6
32.0	42.7	41.3	39.9	38.5	37.0	35.4	33.7	32.0	30.2	28.2	26.1	23.9
40.0	53.3	51.6	49.9	48.1	46.2	44.2	42.2	40.0	37.7	35.3	32.7	29.8
50.0	66.7	64.5	62.4	60.1	57.7	55.3	52.7	50.0	47.1	44.1	40.8	37.3
63.0	84.0	81.3	78.6	75.7	72.7	69.6	66.4	63.0	59.4	55.6	51.4	47.0

Max. operating current depending on the ambient temperature of a circuit-breaker in load circuit of characteristics type K and Z

K and Z	Ambient temperature T (°C/°F)											
I_n (A)	– 40	–30/–22	– 20/–4	– 10/14	0/32	10/50	20/68	30/86	40/104	50/122	60/140	70/158
0.5	0.66	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	1.06	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	3.7	3.5	3.2	2.8	2.4
6.0	7.9	7.6	7.3	7.0	6.7	6.4	6.0	5.6	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	39.5	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	38.6

Interdependencies in the case of even loads

A correction factor must be taken into account in the case of closely butt-mounted devices and simultaneous high load:
2 and 3 miniature circuit-breakers with factor 0.9;
4 and 5 miniature circuit-breakers with factor 0.8;
6 and more miniature circuit-breakers with factor 0.75

The interdependency becomes irrelevant if FST … filler pieces (9 mm width) are used.

Protection against electric shock DIN VDE 0100-410. Maximum length of lines in socket-outlets 230/400 V

1. For the determination of the max. length of lines, relevant factors have been taken into account.

- Resistance value of the copper conductor at 70 °C/158 °F operating temperature.
- Internal resistance of MCBs which, at $I_n < 6$ A, have a high significance.
- The maximum lengths do not need to be taken into account if protection from indirect touch is provided by an RCD.

2. Voltage drop

The voltage drop is a relevant factor.

Example: a cable with cross section of 1.5 mm² is protected by a B16 circuit-breaker. According to table 3, the max. length of the cable is 82 m.

If the voltage drop is not to exceed 3%, the max. length of the 2-stranded cable must not be longer than 17 m.

Operating current	Max. perm. length of cables and lines ℓ_{max} in m nominal capacity in mm²					
A	1.5	2.5	4	6	10	16
6	92	150				
10	55	90	141			
16	34	56	88	132		
20	28	45	70	106		
25		36	56	85	142	
35			40	60	101	160
40				53	89	140
50					71	112
63					56	89
80						70

Table 1:
Maximum length of cables and lines ℓ_{max} at a voltage drop of 3%. Conductor temperature 30°C/86 °F, three-phase circuits, nominal voltage of the installation 400 V, 50 Hz. ***For single-phase AC circuits, 230 V, lengths have to be multiplied by 0.5.***

Voltage drop	Factor
1%	0.33
1.5%	0.5
4%	1.33
5%	1.67
8%	2.67
10%	3.33

Table 2:
Conversion factors for max. perm. lengths of cables and lines ℓ_{max} in the case of voltage drops of 3%.

Maximum permissible length of cables and lines l_{max} when operation conditions are fulfilled
Important: Always take l_{max} into account due to max. voltage drop!
(determined in line with DIN VDE 0100-520 Bbl2: 2002-11)

For series S 200 P, S 280 UC, the max. line lengths have to be reduced by the factor 0.86.

Note: The maximum lenght does not need to be taken into account if protection from indirect touch is provided by RCDs.

conductor nominal capacity	operating current In	internal resistance MCB Char. B	internal resistance MCB Char. C	internal resistance MCB Char. K	internal resistance MCB Char. Z	MCB according to DIN VDE 0641-11 (VDE 0641 Part 11) and DIN EN 60898-2 (VDE 0641 Part 12) t_a = 0.4 s; t_a = 5 s (is achieved through instantaneous disconnection t ≤ 0.1 s)															
						S200/S200M Type B			S200/S200M Type C			S200/S200M Type D			S200 Type K			S200 Type Z		
						I_{eff}	Z_s	l_{max}	I_{eff}	Z_s	l_{max}	I_{eff}	Z_s	l_{max}	I_{eff}	Z_s	l_{max}	I_{eff}	Z_s	l_{max}
mm²	A	Ω	Ω	Ω	Ω	A	Ω	m	A	Ω	m	A	Ω	m	A	Ω	m	A	Ω	m
0,14	**0,5**	-	5,5000	6,3400	10,1000	2,5	-	-	5,0	46,19	134	7,0	32,99	95	6,0	38,49	111	1,5	153,96	452
	1	-	1,4400	1,5500	2,2700	5,0	-	-	10,0	23,09	67	14,0	16,50	48	12,0	19,25	56	3,0	76,98	226
	1,6	-	0,6300	0,6950	1,1000	8,0	-	-	16,0	14,43	42	22,4	10,31	29	19,2	12,03	35	4,8	48,11	141
	2	-	0,4600	0,4600	0,6190	10,0	-	-	20,0	11,55	33	28,0	8,25	23	24,0	9,62	27	6,0	38,49	113
0,25	**0,5**	-	5,5000	6,3400	10,1000	2,5	-	-	5,0	46,19	240	7,0	32,99	169	6,0	38,49	198	1,5	153,96	807
	1,0	-	1,4400	1,5500	2,2700	5,0	-	-	10,0	23,09	120	14,0	16,50	85	12,0	19,25	99	3,0	76,98	403
	1,6	-	0,6300	0,6950	1,1000	8,0	-	-	16,0	14,43	74	22,4	10,31	53	19,2	12,03	62	4,8	48,11	252
	2	-	0,4600	0,4600	0,6190	10,0	-	-	20,0	11,55	59	28,0	8,25	42	24,0	9,62	49	6,0	38,49	201
	3	-	0,1500	0,1650	0,2020	15,0	-	-	30,0	7,70	39	42,0	5,50	27	36,0	6,42	32	9,0	25,66	134
0,34	**1**	-	1,4400	1,5500	2,2700	5,0	-	-	10,0	23,09	163	14,0	16,50	116	12,0	19,25	135	3,0	76,98	548
	1,6	-	0,6300	0,6950	1,1000	8,0	-	-	16,0	14,43	101	22,4	10,31	72	19,2	12,03	84	4,8	48,11	342
	2	-	0,4600	0,4600	0,6190	10,0	-	-	20,0	11,55	81	28,0	8,25	57	24,0	9,62	67	6,0	38,49	273
	3	-	0,1500	0,1650	0,2020	15,0	-	-	30,0	7,70	53	42,0	5,50	37	36,0	6,42	44	9,0	25,66	182
	4	-	0,1100	0,1200	0,1490	20,0	-	-	40,0	5,77	39	56,0	4,12	27	48,0	4,81	32	12,0	19,25	136
0,5	**1,6**	-	0,6300	0,6950	1,1000	8,0	-	-	16,0	14,43	149	22,4	10,31	105	19,2	12,03	123	4,8	48,11	503
	2	-	0,4600	0,4600	0,6190	10,0	-	-	20,0	11,55	118	28,0	8,25	84	24,0	9,62	98	6,0	38,49	402
	3	-	0,1500	0,1650	0,2020	15,0	-	-	30,0	7,70	78	42,0	5,50	55	36,0	6,42	65	9,0	25,66	267
	4	-	0,1100	0,1200	0,1490	20,0	-	-	40,0	5,77	58	56,0	4,12	40	48,0	4,81	48	12,0	19,25	200
	6	0,0550	0,0550	0,0520	0,1040	30,0	7,70	78	60,0	3,85	38	84,0	2,75	26	72,0	3,21	31	18,0	12,83	132
0,75	**2**	-	0,4600	0,4600	0,6190	10,0	-	-	20,0	11,55	178	28,0	8,25	126	24,0	9,62	147	6,0	38,49	603
	3	-	0,1500	0,1650	0,2020	15,0	-	-	30,0	7,70	117	42,0	5,50	82	36,0	6,42	97	9,0	25,66	401
	4	-	0,1100	0,1200	0,1490	20,0	-	-	40,0	5,77	87	56,0	4,12	61	48,0	4,81	71	12,0	19,25	299
	6	0,0550	0,0550	0,0520	0,1040	30,0	7,70	117	60,0	3,85	56	84,0	2,75	39	72,0	3,21	46	18,0	12,83	198
	10	0,0133	0,0133	0,0126	0,0175	50,0	4,62	68	100,0	2,31	32	140,0	1,65	22	120,0	1,92	26	30,0	7,70	117
1	**3**	-	0,1500	0,1650	0,2020	15,0	-	-	30,0	7,70	156	42,0	5,50	110	36,0	6,42	129	9,0	25,66	534
	4	-	0,1100	0,1200	0,1490	20,0	-	-	40,0	5,77	116	56,0	4,12	81	48,0	4,81	95	12,0	19,25	399
	6	0,0550	0,0550	0,0520	0,1040	30,0	7,70	156	60,0	3,85	75	84,0	2,75	52	72,0	3,21	62	18,0	12,83	264
	10	0,0133	0,0133	0,0126	0,0175	50,0	4,62	91	100,0	2,31	43	140,0	1,65	29	120,0	1,92	35	30,0	7,70	156
	13	0,0133	0,0133	0,0126	-	65,0	3,55	69	130,0	1,78	31	182,0	1,27	21	156,0	1,48	25	-	-	
	16	0,0070	0,0070	0,0077	0,0109	80,0	2,89	55	160,0	1,44	24	224,0	1,03	16	192,0	1,20	19	48,0	4,81	95
1,5	**4**	-	0,1100	0,1200	0,1490	20,0	-	-	40,0	5,77	173	56,0	4,12	121	48,0	4,81	143	12,0	19,25	599
	6	0,0550	0,0550	0,0520	0,1040	30,0	7,70	234	60,0	3,85	113	84,0	2,75	78	72,0	3,21	92	18,0	12,83	396
	10	0,0133	0,0133	0,0126	0,0175	50,0	4,62	137	100,0	2,31	64	140,0	1,65	43	120,0	1,92	52	30,0	7,70	234
	13	0,0133	0,0133	0,0126	-	65,0	3,55	103	130,0	1,78	47	182,0	1,27	31	156,0	1,48	38	-	-	
	16	0,0070	0,0070	0,0077	0,0109	80,0	2,89	82	160,0	1,44	37	224,0	1,03	23	192,0	1,20	29	48,0	4,81	143
	20	0,0063	0,0063	0,0067	0,0060	100,0	2,31	64	200,0	1,15	27	280,0	0,82	17	240,0	0,96	21	60,0	3,85	113
2,5	**6**	0,0550	0,0550	0,0520	0,1040	30,0	7,70	389	60,0	3,85	187	84,0	2,75	129	72,0	3,21	153	18,0	12,83	658
	10	0,0133	0,0133	0,0126	0,0175	50,0	4,62	227	100,0	2,31	106	140,0	1,65	72	120,0	1,92	86	30,0	7,70	389
	13	0,0133	0,0133	0,0126	-	65,0	3,55	172	130,0	1,78	78	182,0	1,27	51	156,0	1,48	63	-	-	
	16	0,0070	0,0070	0,0077	0,0109	80,0	2,89	137	160,0	1,44	61	224,0	1,03	39	192,0	1,20	48	48,0	4,81	238
	20	0,0063	0,0063	0,0067	0,0060	100,0	2,31	106	200,0	1,15	45	280,0	0,82	28	240,0	0,96	35	60,0	3,85	187
	25	0,0050	0,0050	0,0046	0,0041	125,0	1,85	82	250,0	0,92	33	350,0	0,66	19	300,0	0,77	25	75,0	3,08	147
4	**10**	0,0133	0,0133	0,0126	0,0175	50,0	4,62	364	100,0	2,31	170	140,0	1,65	114	120,0	1,92	137	30,0	7,70	622
	13	0,0133	0,0133	0,0126	-	65,0	3,55	274	130,0	1,78	125	182,0	1,27	82	156,0	1,48	100	-	-	
	16	0,0070	0,0070	0,0077	0,0109	80,0	2,89	218	160,0	1,44	97	224,0	1,03	62	192,0	1,20	77	48,0	4,81	380
	20	0,0063	0,0063	0,0067	0,0060	100,0	2,31	170	200,0	1,15	73	280,0	0,82	45	240,0	0,96	56	60,0	3,85	299
	25	0,0050	0,0050	0,0046	0,0041	125,0	1,85	131	250,0	0,92	53	350,0	0,66	31	300,0	0,77	40	75,0	3,08	234
	32	0,0036	0,0036	0,0035	0,0028	160,0	1,44	97	320,0	0,72	36	448,0	0,52	18	384,0	0,60	25	96,0	2,41	178
6	**13**	0,0133	0,0133	0,0126	-	65,0	3,55	413	130,0	1,78	188	182,0	1,27	124	156,0	1,48	151	-	-	
	16	0,0070	0,0070	0,0077	0,0109	80,0	2,89	329	160,0	1,44	146	224,0	1,03	94	192,0	1,20	115	48,0	4,81	572
	20	0,0063	0,0063	0,0067	0,0060	100,0	2,31	256	200,0	1,15	109	280,0	0,82	67	240,0	0,96	85	60,0	3,85	450
	25	0,0050	0,0050	0,0046	0,0041	125,0	1,85	197	250,0	0,92	80	350,0	0,66	46	300,0	0,77	60	75,0	3,08	353
	32	0,0036	0,0036	0,0035	0,0028	160,0	1,44	146	320,0	0,72	54	448,0	0,52	27	384,0	0,60	38	96,0	2,41	268
	40	0,0030	0,0030	0,0028	0,0025	200,0	1,15	109	400,0	0,58	35	560,0	0,41	13	480,0	0,48	23	120,0	1,92	207
10	**25**	0,0050	0,0050	0,0046	0,0041	125,0	1,85	330	250,0	0,92	134	350,0	0,66	77	300,0	0,77	101	75,0	3,08	591
	32	0,0036	0,0036	0,0035	0,0028	160,0	1,44	245	320,0	0,72	90	448,0	0,52	45	384,0	0,60	64	96,0	2,41	449
	40	0,0030	0,0030	0,0028	0,0025	200,0	1,15	183	400,0	0,58	59	560,0	0,41	22	480,0	0,48	38	120,0	1,92	347
	50	0,0013	0,0013	0,0013	0,0018	250,0	0,92	134	500,0	0,46	34	700,0	0,33	3	600,0	0,38	16	150,0	1,54	265
	63	0,0012	0,0012	0,0007	0,0013	315,0	0,73	93	630,0	0,37	12	882,0	0,26	0	756,0	0,31	0	189,0	1,22	198
16	**32**	0,0036	0,0036	0,0035	0,0028	160,0	1,44	389	320,0	0,72	144	448,0	0,52	72	384,0	0,60	102	96,0	2,41	713
	40	0,0030	0,0030	0,0028	0,0025	200,0	1,15	291	400,0	0,58	94	560,0	0,41	36	480,0	0,48	60	120,0	1,92	551
	50	0,0013	0,0013	0,0013	0,0018	250,0	0,92	213	500,0	0,46	53	700,0	0,33	5	600,0	0,38	26	150,0	1,54	421
	63	0,0012	0,0012	0,0007	0,0013	315,0	0,73	147	630,0	0,37	19	882,0	0,26	0	756,0	0,31	0	189,0	1,22	314

Impedancy before the overcurrent protective device Zv = 300 mΩ; c = 0.95; conductor temperature 70 °C / 158 °F = factor; 0.8 (DIN VDE 0100 - 520 Bbl5) and typical line impedance is included, additionally, internal resistance LS has been taken in account.

Protection of sensitive components and fire protection in control circuits 24 V DC, EN 60204 - 1

To comply with the standard and provide adequate protection of sensitive components, e.g. contacts, pre-cut lines for sensors/position switches the following must be ensured:

Projecting note:

- In the case of overcurrent, the non-delayed trip release must respond within milliseconds, thereby ensuring that the I^2t value on the component is as small as possible.

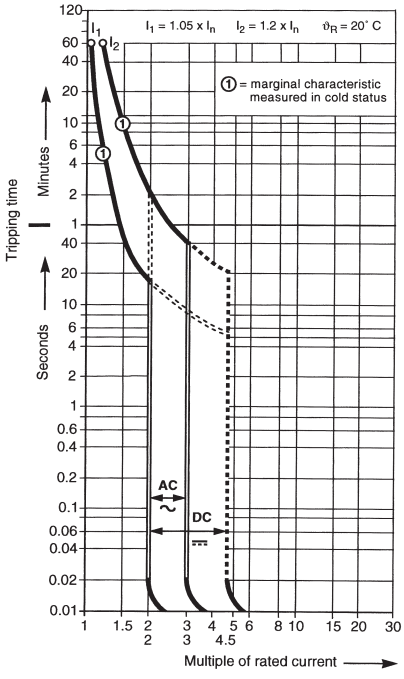
- To ensure a safe functioning of the non-delayed trip release, it is necessary to observe the maximum line length with respect to loop resistance. The calculation parameters are:

- Loop resistance (R_i + R_{cu})

  R_i = Internal resistance of circuit-breaker at 20 °C/68°F
  R_L = Line resistance at 20 °C/68°F

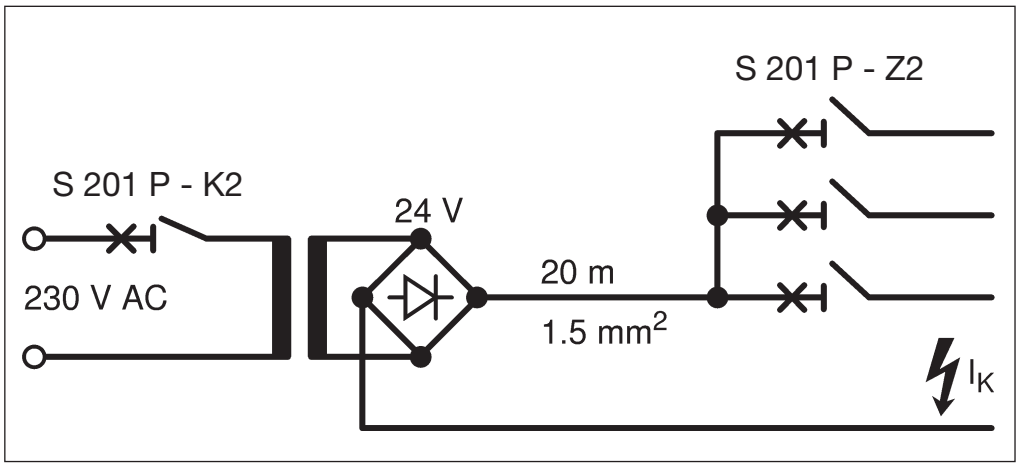
– Copper temperature: 80 °C/176 °F in the case of a short circuit
– Voltage drop
– Contact resistance

This results in an overall reduction factor of 2/3 (DIN VDE 0100-610 April 2004)



SK 0146 Z 00

Example 1: Standard power supply unit



2CDC 022 152 F0005

$R_i = 0.62\ \Omega$

$R_L = : \frac{40\ m}{1.5 \times 56} = 0.48\ \Omega$

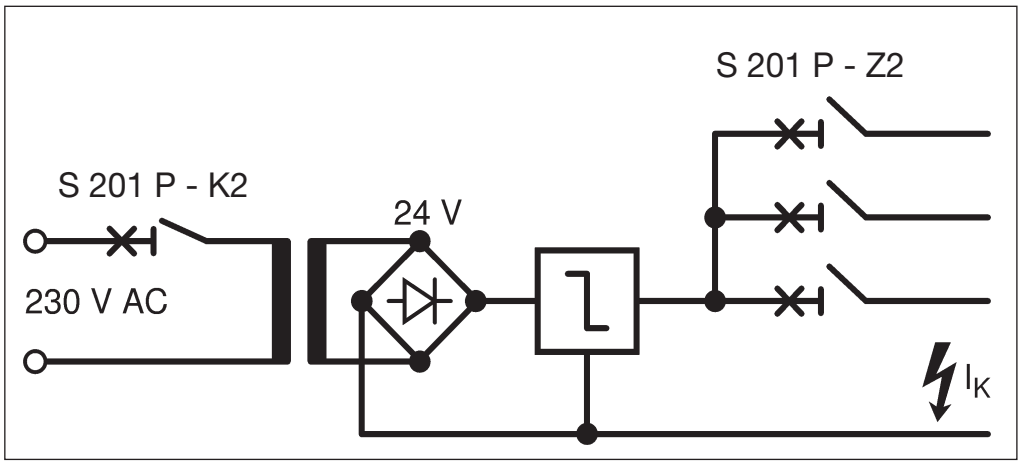
$R = (0.62 + 0.48) = 1.1\ \Omega$

$I_K = \frac{24\ V \times 2/3}{1.1\ \Omega} = 14.5\ A$

Undelayed response value for
S 201 P- Z 2 = 4.5 I_n = 9 A

Result: Trips within milliseconds

Example 2: Switched mode power supply unit



2CDC 022 153 F0005

S 201 P takes < 0.1 s for non-delayed tripping.

If the switched-mode power supply unit regulates down if a short-circuit occurs, then the power supply unit will respond faster than the S 201-… may trip.

Consequence: No selective fault recognition

Result: The output of the switched mode power supply unit must be delayed (> 100 ms) and the protective device must be adapted to the delayed value to obtain selective fault recognition.

Maximum permissible length of cables and lines for the protection of damageable building components and fire protection EN 204-1
Important: Always take I_{max} into account due to max. voltage drop!

For the S 200 P, S 280 UC series the max. length of lines shall be reduced by the factor 0.86.

Note: The I_{max} provide for additional protection of damageable components. In the case of I_{max} = 0: the sole overcurrent protection of the lines is provided by the delayed release.

conductor nominal capacity	operating current In	internal resistance MCB Char. B	internal resistance MCB Char. C	internal resistance MCB Char. Z	MCB according to DIN VDE 0641-11 and VDE 0660 Part 101 t_a < 0.1 s								
					S200/S200M Type B			S200/S200M Type C			S200 Type Z		
					I_{ef}	Z_s	l_{max}	I_{ef}	Z_s	l_{max}	I_{ef}	Z_s	l_{max}
mm²	A	Ω	Ω	Ω	A	Ω	m	A	Ω	m	A	Ω	m
0,14	**0,5**	-	5,5000	10,1000	3,8	-	-	7,5	2,43	0	2,3	8,11	0
	1	-	1,4400	2,2700	7,5	-	-	15,0	1,22	0	4,5	4,05	6
	1,6	-	0,6300	1,1000	12,0	-	-	24,0	0,76	0	7,2	2,53	4
	2	-	0,4600	0,6190	15,00	-	-	30,0	0,61	0	9,0	2,03	4
0,25	**0,5**	-	5,5000	10,1000	3,8	-	-	7,5	2,43	0	2,3	8,11	0
	1,0	-	1,4400	2,2700	7,5	-	-	15,0	1,22	0	4,5	4,05	10
	1,6	-	0,6300	1,1000	12,0	-	-	24,0	0,76	0	7,2	2,53	8
	2	-	0,4600	0,6190	15,0	-	-	30,0	0,61	1	9,0	2,03	8
	3	-	0,1500	0,2020	22,5	-	-	45,0	0,41	1	13,5	1,35	6
0,34	**1**	-	1,4400	2,2700	7,5	-	-	15,0	1,22	0	4,5	4,05	14
	1,6	-	0,6300	1,1000	12,0	-	-	24,0	0,76	1	7,2	2,53	11
	2	-	0,4600	0,6190	15,0	-	-	30,0	0,61	1	9,0	2,03	11
	3	-	0,1500	0,2020	22,5	-	-	45,0	0,41	2	13,5	1,35	9
	4	-	0,1100	0,1490	30,0	-	-	60,0	0,30	1	18,0	1,01	6
0,5	**1,6**	-	0,6300	1,1000	12,0	-	-	24,0	0,76	1	7,2	2,53	16
	2	-	0,4600	0,6190	15,0	-	-	30,0	0,61	1	9,0	2,03	16
	3	-	0,1500	0,2020	22,5	-	-	45,0	0,41	2	13,5	1,35	13
	4	-	0,1100	0,1490	30,0	-	-	60,0	0,30	2	18,0	1,01	9
	6	0,0550	0,0550	0,1040	45,0	0,41	3	90,0	0,20	1	27,0	0,68	6
0,75	**2**	-	0,4600	0,6190	15,0	-	-	30,0	0,61	2	9,0	2,03	23
	3	-	0,1500	0,2020	22,5	-	-	45,0	0,41	4	13,5	1,35	19
	4	-	0,1100	0,1490	30,0	-	-	60,0	0,30	2	18,0	1,01	14
	6	0,0550	0,0550	0,1040	45,0	0,41	5	90,0	0,20	2	27,0	0,68	9
	10	0,0133	0,0133	0,0175	75,0	0,24	3	150,0	0,12	1	45,0	0,41	6
1	**3**	-	0,1500	0,2020	22,5	-	-	45,0	0,41	5	13,5	1,35	25
	4	-	0,1100	0,1490	30,0	-	-	60,0	0,30	3	18,0	1,01	19
	6	0,0550	0,0550	0,1040	45,0	0,41	7	90,0	0,20	2	27,0	0,68	12
	10	0,0133	0,0133	0,0175	75,0	0,24	4	150,0	0,12	1	45,0	0,41	8
	13	0,0133	0,0133		97,5	0,19	3	195,0	0,09		58,5	0,31	
	16	0,0070	0,0070	0,1090	120,0	0,15	2	240,0	0,08	0	72,0	0,25	2
1,5	**2**	-	0,4600	0,6190	15,0	-	-	30,0	0,61	3	9,0	2,03	47
	4	-	0,1100	0,1490	30,0	-	-	60,0	0,30	5	18,0	1,01	28
	6	0,0550	0,0550	0,1040	45,0	0,41	10	90,0	0,20	3	27,0	0,68	18
	10	0,0133	0,0133	0,0175	75,0	0,24	6	150,0	0,12	2	45,0	0,41	12
	13	0,0133	0,0133		97,5	0,19	4	195,0	0,09	1	58,5	0,31	
	16	0,0070	0,0070	0,1090	120,0	0,15	3	240,0	0,08	1	72,0	0,25	3
	20	0,0063	0,0063	0,0060	150,0	0,12	2	300,0	0,06	0	90,0	0,20	5
2,5	**6**	0,0550	0,0550	0,1040	45,0	0,41	17	90,0	0,20	6	27,0	0,68	30
	10	0,0133	0,0133	0,0175	75,0	0,24	10	150,0	0,12	3	45,0	0,41	19
	13	0,0133	0,0133		97,5	0,19	7	195,0	0,09	2	58,5	0,31	
	16	0,0070	0,0070	0,1090	120,0	0,15	5	240,0	0,08	1	72,0	0,25	5
	20	0,0063	0,0063	0,0060	150,0	0,12	4	300,0	0,06	0	90,0	0,20	8
	25	0,0050	0,0050	0,0041	187,5	0,10	2	375,0	0,05	0	112,5	0,16	6
4	**10**	0,0133	0,0133	0,0175	75,0	0,24	17	150,0	0,12	5	45,0	0,41	31
	13	0,0133	0,0133		97,5	0,19	11	195,0	0,09	3	58,5	0,31	
	16	0,0070	0,0070	0,1090	120,0	0,15	9	240,0	0,08	2	72,0	0,25	9
	20	0,0063	0,0063	0,0060	150,0	0,12	6	300,0	0,06	0	90,0	0,20	13
	25	0,0050	0,0050	0,0041	187,5	0,10	4	375,0	0,05	0	112,5	0,16	10
	32	0,0036	0,0036	0,0028	240,0	0,08	2	480,0	0,04	0	144,0	0,13	7
6	**13**	0,0133	0,0133		97,5	0,19	17	195,0	0,09	4	58,5	0,31	
	16	0,0070	0,0070	0,1090	120,0	0,15	13	240,0	0,08	3	72,0	0,25	13
	20	0,0063	0,0063	0,0060	150,0	0,12	9	300,0	0,06	1	90,0	0,20	20
	25	0,0050	0,0050	0,0041	187,5	0,10	6	375,0	0,05	0	112,5	0,16	15
	32	0,0036	0,0036	0,0028	240,0	0,08	3	480,0	0,04	0	144,0	0,13	10
	40	0,0030	0,0030	0,0025	300,0	0,06	1	600,0	0,03	0	180,0	0,10	7
10	**25**	0,0050	0,0050	0,0041	187,5	0,10	10	375,0	0,05	0	112,5	0,16	25
	32	0,0036	0,0036	0,0028	240,0	0,08	5	480,0	0,04	0	144,0	0,13	17
	40	0,0030	0,0030	0,0025	300,0	0,06	2	600,0	0,03	0	180,0	0,10	11
	50	0,0013	0,0013	0,0018	375,0	0,05	0	750,0	0,02	0	225,0	0,08	7
	63	0,0012	0,0012	0,0013	472,5	0,04	0	945,0	0,02	0	283,5	0,06	3
16	**32**	0,0036	0,0036	0,0028	240,0	0,08	8	480,0	0,04	0	144,0	0,13	27
	40	0,0030	0,0030	0,0025	300,0	0,06	3	600,0	0,03	0	180,0	0,10	18
	50	0,0013	0,0013	0,0018	375,0	0,05	0	750,0	0,02	0	225,0	0,08	11
	63	0,0012	0,0012	0,0013	472,5	0,04	0	945,0	0,02	0	283,5	0,06	5

Installation voltage: 24 V DC
Impedance before the overcurrent protective device Zv = 50 mΩ (assumption). For conductor temperature (80 °C/176°F) in the case of a short circuit) and for non-detectable impedances, a factor 2/3 is accounted for (DIN VDE 0100-610).

Selection criteria for rated current of MCBs
Maximum operating current
Minimum rated current

Protection against overload
The operating current (I_n) must not exceed the rated value of the component (contact, switch, RCD...) or the permissible current loading (I_Z) of the cable or the line. DIN VDE 0100 - 520, Bbl.2/Nov. 2002 EN 60204-1/Nov. 1998

Protection of electrical components e.g. contact assemblies, position switches...
Overcurrent protection of components is provided in the best possible manner if the non-delayed release trips within milliseconds if an overcurrent occurs. To do so, the fault loop resistance (Z_s) and the upper trip value (I_a) of the non-delayed release need to be coordinated.

$$Z_s = \frac{2}{3} \times \frac{U_o}{I_a}$$ it follows that: $$I_a \text{ max} \leq \frac{2}{3} \times \frac{U_o}{Z_s}$$

DIN VDE 0100 - 610/Apr. 04

Maximum operating current (I_B)
The main influences on the breaker are as follows:

Influence of ambient temperature
The delayed release (thermal bimetal), e.g.: Z/K-type characteristics is calibrated at an ambient temperature of 20 °C/ 68 °F.
Deviating ambient temperature values will modify the tripping by ca. 6 % per 10 °K.
An ambient temperature in the cabinet of 40 °C/104°F will cause the device to trip 12 % earlier.

Consequence: The operating current (I_B) must be reduced by the factor 0.88.

Mutual interference from the manufacturers' point of view
In the case of mounting side by side, the power loss of the circuit-breaker has an impact on the thermostatic bimetals.

In the case of high simultaneous capacity utilization, this means:
The operating current (I_B) must be reduced by a factor of 0.75.

The max. operating current (I_B)
is thus calculated as follows:

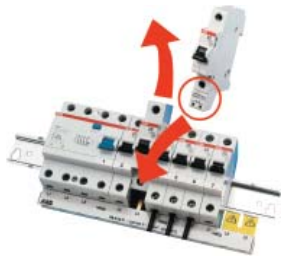
$$I_B \leq 0.88 \times 0.75 \leq \frac{2}{3} \times I_n$$

Minimum operating current from the planner's perspective
Example:
The determined operating current (I_B) = 4 A

The minimum operating current (I_n)
of the circuit-breaker is thus:

$$I_n = \frac{3}{2} \times I_B \; ; \; I_n = 6 \text{ A}$$

Miniature circuit-breakers S 200 P
Special features
Application notes

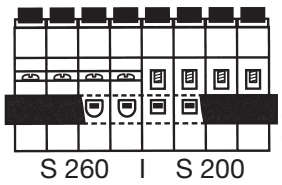


2CDC 003 432 F0003

- The optimum quick fastening technique, together with the **System pro *M* compact PS...** busbars, enable the quick and easy removal and insertion of **System pro *M* compact devices** without having to remove the busbar of the other equipment.

2CDC 003 431 F0003

- Newly developed **System pro *M* compact** busbars.
No time-consuming cutting to length. No extra end caps.
Supplied ready to use in standard lengths.



2CDC 022 430 F0003

- Extension also possible with ready to use busbars.

SK 0047 B 99

- If top-fed, cross-wiring between System pro *M* compact devices and MCBs of the S 280 series possible with compact pin-type busbars.

- Integrated positioning aid for self-adhesive write-on labels, numbered labels or labels with pictograms.

SK 0045 B 99

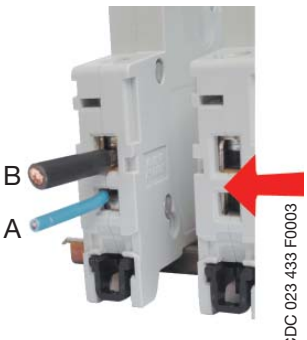
- A pad lock device prevents unauthorized switching to ON or OFF.

2CDC 003 434 F0003

- Incoming supply up to 50 mm^2 with external terminal.

Miniature circuit-breakers S 200 P
Special features
Application notes


SK 0010 B01



2CDC 023 433 F0003

- Disconnector abilities according to EN 60 898-1,
  Rated surge withstand capability 6 kV (1.2/50)
  Test voltage 6.2 kV at NN; 5 kV at 2000 m.

- Terminals with protection degree IPXXB.

- Optionally with new add on auxiliary switch (1 NO or 1 NC),
  ON = leading, OFF= lagging
  50 % width saved.
  Cross-wiring with standard compact busbars possible
  and contact bridges HKB for cross-wiring of auxiliary contacts
  for series or parallel connections.

- 2-fold terminal connection top and bottom,
  supply optionally from top or bottom.

Miniature circuit-breakers S 200 P with integrated auxiliary contact

SK 107 B01

Flexible and cost-efficient modernisation Auxiliary switch for System pro *M* compact®

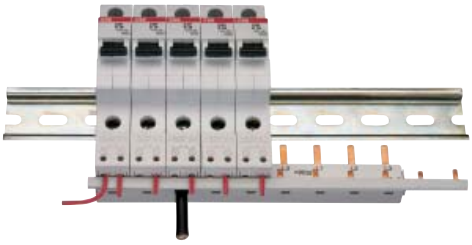
In the past years, the miniature circuit-breakers of the **System pro *M* compact®** type with integrated auxiliary switch – fitted ex works –have proven the test of time in the field of railway applications, switchgear and controlgear, telecommunications and mechanical engineering.

Now, also auxiliary switches S2C-H10 (1 NO) and S2C-H01 (1 NC) can be retrofitted, too.

They can be mounted individually and installed without having to modify the busbar. The simultaneous supply of the circuit-breaker is in no way affected.

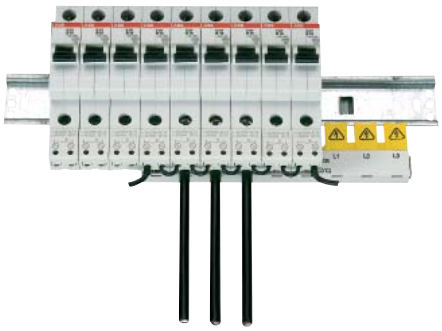
Compared to the previous lateral fixing method, the new technique offers the following advantages:

- Integrated auxiliary switch can be retrofitted from below
- Retrofitting without modification of the busbar
- 50 % space saved through installation from below
- Use of standard busbars with 17.5 mm grid possible
- Time- and cost-saving wiring with HKB contact bridges for group signal
- Time- and cost-saving wiring through 1-pole busbar, e.g. PS 1/57/6 for individual signalling
- **The Signal**
  Leading when switched on.
  Lagging when switched off, thus no fault signal.



2CDC 003 038 F0005

with PS 1/57/6 for individual signal



2CDC 003 446 F0003

with HKB for group signal

B

**acc. to IEC 60898
for line protection**

25 000 ②


2CDC 021 100 F0004


2CDC 021 101 F0004


2CDC 021 102 F0004


2CDC 021 103 F0004

Selection table

No. of poles	Rated current I_n A	Ordering details Type No.	Order code	bbn 40 16779 EAN	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece
1	6	**S 201 P-B 6**	2CDS 281 001 R0065	**589574**		62	0.14	10
	10	**S 201 P-B 10**	2CDS 281 001 R0105	**589581**		62		
	13	**S 201 P-B 13**	2CDS 281 001 R0135	**589598**		62		
	16	**S 201 P-B 16**	2CDS 281 001 R0165	**589260**		62		
	20	**S 201 P-B 20**	2CDS 281 001 R0205	**589604**		62		
	25	**S 201 P-B 25**	2CDS 281 001 R0255	**589611**		62		
U_{Bmax} 440 V~ 72 V ⎓	32	**S 201 P-B 32**	2CDS 281 001 R0325	**589628**		62		
	40	**S 201 P-B 40**	2CDS 281 001 R0405	**589635**		62		
	50	**S 201 P-B 50**	2CDS 281 001 R0505	**589659**		62		
	63	**S 201 P-B 63**	2CDS 281 001 R0635	**589666**		62		
2	6	**S 202 P-B 6**	2CDS 282 001 R0065	**58967 3**		62	0.28	5
	10	**S 202 P-B 10**	2CDS 282 001 R0105	**58968 0**		62		
	13	**S 202 P-B 13**	2CDS 282 001 R0135	**58969 7**		62		
	16	**S 202 P-B 16**	2CDS 282 001 R0165	**58970 3**		62		
	20	**S 202 P-B 20**	2CDS 282 001 R0205	**58971 0**		62		
	25	**S 202 P-B 25**	2CDS 282 001 R0255	**58972 7**		62		
U_{Bmax} 440 V~ 125 V ⎓ ①	32	**S 202 P-B 32**	2CDS 282 001 R0325	**58973 4**		62		
	40	**S 202 P-B 40**	2CDS 282 001 R0405	**58974 1**		62		
	50	**S 202 P-B 50**	2CDS 282 001 R0505	**58975 8**		62		
	63	**S 202 P-B 63**	2CDS 282 001 R0635	**58976 5**		62		
3	6	**S 203 P-B 6**	2CDS 283 001 R0065	**58977 2**		62	0.42	1
	10	**S 203 P-B 10**	2CDS 283 001 R0105	**58978 9**		62		
	13	**S 203 P-B 13**	2CDS 283 001 R0135	**58979 6**		62		
	16	**S 203 P-B 16**	2CDS 283 001 R0165	**58980 2**		62		
	20	**S 203 P-B 20**	2CDS 283 001 R0205	**58981 9**		62		
	25	**S 203 P-B 25**	2CDS 283 001 R0255	**58982 6**		62		
U_{Bmax} 440 V~	32	**S 203 P-B 32**	2CDS 283 001 R0325	**58983 3**		62		
	40	**S 203 P-B 40**	2CDS 283 001 R0405	**58984 0**		62		
	50	**S 203 P-B 50**	2CDS 283 001 R0505	**58985 7**		62		
	63	**S 203 P-B 63**	2CDS 283 001 R0635	**58986 4**		62		
4	6	**S 204 P-B 6**	2CDS 284 001 R0065	**58987 1**		62	0.56	1
	10	**S 204 P-B 10**	2CDS 284 001 R0105	**58988 8**		62		
	13	**S 204 P-B 13**	2CDS 284 001 R0135	**58989 5**		62		
	16	**S 204 P-B 16**	2CDS 284 001 R0165	**58990 1**		62		
	20	**S 204 P-B 20**	2CDS 284 001 R0205	**58991 8**		62		
	25	**S 204 P-B 25**	2CDS 284 001 R0255	**58992 5**		62		
U_{Bmax} 440 V~ 125 V ⎓ ①	32	**S 204 P-B 32**	2CDS 284 001 R0325	**58993 2**		62		
	40	**S 204 P-B 40**	2CDS 284 001 R0405	**58994 9**		62		
	50	**S 204 P-B 50**	2CDS 284 001 R0505	**58995 6**		62		
	63	**S 204 P-B 63**	2CDS 284 001 R0635	**58996 3**		62		

① U_{Bmax} 125 V ⎓ with 2 poles connected in series
② max. switching capacity of series (see Technical Data)

K

**acc. to IEC 60947-2
for power circuits, motors, transformers, lamps and for line protection**

25 000 ②


2CDC 021 100 F0004


2CDC 021 101 F0004


2CDC 021 102 F0004


2CDC 021 103 F0004

K-type characteristics, well proven for more than 70 years.

K (= power) characteristic according to IEC 60947-2 (power circuit-breaker)

1. Functional peak currents up to 14 x I_n do not provoke nuisance tripping.
2. Due to its sensitive thermo-bimetal release, the K-type tripping characteristic offers reliable protection to sensitive components in the overcurrent range. Furthermore, it offers excellent protection of cables and lines.

Selection table

No. of poles	Rated current I_n A	Ordering details Type No.	Order code	bbn 40 16779 EAN	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece
1	0.2	**S 201 P-K 0.2**	2CDS 281 001 R0087	**59221 5**		62	0.14	10
	0.3	**S 201 P-K 0.3**	2CDS 281 001 R0117	**59222 2**		62		
	0.5	**S 201 P-K 0.5**	2CDS 281 001 R0157	**59223 9**		62		
	0.75	**S 201 P-K 0.75**	2CDS 281 001 R0187	**59224 6**		62		
	1	**S 201 P-K 1**	2CDS 281 001 R0217	**59225 3**		62		
	1.6	**S 201 P-K 1.6**	2CDS 281 001 R0257	**59226 0**		62		
	2	**S 201 P-K 2**	2CDS 281 001 R0277	**59227 7**		62		
	3	**S 201 P-K 3**	2CDS 281 001 R0317	**59228 4**		62		
	4	**S 201 P-K 4**	2CDS 281 001 R0337	**59229 1**		62		
	6	**S 201 P-K 6**	2CDS 281 001 R0377	**59230 7**		62		
	8	**S 201 P-K 8**	2CDS 281 001 R0407	**59231 4**		62		
	10	**S 201 P-K 10**	2CDS 281 001 R0427	**59232 1**		62		
	13	**S 201 P-K 13**	2CDS 281 001 R0447	**59233 8**		62		
	16	**S 201 P-K 16**	2CDS 281 001 R0467	**59234 5**		62		
	20	**S 201 P-K 20**	2CDS 281 001 R0487	**59235 2**		62		
U_{Bmax} 440 V~ 72 V ⎓	25	**S 201 P-K 25**	2CDS 281 001 R0517	**59236 9**		62		
	32	**S 201 P-K 32**	2CDS 281 001 R0537	**59237 6**		62		
	40	**S 201 P-K 40**	2CDS 281 001 R0557	**59238 3**		62		
	50	**S 201 P-K 50**	2CDS 281 001 R0577	**59239 0**		62		
	63	**S 201 P-K 63**	2CDS 281 001 R0607	**59240 6**		62		
2	0.2	**S 202 P-K 0.2**	2CDS 282 001 R0087	**59241 3**		62	0.28	5
	0.3	**S 202 P-K 0.3**	2CDS 282 001 R0117	**59242 0**		62		
	0.5	**S 202 P-K 0.5**	2CDS 282 001 R0157	**59243 7**		62		
	0.75	**S 202 P-K 0.75**	2CDS 282 001 R0187	**59244 4**		62		
	1	**S 202 P-K 1**	2CDS 282 001 R0217	**59245 1**		62		
	1.6	**S 202 P-K 1,6**	2CDS 282 001 R0257	**59246 8**		62		
	2	**S 202 P-K 2**	2CDS 282 001 R0277	**59247 5**		62		
	3	**S 202 P-K 3**	2CDS 282 001 R0317	**59248 2**		62		
	4	**S 202 P-K 4**	2CDS 282 001 R0337	**59249 9**		62		
	6	**S 202 P-K 6**	2CDS 282 001 R0377	**59250 5**		62		
	8	**S 202 P-K 8**	2CDS 282 001 R0407	**59251 2**		62		
	10	**S 202 P-K 10**	2CDS 282 001 R0427	**59252 9**		62		
	13	**S 202 P-K 13**	2CDS 282 001 R0447	**59253 6**		62		
	16	**S 202 P-K 16**	2CDS 282 001 R0467	**59254 3**		62		
U_{Bmax} 440 V~ 125 V ⎓ ①	20	**S 202 P-K 20**	2CDS 282 001 R0487	**59255 0**		62		
	25	**S 202 P-K 25**	2CDS 282 001 R0517	**59256 7**		62		
	32	**S 202 P-K 32**	2CDS 282 001 R0537	**59257 4**		62		
	40	**S 202 P-K 40**	2CDS 282 001 R0557	**59258 1**		62		
	50	**S 202 P-K 50**	2CDS 282 001 R0577	**59259 8**		62		
	63	**S 202 P-K 63**	2CDS 282 001 R0607	**59260 4**		62		
3	0.2	**S 203 P-K 0.2**	2CDS 283 001 R0087	**59261 1**		62	0.42	1
	0.3	**S 203 P-K 0.3**	2CDS 283 001 R0117	**59262 8**		62		
	0.5	**S 203 P-K 0.5**	2CDS 283 001 R0157	**59263 5**		62		
	0.75	**S 203 P-K 0.75**	2CDS 283 001 R0187	**59264 2**		62		
	1	**S 203 P-K 1**	2CDS 283 001 R0217	**59265 9**		62		
	1,6	**S 203 P-K 1,6**	2CDS 283 001 R0257	**59266 6**		62		
	2	**S 203 P-K 2**	2CDS 283 001 R0277	**59267 3**		62		
	3	**S 203 P-K 3**	2CDS 283 001 R0317	**59268 0**		62		
	4	**S 203 P-K 4**	2CDS 283 001 R0337	**59269 7**		62		
	6	**S 203 P-K 6**	2CDS 283 001 R0377	**59270 3**		62		
	8	**S 203 P-K 8**	2CDS 283 001 R0407	**59271 0**		62		
	10	**S 203 P-K 10**	2CDS 283 001 R0427	**59272 7**		62		
	13	**S 203 P-K 13**	2CDS 283 001 R0447	**59273 4**		62		
	16	**S 203 P-K 16**	2CDS 283 001 R0467	**59274 1**		62		
U_{Bmax} 440 V~	20	**S 203 P-K 20**	2CDS 283 001 R0487	**59275 8**		62		
	25	**S 203 P-K 25**	2CDS 283 001 R0517	**59276 5**		62		
	32	**S 203 P-K 32**	2CDS 283 001 R0537	**59277 2**		62		
	40	**S 203 P-K 40**	2CDS 283 001 R0557	**59278 9**		62		
	50	**S 203 P-K 50**	2CDS 283 001 R0577	**59279 6**		62		
	63	**S 203 P-K 63**	2CDS 283 001 R0607	**59280 2**		62		

① U_{Bmax} 125 V ⎓ with 2 poles connected in series
② max. switching capacity of the series (see Technical Data)

K

**acc. to IEC 60947-2
for power circuits, motors, transformers, lamps and for line protection**

25 000 ①

2CDC 021 100 F0004

2CDC 021 101 F0004

2CDC 021 102 F0004

2CDC 021 103 F0004

Selection table

No. of poles	Rated current I_n A	Ordering details Type No.	Order code	bbn 40 16779 EAN	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece
4	0.2	**S 204 P-K 0.2**	2CDS 284 001 R0087	**59281 9**		62	0.56	1
	0.3	**S 204 P-K 0.3**	2CDS 284 001 R0117	**59282 6**		62		
	0.5	**S 204 P-K 0.5**	2CDS 284 001 R0157	**59283 3**		62		
	0.75	**S 204 P-K 0.75**	2CDS 284 001 R0187	**59284 0**		62		
	1	**S 204 P-K 1**	2CDS 284 001 R0217	**59285 7**		62		
	1.6	**S 204 P-K 1.6**	2CDS 284 001 R0257	**59286 4**		62		
	2	**S 204 P-K 2**	2CDS 284 001 R0277	**59287 1**		62		
	3	**S 204 P-K 3**	2CDS 284 001 R0317	**59288 8**		62		
	4	**S 204 P-K 4**	2CDS 284 001 R0337	**59289 5**		62		
	6	**S 204 P-K 6**	2CDS 284 001 R0377	**59290 1**		62		
	8	**S 204 P-K 8**	2CDS 284 001 R0407	**59291 8**		62		
	10	**S 204 P-K 10**	2CDS 284 001 R0427	**59292 5**		62		
	13	**S 204 P-K 13**	2CDS 284 001 R0447	**59293 2**		62		
	16	**S 204 P-K 16**	2CDS 284 001 R0467	**59294 9**		62		
	20	**S 204 P-K 20**	2CDS 284 001 R0487	**59295 6**		62		
U_{Bmax} 440 V~ 72 V ⎓	25	**S 204 P-K 25**	2CDS 284 001 R0517	**59296 3**		62		
	32	**S 204 P-K 32**	2CDS 284 001 R0537	**59297 0**		62		
	40	**S 204 P-K 40**	2CDS 284 001 R0557	**59298 7**		62		
	50	**S 204 P-K 50**	2CDS 284 001 R0577	**59299 4**		62		
	63	**S 204 P-K 63**	2CDS 284 001 R0607	**59300 7**		62		

① max. switching capacity of the series (see Technical Data)

Z

**acc. to IEC 60947-2
for the protection of control circuits, voltage transformer circuits, semiconductor protection in the case of selective assignment and lines**

25 000 ②

2CDC 021 100 F0004

2CDC 021 101 F0004

2CDC 021 102 F0004

2CDC 021 103 F0004

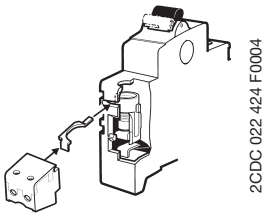
Selection table

No. of poles	Rated current I_n A	Ordering details Type No.	Order code	bbn 40 16779 EAN	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece
1	0.5	**S 201 P-Z 0.5**	2CDS 281 001 R0158	**59341 0**		62	0.14	10
	1	**S 201 P-Z 1**	2CDS 281 001 R0218	**59342 7**		62		
	1.6	**S 201 P-Z 1.6**	2CDS 281 001 R0258	**59343 4**		62		
	2	**S 201 P-Z 2**	2CDS 281 001 R0278	**59344 1**		62		
	3	**S 201 P-Z 3**	2CDS 281 001 R0318	**59345 8**		62		
	4	**S 201 P-Z 4**	2CDS 281 001 R0338	**59346 5**		62		
	6	**S 201 P-Z 6**	2CDS 281 001 R0378	**59347 2**		62		
	8	**S 201 P-Z 8**	2CDS 281 001 R0408	**59348 9**		62		
	10	**S 201 P-Z 10**	2CDS 281 001 R0428	**59349 6**		62		
	16	**S 201 P-Z 16**	2CDS 281 001 R0468	**59350 2**		62		
	20	**S 201 P-Z 20**	2CDS 281 001 R0488	**59351 9**		62		
	25	**S 201 P-Z 25**	2CDS 281 001 R0518	**59352 6**		62		
U_{Bmax} 440 V~ 72 V ⎓	32	**S 201 P-Z 32**	2CDS 281 001 R0538	**59353 3**		62		
	40	**S 201 P-Z 40**	2CDS 281 001 R0558	**59354 0**		62		
	50	**S 201 P-Z 50**	2CDS 281 001 R0578	**59355 7**		62		
	63	**S 201 P-Z 63**	2CDS 281 001 R0608	**59356 4**		62		
2	0.5	**S 202 P-Z 0.5**	2CDS 282 001 R0158	**59357 1**		62	0.28	5
	1	**S 202 P-Z 1**	2CDS 282 001 R0218	**59358 8**		62		
	1.6	**S 202 P-Z 1.6**	2CDS 282 001 R0258	**59359 5**		62		
	2	**S 202 P-Z 2**	2CDS 282 001 R0278	**59360 1**		62		
	3	**S 202 P-Z 3**	2CDS 282 001 R0318	**59361 8**		62		
	4	**S 202 P-Z 4**	2CDS 282 001 R0338	**59362 5**		62		
	6	**S 202 P-Z 6**	2CDS 282 001 R0378	**59363 2**		62		
	8	**S 202 P-Z 8**	2CDS 282 001 R0408	**59364 9**		62		
	10	**S 202 P-Z 10**	2CDS 282 001 R0428	**59365 6**		62		
	16	**S 202 P-Z 16**	2CDS 282 001 R0468	**59366 3**		62		
	20	**S 202 P-Z 20**	2CDS 282 001 R0488	**59367 0**		62		
	25	**S 202 P-Z 25**	2CDS 282 001 R0518	**59368 7**		62		
U_{Bmax} 440 V~ 125 V ⎓ ④	32	**S 202 P-Z 32**	2CDS 282 001 R0538	**59369 4**		62		
	40	**S 202 P-Z 40**	2CDS 282 001 R0558	**59370 0**		62		
	50	**S 202 P-Z 50**	2CDS 282 001 R0578	**59371 7**		62		
	63	**S 202 P-Z 63**	2CDS 282 001 R0608	**59372 4**		62		
3	0.5	**S 203 P-Z 0.5**	2CDS 283 001 R0158	**59373 1**		62	0.42	1
	1	**S 203 P-Z 1**	2CDS 283 001 R0218	**59374 8**		62		
	1.6	**S 203 P-Z 1.6**	2CDS 283 001 R0258	**59375 5**		62		
	2	**S 203 P-Z 2**	2CDS 283 001 R0278	**59376 2**		62		
	3	**S 203 P-Z 3**	2CDS 283 001 R0318	**59377 9**		62		
	4	**S 203 P-Z 4**	2CDS 283 001 R0338	**59378 6**		62		
	6	**S 203 P-Z 6**	2CDS 283 001 R0378	**59379 3**		62		
	8	**S 203 P-Z 8**	2CDS 283 001 R0408	**59380 9**		62		
	10	**S 203 P-Z 10**	2CDS 283 001 R0428	**59381 6**		62		
	16	**S 203 P-Z 16**	2CDS 283 001 R0468	**59382 3**		62		
	20	**S 203 P-Z 20**	2CDS 283 001 R0488	**59383 0**		62		
	25	**S 203 P-Z 25**	2CDS 283 001 R0518	**59384 7**		62		
U_{Bmax} 440 V~	32	**S 203 P-Z 32**	2CDS 283 001 R0538	**59385 4**		62		
	40	**S 203 P-Z 40**	2CDS 283 001 R0558	**59386 1**		62		
	50	**S 203 P-Z 50**	2CDS 283 001 R0578	**59387 8**		62		
	63	**S 203 P-Z 63**	2CDS 283 001 R0608	**59388 5**		62		
4	0.5	**S 204 P-Z 0.5**	2CDS 284 001 R0158	**59389 2**		62	0.56	1
	1	**S 204 P-Z 1**	2CDS 284 001 R0218	**59390 8**		62		
	1.6	**S 204 P-Z 1.6**	2CDS 284 001 R0258	**59391 5**		62		
	2	**S 204 P-Z 2**	2CDS 284 001 R0278	**59392 2**		62		
	3	**S 204 P-Z 3**	2CDS 284 001 R0318	**59393 9**		62		
	4	**S 204 P-Z 4**	2CDS 284 001 R0338	**59394 6**		62		
	6	**S 204 P-Z 6**	2CDS 284 001 R0378	**59395 3**		62		
	8	**S 204 P-Z 8**	2CDS 284 001 R0408	**59396 0**		62		
	10	**S 204 P-Z 10**	2CDS 284 001 R0428	**59397 7**		62		
	16	**S 204 P-Z 16**	2CDS 284 001 R0468	**59398 4**		62		
	20	**S 204 P-Z 20**	2CDS 284 001 R0488	**59399 1**		62		
	25	**S 204 P-Z 25**	2CDS 284 001 R0518	**59400 4**		62		
U_{Bmax} 440 V~ 125 V ⎓ ④	32	**S 204 P-Z 32**	2CDS 284 001 R0538	**59401 1**		62		
	40	**S 204 P-Z 40**	2CDS 284 001 R0558	**59402 8**		62		
	50	**S 204 P-Z 50**	2CDS 284 001 R0578	**59403 5**		62		
	63	**S 204 P-Z 63**	2CDS 284 001 R0608	**59404 2**		62		

① U_{Bmax} 125 V ⎓ with 2 poles connected in series
② max. switching capacity of the series (see Technical Data)

Additional devices
Miniature circuit-breakers
S 200/S 200 M/S 200 P series

S 2C-A



S 2C-H01
S 2C-H10

Selection table

Description	Ordering details Type No.	Order code	bbn 40 16779 EAN	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece
Shunt release							
AC/DC 12 … 60 V AC 110 … 415 V and DC 110 … 250 V	**S 2C-A1** **S 2C-A2**	2CDS 200 909 R0001 2CDS 200 909 R0002	**57099 2** **57100 5**		5 5	0.15	1
Undervoltage release							
12 V DC	**S 2C-UA 12 DC**	2CSS 200 911 R0001	**83070 2***		5	0.09	1
24 V AC	**S 2C-UA 24 AC**	2CSS 200 911 R0002	**83080 1***		5	0.09	
24 V DC	**S 2C-UA 24 DC**	2CSS 200 911 R0007	**83980 4***		5	0.09	
48 V AC	**S 2C-UA 48 AC**	2CSS 200 911 R0003	**83090 0***		5	0.09	
48 V DC	**S 2C-UA 48 DC**	2CSS 200 911 R0008	**89650 0***		5	0.09	
110 V AC	**S 2C-UA 110 AC**	2CSS 200 911 R0004	**83100 6***		5	0.09	
110 V DC	**S 2C-UA 110 DC**	2CSS 200 911 R0009	**89660 9***		5	0.09	
230 V AC	**S 2C-UA 230 AC**	2CSS 200 911 R0005	**83110 5***		5	0.09	
230 V DC	**S 2C-UA 230 DC**	2CSS 200 911 R0010	**89670 8***		5	0.09	
400 V AC	**S 2C-UA 400 AC**	2CSS 200 911 R0006	**83120 4***		5	0.09	

*** bbn-No. 80 12542**

Integrated auxiliary switch
retrofittable from below to circuit-breaker **S 200/S 200 M/S 200 P** (with 25 mm² terminal only)

1 NC	**S 2C-H01**	2CDS 200 970 R0001	**64551 5**		5		1
1 NO	**S 2C-H10**	2CDS 200 970 R0002	**64552 2**		5		1
Packs of 15 piece per set							
1 NC	**S 2C-H01 15x**	2CDS 200 970 R0011	**64677 2**		5		1 set
1 NO	**S 2C-H10 15x**	2CDS 200 970 R0012	**64681 9**		5		1 set

Overview

The busbar systems incorporate a complete range for safe and efficient installations of built-in devices, e.g. circuit-breakers, (power / miniature circuit-breakers), RCCB, RCBO and modular devices (MDRC).
The following is important to note when choosing the right busbars:

- **Type of terminal** (e.g. combined box terminals, screw terminals)[1)]
- Number of poles **of the devices** {e.g. 1-, 2-, 3-, 4-pole, 1-pole + neutral conductor (NA), 3-pole + neutral conductor (NA)}
- Type of device {circuit-breaker (MCB), RCCB, RCBO and modular DIN rail components (MDRC)}
- Mixed **components** (e.g. installation of MCBs and MDRCs on one rail)
- Use of **additional devices** (e.g. MCB with auxiliary switch)
- Busbar cross section (current rating)
- Number of **modules** (various lengths of busbars supplied ex works)

[1)] Screw terminals are no longer included in the current ABB production range.

Technical Data

Standards	DIN EN 60439 Part 1 (VDE 0660 Part 500): 2000-08	Impulse test voltage: (1,2/50) Cond. nominal short-circuit	6,2 kV
Rail material :	SF-Cu F 24	rupturing current I_{cc}:	25 kA
Insulation profile material :	plastics, Cycoloy 3600 temperature-resistant ≤ 90 °C/194 °F flame retardant, self-extinguishing dioxine and halogene-free	Climatic resistance:	constant climate: 23/83; 40/92; 55/20 acc. to DIN 50015 Damp heat, 28 operations (≙ IEC 68 Part 2 – 30
Busbar capacity:	6 mm² – 36 mm²		
Nominal operating voltage U_e:	400 V AC	Insulation coordination:	acc. to VDE 0110 Part 1 April 1997 (IEC 664)
Nominal current I_n:	63 A (10 mm²) 80 A (16 mm²)	– overvoltage category:	III
		– pollution degree:	2
Short-circuit-rupturing capacity U_{imp}:	4 kV		

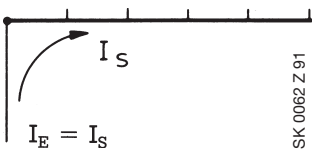
All busbars PSB, PS 1/… and KS are UL/CSA-approved. Rails according to UL 1077

Loadability depending on point of supply and required capacity

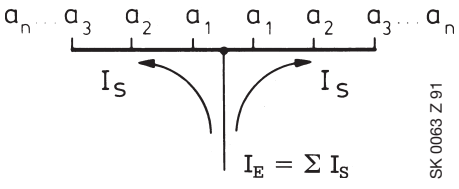
End feeding	comb busbar / oblong hole (KS type)					busbar (PS/PSB type)	
Capacity /mm²	10	12	20	24	36	10	16
Maximum busbar current I_S/phase A	63	65	90	100	130*	63	80
Non-end feeding (center or elsewhere on the rail)							
Maximum current in branch I_E/phase [1)] A	100	110	150*	170*	220*	100	130*
Maximum supply current I_E/phase A	Depends on connection capacity						

* In the case of direct supply via device terminals, take into account that - irrespective of the current carrying capacity (I_S) of the busbar - the following current values are not exceeded:
The series S200 and S200 M max. 110 A; for S 200 P, 140 A max.

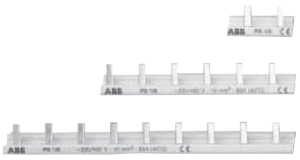
End feeding



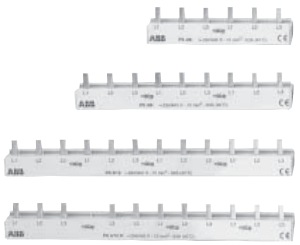
Non-end feeding (center or elsewhere on the rail)



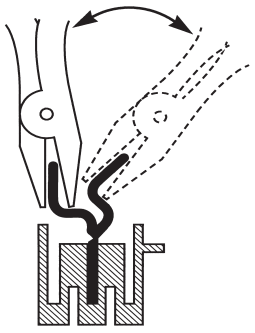
In the case of center-fed installations (see right picture) ensure that the sum of outgoing currents a_1...a_n per rail branch does not exceed the maximum busbar current I_S/phase.



PS 1/2 – PS 1/12 SK 0027 B99



PS 3/6 – PS 3/12 SK 0028 B99
(2CDL 231 ...)



Removal of pin
PS...A

2CDC 062 415 F0004

capa-city mm²	No. of pins	phases	Ordering details Type No.	Order code	bbn 40 16779 EAN	Cu-No.	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece
Pre-cut busbars, cannot be cut to length										
Single-phase busbars, spacing 17.6 mm										
10	2	1	**PS 1/2**	2CDL 210 001 R1002	**46300 3**	0.010		15	0.008	180
10	3	1	**PS 1/3**	2CDL 210 001 R1003	**51465 1**	0.030		15	0.025	120
10	6	1	**PS 1/6**	2CDL 210 001 R1006	**46310 2**	0.030		15	0.025	60
10	9	1	**PS 1/9**	2CDL 210 001 R1009	**46320 1**	0.040		15	0.039	30
10	12	1	**PS 1/12**	2CDL 210 001 R1012	**46330 0**	0.050		15	0.052	30
Three-phase busbars, spacing 17.6 mm										
10	6	3	**PS 3/6**	2CDL 231 001 R1006	**463409**	0.040		15	0.042	60
10	9	3	**PS 3/9**	2CDL 231 001 R1009	**463508**	0.070		15	0.069	30
10	12	3	**PS 3/12**	2CDL 231 001 R1012	**463607**	0.100		15	0.096	30
10	12	3	**PS 3/12 FI**	2CDL 231 002 R1012	**463706**	0.100		15	0.094	50
Busbars, to be cut to length (wiring example see page 25)										
Single-phase busbars, spacing 17.6 mm; use PS-END 0 end caps										
10	60	1	**PS 1/60**	2CDL 210 001 R1060	**51466 8**	0.260		15	0.260	20
16	60	1	**PS 1/60/16**	2CDL 210 001 R1660	**51665 5**	0.410		15	0.410	20
Single-phase busbars, wiring of neutral, blue insulation; use END 1.1 end caps										
10	28	1	**PS 1/28 N**	2CDL 210 001 R1028	**62954 6**	0.240		15	0.144	50
16	28	1	**PS 1/28/16 N**	2CDL 210 001 R1628	**62956 0**	0.320		15	0.203	50
10	57	1	**PS 1/57 NA[2]**	2CDL 210 011 R1057	**57972 8**	0.240		15	0.144	50
10	57	1	**PS 1/57 N**	2CDL 210 001 R1057	**62953 9**	0.240		15	0.144	50
16	57	1	**PS 1/57/16 NA[2]**	2CDL 210 011 R1657	**57973 5**	0.320		15	0.203	50
16	57	1	**PS 1/57/16 N**	2CDL 210 001 R1657	**62955 3**	0.320		15	0.203	50
Auxiliary contact busbar										
6	57	1	**PS 1/57/6 + HKB**	2CDL 210 005 R0657	**58530 9**	0.140		15	0.075	50
Auxiliary contact bridge for integrated auxiliary contact, installation from below										
	1/2 mod.		**HKB**	GH V036 0504 R0100	**52313 4**			15	0.001	1000
Two-phase busbars, spacing 17.6 mm; use PS-END end caps										
10	12	2	**PS 2/12[1]**	2CDL 220 001 R1012	**55652 1**	0.070		15	0.075	50
10	12	2	**PS 2/12 A[1 2]**	2CDL 220 010 R1012	**58461 6**	0.070		15	0.075	50
10	58	2	**PS 2/58**	2CDL 220 001 R1058	**55655 2**	0.320		15	0.360	10
16	58	2	**PS 2/58/16**	2CDL 220 001 R1658	**55656 9**	0.545		15	0.488	10
16	58	2	**PS 2/58/16 A**	2CDL 220 010 R1658	**58474 6**	0.545		15	0.488	10
Three-phase busbars, spacing 17.6 mm; use PS-END end caps										
10	12	3	**PS 3/12[1]**	2CDL 230 001 R1012	**57611 6**	0.085		15	0.088	50
10	12	3	**PS 3/12 A[1 2]**	2CDL 230 010 R1012	**58464 7**	0.085		15	0.088	50
16	12	3	**PS 3/12/16[1]**	2CDL 230 001 R1612	**56280 5**	0.160		15	0.120	50
10	60	3	**PS 3/60**	2CDL 230 001 R1060	**51469 9**	0.505		15	0.470	10
10	60	3	**PS 3/60 A[2]**	2CDL 230 010 R1060	**56375 8**	0.505		15	0.470	10
16	60	3	**PS 3/60/16**	2CDL 230 001 R1660	**51470 5**	0.760		15	0.647	10
16	60	3	**PS 3/60/16 A[2]**	2CDL 230 010 R1660	**56376 5**	0.760		15	0.647	10

[1] **incl. end caps**

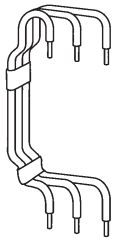
[2] **knock-out pins**

2CDC 061 433 F0004

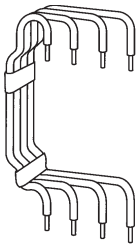
PS 4/12

Capa-city mm²	No. of pins	Phases	Ordering details Type No.	Order code	bbn 40 16779 EAN	Cu-No.	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece
4-phase busbars, spacing 17.6 mm; use PS-END 1 end caps										
10	12	4	**PS 4/12**[1]	2CDL 240 001 R1012	**55666 8**	0.120		15	0.112	30
10	12	4	**PS 4/12 A**[1/2]	2CDL 240 010 R1012	**58467 8**	0.120		15	0.112	30
16	12	4	**PS 4/12/16**[1]	2CDL 240 001 R1612	**55667 5**	0.241		15	0.155	30
10	60	4	**PS 4/60**	2CDL 240 001 R1060	**55668 2**	0.803		15	0.635	10
16	60	4	**PS 4/60/16**	2CDL 240 001 R1660	**55674 3**	1.205		15	0.890	10
16	60	4	**PS 4/60/16 A**[2]	2CDL 240 010 R1660	**58468 5**	1.205		15	0.890	10
4-phase busbars, wiring of 1 + N and RCBO use PS-END 1 end caps										
10	12	4	**PS 4/12 NA**[1/2]	2CDL 240 013 R1012	**58470 8**	0,140		15	0.103	30
10	58	4	**PS 4/58 N**	2CDL 240 001 R1058	**55670 5**	0,803		15	0.590	10
16	58	4	**PS 4/58/16 N**	2CDL 240 001 R1658	**55673 6**	1,205		15	0.768	10
16	58	4	**PS 4/58/16 NA**[2]	2CDL 240 013 R1658	**58471 5**	1,205		15	0.768	10

[1] **incl. end caps** [2] **knockout pins**



RV 3 SK 0120 Z01



RV 4 SK 0121 Z01

SZ-BSK SK 0100 B99

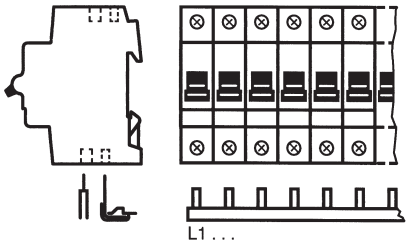
Capa-city mm²	Module	Phases	Ordering details Type No.	Order code	bbn 40 16779 EAN	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece
End caps									
			END 1.1	2CDL 200 011 R0011	**63891 3**		15	0.001	50
			PS-END 0	2CDL 200 001 R0003	**64652 9**		15	0.001	50
			PS-END	2CDL 200 001 R0001	**51472 9**		15	0.001	50
			PS-END 1	2CDL 200 001 R0002	**57011 4**		15	0.001	50
			PS-END SP	2CDL 200 110 R0001	**64650 5**		15	0.001	50
			PS-END 1 SP	2CDL 200 110 R0002	**64651 2**		15	0.001	50
Rail connector									
10	3-pole		**RV 3**	GH V036 0504 R0023	**51238 1**		15	0.080	25
10	4-pole		**RV 4**	GH V036 0504 R0024	**51224 4**		15	0.114	25
Shock-protection caps for PS... Busbars									
		5 parts	**SZ-BSK**	2CDL 200 001 R0011	**42000 6**		15	0.003	10

For the wiring of components rails in the distribution board, rail-to-rail clearance 125 mm.
In the case of the 4-pole connector, the color of the N conductor is blue.

Busbar systems for S 200 P

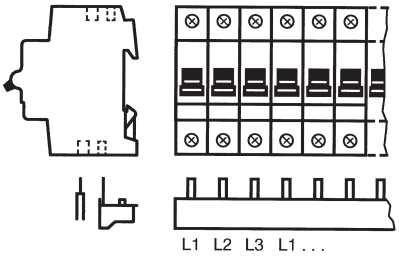
Wiring example

PS 1/...
PS 1/.../16



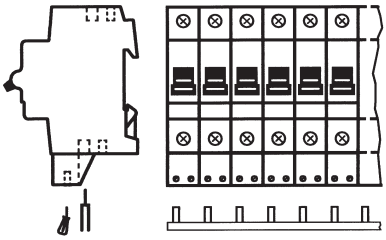
2CDC 062 166 F0003

PS 3/...
(2CDL 231 ...)

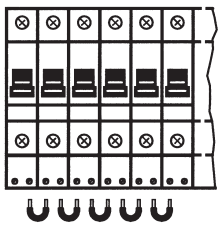


2CDC 062 021 F0004

PS 1/57/6 H
(integrated auxiliary contact)

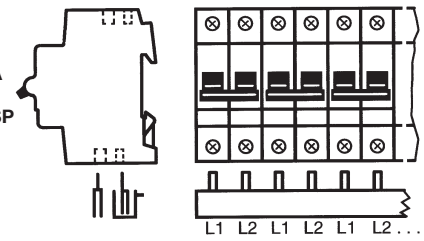


2CDC 062 527 F0004



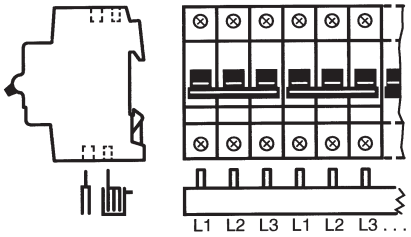
2CDC 062 387 F0003

PS 2/12
PS 2/58
PS 2/58/16
PS 2/12 A
PS 2/58/16 A
PS 2/58 SP
PS 2/58/16 SP



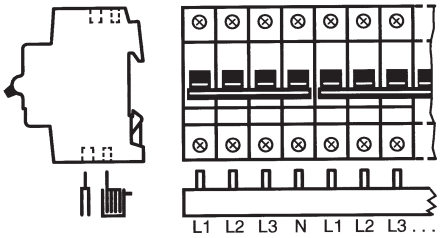
SK 0059 Z 02

PS 3/12
PS 3/12 A
PS 3/12/16
PS 3/60
PS 3/60/16
PS 3/60 A
PS 3/60/16 A
PS 3/60 SP
PS 3/60/16 SP



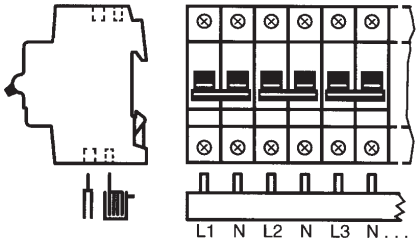
SK 0060 Z 02

PS 4/12
PS 4/12/16
PS 4/60
PS 4/60/16
PS 4/12 A
PS 4/60/16 A
PS 4/60/16 SP



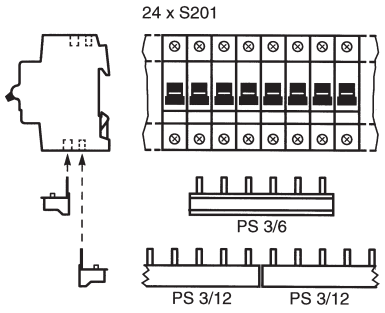
SK 0063 Z 02

PS 4/12 NA
PS 4/58 N
PS 4/58/16 N
PS 4/58/16 NA
PS 4/58/16 N SP



SK 0065 Z02

Example for overlapping



SK 0250 Z 02

Busbars and accessories
Labels for S 200 P

SK 0047 B99

identification label of BS 1/40

Description	Ordering details Type No.	Order code	bbn 40 16779 EAN	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece

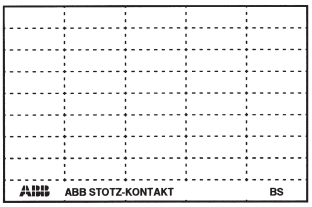
Labeling system

Self-adhesive identification labels are available for all devices of the **System pro *M* compact** range.
An integrated positioning device ensures the exact arrangement of labels.

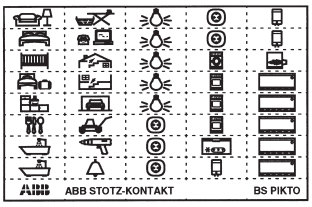
Selection table

40 labels each, marked or blank. Blank label mats can be labeled by hand with an indelible, waterproof pen or with computerised labeling systems (plotters).

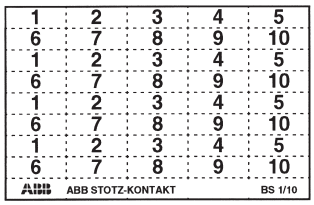
Identification labels blank	**BS**	GH S200 1946 R0001	**47810 6**		5	0.004	30
Identification labels with pictograms	**BS Pikto**	GH S200 1946 R0002	**47820 5**		5	0.004	30
Identification labels numbered 4 x 1 – 10	**BS 1/10**	GH S200 1946 R0003	**47830 4**		5	0.004	30
Identification labels numbered 2 x 1 – 20	**BS 1/20**	GH S200 1946 R0004	**47840 3**		5	0.004	30
Identification labels numbered 1 – 40	**BS 1/40**	GH S200 1946 R0005	**47850 2**		5	0.004	30
Identification labels numbered 41 – 80	**BS 41/80**	GH S200 1946 R0006	**58591 0**		5	0.004	30
Identification labels numbered 81 – 120	**BS 81/120**	GH S200 1946 R0007	**58592 7**		5	0.004	30
Identification labels numbered 121 – 160	**BS 121/160**	GH S200 1946 R0008	**58593 4**		5	0.004	30



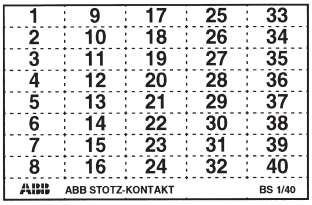
SK 0101 Z99



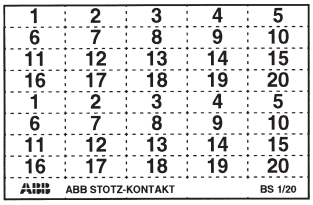
SK 0102 Z99



SK 0103 Z99



SK 0105 Z99



SK 0104 Z99

ILS Identification System

The ILS individual identification system for labels is a DIN A5 polyester film for ink jet and laser printers with high temperature resistance. (If laser printers are used, check first whether self-adhesive film with a thickness of 250 µm is acceptable). Adhesive coating 3M™9471 LE is UL recognized (File MH 11410). The individual labels are precut from one side. Download your word template from www.abb.de/stotz-kontakt. Can also be used as write-on labels (ink, ballpoint pen, pencil, marker).

1 sheet with 126 adhesive labels (1 module: 6 x 17.2 mm)	**ILS**	2CDL 200 002 R0001	**58922 2**		15	0.011	1
1 sheet with 210 adhesive labels (½ module: 6 x 8.5 mm)	**ILS-H**	2CDL 200 002 R0002	**58923 9**		15	0.011	1

Miniature circuit-breakers S 200 P

Technical Data

Specifications:	DIN VDE 0641 Part 11, IEC 60898, EN 60898, IEC 60947-2
No. of poles:	1, 2, 3, 4
Tripping characteristics:	B, K, Z
Nominal current I_n:	B 6 ... 63 A, K 0,2 ... 63 A and Z 0,5 ... 63 A
Nominal voltage U_n:	1-pole 230 V ~ multipole 400 V ~
Max. operating voltage U_{Bmax}:	AC U_n + 10 % DC 1-pole 72 V ⎓ 2-pole 125 V ⎓
Min. operating voltage U_{Bmin} :	12 V ~, 12 V-
Energy limitation class:	3
Rated switching capacity:	$I_n \leq 25$ A 25 000 $I_n \geq 32$ A 15 000
Frequency:	50 ...60 Hz
Insulation coordination:	acc. to DIN VDE 0110 Part 1 and 2
– Overvoltage category:	III
– Pollution degree:	2
– Surge withstand capability U_{imp} (1.2/50 µs):	4 kV (test voltage 6.2 kV at NN; 5 kV on 2000 m)
– Impulse alternating voltage:	2.5 kV (50/60 Hz, 1 min)
Housing:	insulation material rating I (CTI ≥ 600) acc. to DIN IEC 112/VDE 0303 Part 1, RAL 7035
Operating lever:	insulation material rating II (400 ≤ CTI < 600) black, sealable
Type/degree of protection DIN EN 60 529:	IPXXB
Dimensions:	acc. to DIN 43880, code size 1
Depth of device:	68 mm
Overall dimensions:	see Dimension drawings
Mounting position:	optional
Position indication:	operating lever: I ON/0 OFF for S 200 P additional window red/green
Fixing:	snap-on onto mounting rail EN 60 715, 35 mm screw-fixing onto mounting rail
Connection:	2 terminal supply top and bottom Suitable for connecting single, multi- and finely stranded conductors up to 25 mm² (if also connected to rails)
Tightening torque:	2.8 Nm
Mechanical service life:	20.000 operations
Service life at rated load	
$I_n < 32$ A:	20.000 operations
$I_n \geq 32$ A:	10.000 operations
Climatic resistance according to IEC 60 068:	constant climate 23/83, 40/93, 55/20 [°C/RH] alternating climate25/95 - 40/93 [°C/RH]
Storage temperature:	T_{max} + 70 °C 158°F, T_{min} – 50 °C / -58°F
Ambient temperature:	T_{max} + 55 °C/131°F, T_{min} – 25 °C/-13°F
Shock resistance:	30 g, at least two impacts, shock duration 13 ms
Vibration resistance acc. to DIN EN 60 068-2-6:	5 g, 20 frequency cycles 5 ... 150 ... 5 Hz at 0.8 I_n
Weight:	see Selection tables

Technical Data of the integrated auxiliary contact

Contact:	1NO (1 make contact), 1 NC (1 normally closed contact) lead making contact, late closing
Contact load:	AC 14 2A/230 V DC 12 identical DC 13/DC 13 1 A/50 V, 2 A/30 V
Min. operating voltage:	12 V AC/DC at 0.1 VA
Short-circuit withstand capacity:	230 V ~ 1000 A, short-circuit protection with S 201-K2 or Z2
Electrical service life:	> 4,000 operations
Safe disconnection of auxiliary circuit and main circuit acc. to VDE 0106 Part 101	
Connection capacity:	0.75 to 2.5 mm² (finely stranded conductors to be fitted with connector sleeve)
Tighening torque:	max. 0.5 Nm

Miniature circuit-breakers S 200 P

Rated switching capacity

Operating sequence: B and C acc. to DIN VDE 0641, DIN VDE 0660 Part 101 I_{cs}
K and Z acc. to IEC 947

Series **Tripping characteristic** **Nominal current**		**Alternating current** 1-phase 133 V~	230 V~	2/3-phase 230 V~ 133/230 V~	400 V~ 230/400 V~	**Direct current** 1pole ①	Back-up protection ② Max.	
	A	kA/cos φ	kA/cos φ	kA/cos φ	kA/cos φ	kA/T ≤ ms	Fuse gG/gL ②	Select. Main Circuit-Breaker S 700
S 200 P-B	6	25/0.25	25/0.25	25/0.25	25/0.25	10/4.0	63 A	100 A
	10, 13						80 A	100 A
	16 ... 25					15/4.0	100 A	100 A
	32 ... 40	15/0.25	15/0.25	15/0.25	15/0.25		125 A	100 A
	50 ... 63					10/4.0	160 A	100 A
S 200 P-C	0,5 ... 2	unlimited					not required	
	3, 4	25/0.25	25/0.25	25/0.25	25/0.25	10/4.0	35 A	100 A
	6, 8						63 A	100 A
	10, 13						80 A	100 A
	16 ... 25					15/4.0	100 A	100 A
	32 ... 40	15/0.25	15/0.25	15/0.25	15/0.25		125 A	100 A
	50 ... 63					10/4.0	160 A	100 A
S 200 P-K, Z	0.2/0.5 ... 2 ③	unlimited					not required	
	3	25/0.25	25/0.25	25/0.25	25/0.25		25 A	–
	4					10/4.0	35 A	–
	6						63 A	100 A
	8						80 A	100 A
	10 ... 20					15/4.0	100 A	100 A
	25					15/4.0	125 A	100 A
	32 ... 63	15/0.25	15/0.25	15/0.25	15/0.25	10/4.0	160 A	100 A

① In symmetrically earthed direct current circuits, 2-pole devices (two poles connected in series) can be used up to 125 V DC. Any connection is possible, polarity does not need to be taken into account.

② Back-up protection is necessary only if the solid short-circuit current to be expected at the place of installation may exceed the switching capacity indicated

③ **Note:** in the case of back-up fuses up to 315 A, we recommend the use of the high-performance cicruit-breaker S 610 with a switching capacity of 50kA instead of the local circuit pro M compact MCB.

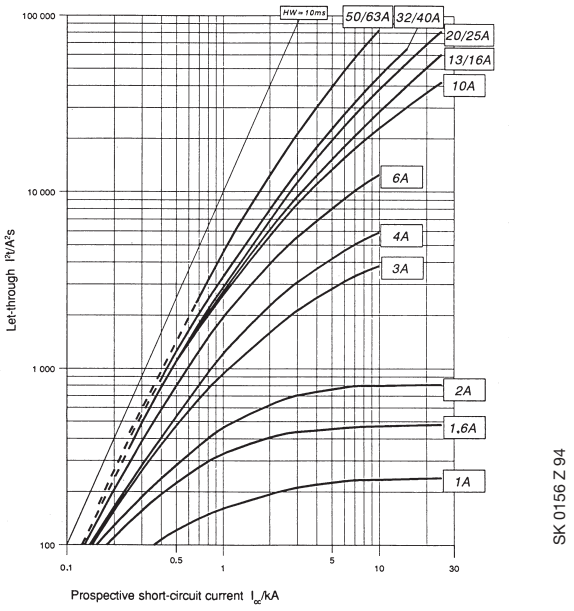
Internal resistance and power loss of miniature circuit-breakers

Internal resistance per pole in mΩ, power loss per pole in W

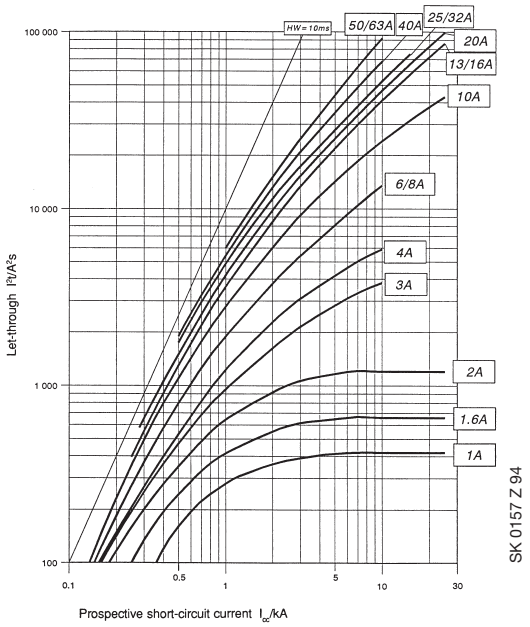
type	rated current I_n A	**MCB series B** mΩ	W	**K** mΩ	W	**Z** mΩ	W
S 200 P	0.2	–	–	42500	1.7	–	–
	0.3	–	–	20000	1.8	–	–
	0.5	–	–	6340	1.6	10100	2.5
	0.75	–	–	2500	1.4	–	–
	1	–	–	1400	1.4	2270	2.3
	1.6	–	–	625	1.6	1100	2.8
	2	–	–	460	1.8	619	2.5
	3	–	–	211	1.9	211	1.9
	4	–	–	163	2.6	163	2.6
	6	61	2.2	67	2.4	104	3.7
	8	45	2.9	45	2.9	55	3.5
	10	14	1.4	19	1.9	21	2.1
	13	13.3	2.3	–	–	–	–
	16	9.7	2.5	8.2	2.1	10.9	2.8
	20	7.3	2.9	7.3	2.9	7.3	2.9
	25	5.6	3.5	5.6	3.5	5.6	3.5
	32	4.1	4.2	4.1	4.2	4.1	4.2
	40	4.0	6.4	4.0	6.4	4.0	6.4
	50	1.2	3.0	1.2	3.0	1.8	4.4
	63	1.4	5.6	1.3	5.2	1.3	5.2

Diagram of let-trough values I² t at 230/400 V AC

Miniature circuit-breakers S 200 P-B/C



Miniature circuit-breakers S 200 P-K



Miniature circuit-breakers S 200 P-Z

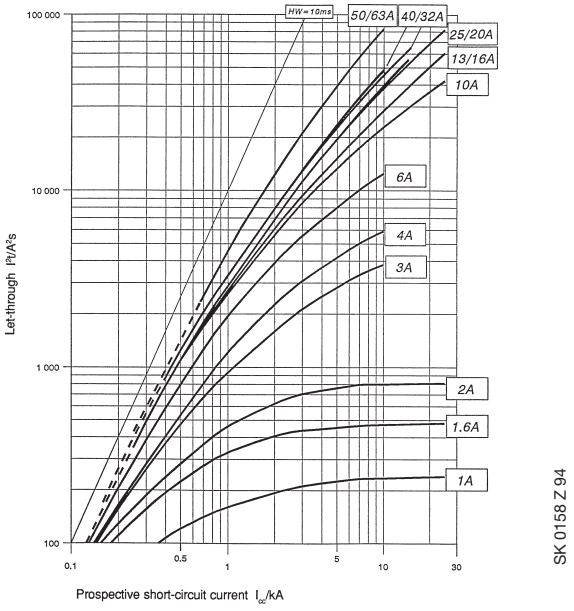


Diagram of let-through values I²t of S 200 P-K

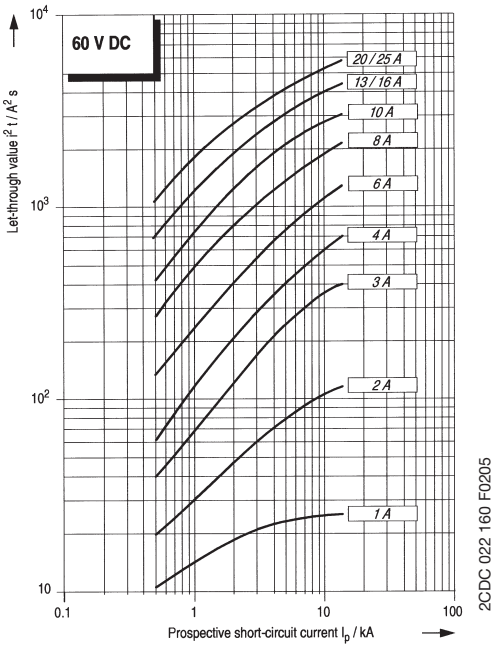
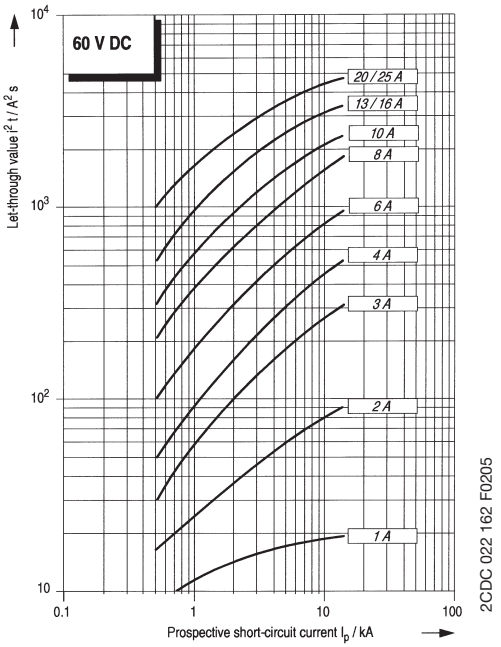
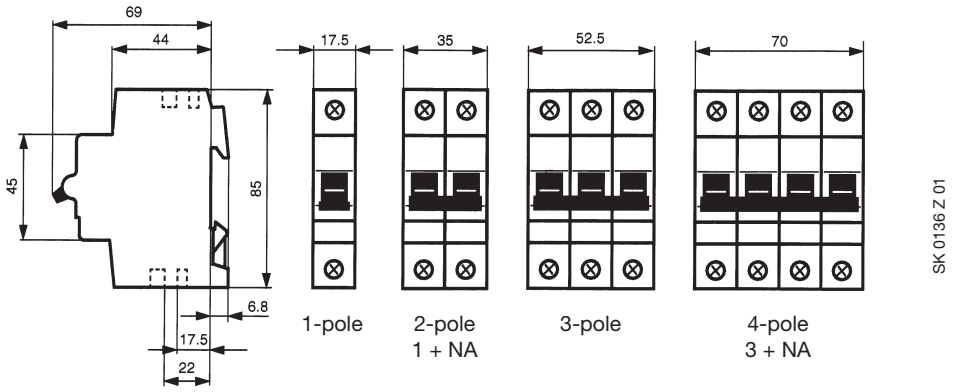


Diagram of let-through values I²t of S 200 P-Z

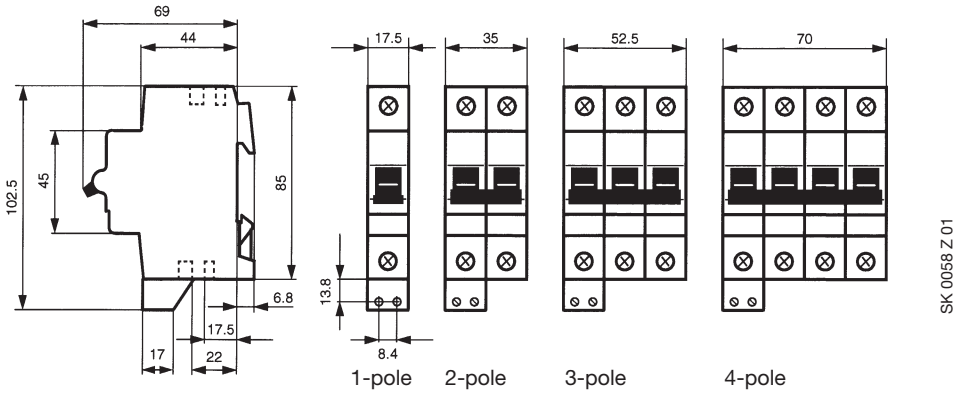


Dimension drawings

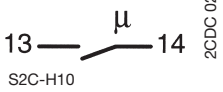
measurements in mm



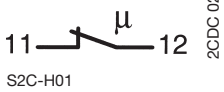
S 201, S 202, S 203, S 204



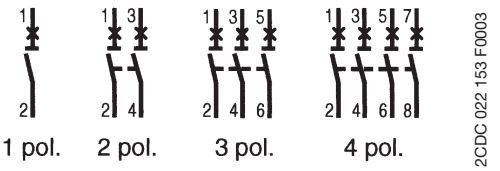
S 201 H, S 202 H, S 203 H, S 204 H
(fitted integrated auxiliary contact S2C-H10/S2C-H01)



S2C-H10



S2C-H01



Connection: Supply optional, top or bottom,
terminal designation acc. to EN 50 005.
Connection drawings see left hand side

Miniature circuit-breakers S 200 P

Installation and operation instructions

Installation: Can be installed in any mounting position due to snap-on fixing to DIN rails EN 60 715, 35 mm width.

A If miniature circuit-breakers S 200/S 200 M/S 200 P are installed without busbar, hinge the upper part into the DIN rail and push to let the lower part of the device snap into place **(1)**. The device is released in the reverse order, after the quick fastener has been removed with a screw driver **(2)**.

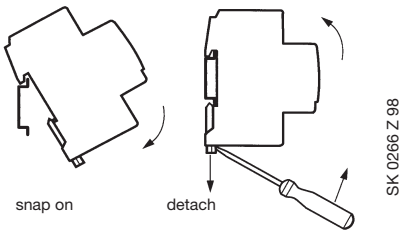
B To release S 200/S 200 M/S 200 P that are cross-wired with **System pro *M* compact** busbars, first open the clamping screws. Then, pull the lower part of the S 200/S 200 M/S 200 P forwards **(1)** and lift it straight up **(1a)**, then, the quick fastener **(1b)** will recede.

C The busbar is deallocated and the S 200/S 200 M/S 200 P can be pulled out by lifting the device forwards **(2)**.

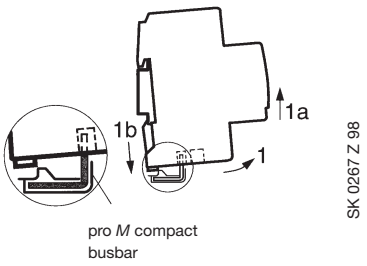
D The insertion onto busbar is done in the reverse order. First, open the clamping screws and pull out the quick fastener until it locks into place **for the first time (3)**. Then, take the S 200/S 200 M/S 200 P device and insert it with the rear terminal side onto the pins of the **System pro *M* compact** busbar **(4)**, turn it into the direction of the DIN rail **(4a)** and shift it vertically downwards **(4b)**; this way, the quick fastener snaps back into place **(4c)**.

Caution: Do not forget to re-tighten the clamping screws.

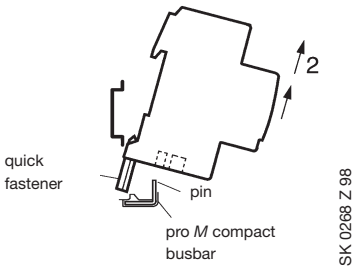
A instal, remove without pro *M* compact busbar



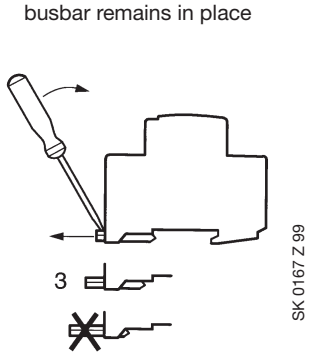
B release when pro *M* compact busbar remains in place

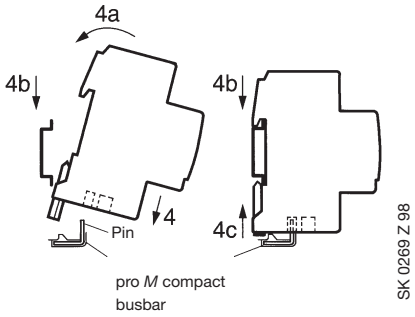


C remove when pro *M* compact busbar remains in place



D insert when pro M compact busbar remains in place





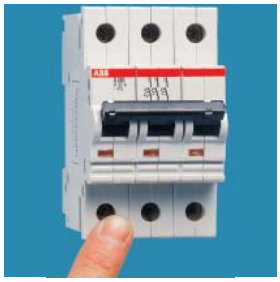
Operation: MCBs are switched on by switching the operating lever into the upper position (with respect to the text block of the nameplate). If an MCB, after having tripped, can be switched on again, the tripping is probably caused by overload. If the MCB trips again immediately when trying to reclose, a complete short-circuit, or earth fault can be assumed.
Do not try to continuously re-close an existing short circuit or earth fault. The MCB trips under overload, or short-circuit or earth fault conditions, even if the operating lever is locked in the ON position (trip-free mechanism).

Cleaning the device: MCBs soiled by installation work should be cleaned with a dry, or, if necessary, a damp and soapy cloth. Never use caustic agents or dissolvent.

Maintenance: STOTZ miniature circuit-breakers are maintenance-free.

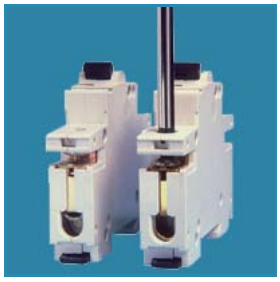
Opening the device will lead to a loss of warranty.

Miniature circuit-breakers S 280 UC
Special features
Application notes



SK 0297 B 91

- Protection degree IPXXB fulfills DIN EN 50 274 (VDE 0660 Part 514).



SK 0301 B 91

- Open, captive box terminals supplied ex works, latched position, incoming and outgoing circuit.

SK 0302 B 91

- Connection possible for single, multi and finely stranded conductors from 0.75 to 35 mm^2.
  It is also possible to connect conductors with different cross sections at the same time

SK 0303 B 91

- Using combined terminals, simultaneous wiring to busbar and connection to supply possible. Feeder optional, top or bottom, terminal designation according to EN 50005.

Miniature circuit-breakers S 280 UC
Special features
Application notes

SK 0138 B 93

- High rated switching capacity

- Auxiliary contacts, signal contacts/auxiliary contacts, signal contacts, shunt trips, and undervoltage releases can be retrofitted at the place of installation.

- Energy limiation falls below the values prescribed by the IEC by more than 50 %, the selectivity obtained is thus higher than in energy limitation class 3

SK 0298 B 91

- Disconnector abilities according to EN 60 898-1, rated surge withstand capacity U_{imp} 4 kV (1.2/50); test voltage 6.2 kV at NN

- Can be used as main circuit breaker according to EN 60 947-3 due to positive position indication for each pole
red = ON, green = OFF

SK 0299 B 91

- A padlock device prevents unauthorized switching to ON or OFF

SK 0300 B 91

- Integrated carrier for attaching write-on or other labels or label holders

High-Performance MCBs S 280® series for AC/DC applications

S 280 UC-B

B

acc. to DIN VDE 0641 Part 11 for line protection

SK 0052 B 95

Selection table

No. of poles	Rated current I_n A	Ordering details Type No.	Order code	bbn 40 16779 EAN	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece
1	6	**S 281 UC-B 6**	GH S281 0164 R0065	**16230 2**		5	0.130	10/40
	10	**S 281 UC-B 10**	GH S281 0164 R0105	**16240 1**		5		
U_{Bmax}	16	**S 281 UC-B 16**	GH S281 0164 R0165	**16250 0**		5		
440 V~	20	**S 281 UC-B 20**	GH S281 0164 R0205	**16260 9**		5		
220 V ⎓	25	**S 281 UC-B 25**	GH S281 0164 R0255	**16270 8**		5		
2	6	**S 282 UC-B 6**	GH S282 0164 R0065	**16280 7**		5	0.260	5/20
	10	**S 282 UC-B 10**	GH S282 0164 R0105	**16290 6**		5		
U_{Bmax}	16	**S 282 UC-B 16**	GH S282 0164 R0165	**16300 2**		5		
440 V~	20	**S 282 UC-B 20**	GH S282 0164 R0205	**16310 1**		5		
440 V ⎓	25	**S 282 UC-B 25**	GH S282 0164 R0255	**16320 0**		5		

System pro *M*

High-Performance MCBs S 280® series for AC/DC applications

S 280 UC-K

K

acc. to DIN VDE 0660 Part 101 for power circuits motors, transformers and lamps for line protection

SK 0323 B 91

SK 0324 B 91

Selection table

No. of poles	Rated current I_n A	Ordering details Type No.	Order code	bbn 40 12233 EAN	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece
1	0,2	**S 281 UC-K 0,2**	GH S281 0164 R0087	**63420 0**		5	0.130	10/40
	0,3	**S 281 UC-K 0,3**	GH S281 0164 R0117	**63430 9**		5		
	0,5	**S 281 UC-K 0,5**	GH S281 0164 R0157	**63440 8**		5		
	0,75	**S 281 UC-K 0,75**	GH S281 0164 R0187	**63550 4**		5		
	1	**S 281 UC-K 1**	GH S281 0164 R0217	**63460 6**		5		
	1,6	**S 281 UC-K 1,6**	GH S281 0164 R0257	**63470 5**		5		
	2	**S 281 UC-K 2**	GH S281 0164 R0277	**63480 4**		5		
	3	**S 281 UC-K 3**	GH S281 0164 R0317	**63490 3**		5		
	4	**S 281 UC-K 4**	GH S281 0164 R0337	**63500 9**		5		
	6	**S 281 UC-K 6**	GH S281 0164 R0377	**63520 7**		5		
	8	**S 281 UC-K 8**	GH S281 0164 R0407	**63510 8**		5		
	10	**S 281 UC-K 10**	GH S281 0164 R0427	**63530 6**		5		
	16	**S 281 UC-K 16**	GH S281 0164 R0467	**63540 5**		5		
	20	**S 281 UC-K 20**	GH S281 0164 R0487	**63560 3**		5		
	25	**S 281 UC-K 25**	GH S281 0164 R0517	**63570 2**		5		
	32	**S 281 UC-K 32**	GH S281 0164 R0537	**63580 1**		5		
	40	**S 281 UC-K 40**	GH S281 0164 R0557	**63590 0**		5		
U_{Bmax} 440 V~	50	**S 281 UC-K 50**	GH S281 0164 R0577	**63600 6**		5	0.160	
220 V ⎓	63	**S 281 UC-K 63**	GH S281 0164 R0607	**63610 5**		5		
2	0,2	**S 282 UC-K 0,2**	GH S282 0164 R0087	**63620 4**		5	0.260	5/20
	0,3	**S 282 UC-K 0,3**	GH S282 0164 R0117	**63630 3**		5		
	0,5	**S 282 UC-K 0,5**	GH S282 0164 R0157	**63640 2**		5		
	0,75	**S 282 UC-K 0,75**	GH S282 0164 R0187	**63650 1**		5		
	1	**S 282 UC-K 1**	GH S282 0164 R0217	**63660 0**		5		
	1,6	**S 282 UC-K 1,6**	GH S282 0164 R0257	**63670 9**		5		
	2	**S 282 UC-K 2**	GH S282 0164 R0277	**65280 8**		5		
	3	**S 282 UC-K 3**	GH S282 0164 R0317	**63680 8**		5		
	4	**S 282 UC-K 4**	GH S282 0164 R0337	**63690 7**		5		
	6	**S 282 UC-K 6**	GH S282 0164 R0377	**63700 3**		5		
	8	**S 282 UC-K 8**	GH S282 0164 R0407	**63710 2**		5		
	10	**S 282 UC-K 10**	GH S282 0164 R0427	**63720 1**		5		
	16	**S 282 UC-K 16**	GH S282 0164 R0467	**63730 0**		5		
	20	**S 282 UC-K 20**	GH S282 0164 R0487	**63740 9**		5		
	25	**S 282 UC-K 25**	GH S282 0164 R0517	**63750 8**		5		
	32	**S 282 UC-K 32**	GH S282 0164 R0537	**63760 7**		5		
	40	**S 282 UC-K 40**	GH S282 0164 R0557	**63770 6**		5		
U_{Bmax} 440 V~	50	**S 282 UC-K 50**	GH S282 0164 R0577	**63790 4**		5	0.320	
440 V ⎓	63	**S 282 UC-K 63**	GH S282 0164 R0607	**63800 0**		5		

High-performance MCBs S 280® series for AC/DC applications

S 280 UC-K

K

acc. to DIN VDE 0660 Part 101 for power circuits motors, transformers and lamps for line protection

SK 0184 B 92

SK 0185 B 92

Selection table

No. of poles	Rated current I_n A	Ordering details Type No.	Order code	bbn 40 12233 EAN	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece
3	0.2	**S 283 UC-K 0.2**	GH S283 0164 R0087	**73810 6**		5	0.390	3/12
	0.3	**S 283 UC-K 0.3**	GH S283 0164 R0117	**73820 5**		5		
	0.5	**S 283 UC-K 0.5**	GH S283 0164 R0157	**73830 4**		5		
	0.75	**S 283 UC-K 0.75**	GH S283 0164 R0187	**73840 3**		5		
	1	**S 283 UC-K 1**	GH S283 0164 R0217	**73850 2**		5		
	1.6	**S 283 UC-K 1.6**	GH S283 0164 R0257	**73860 1**		5		
	2	**S 283 UC-K 2**	GH S283 0164 R0277	**73870 0**		5		
	3	**S 283 UC-K 3**	GH S283 0164 R0317	**73880 9**		5		
	4	**S 283 UC-K 4**	GH S283 0164 R0337	**73890 8**		5		
	6	**S 283 UC-K 6**	GH S283 0164 R0377	**73900 4**		5		
	8	**S 283 UC-K 8**	GH S283 0164 R0407	**73910 3**		5		
	10	**S 283 UC-K 10**	GH S283 0164 R0427	**73920 2**		5		
	16	**S 283 UC-K 16**	GH S283 0164 R0467	**73930 1**		5		
	20	**S 283 UC-K 20**	GH S283 0164 R0487	**73940 0**		5		
	25	**S 283 UC-K 25**	GH S283 0164 R0517	**73950 9**		5		
U_{Bmax} 440 V~ 440 V ⎓ ①	32	**S 283 UC-K 32**	GH S283 0164 R0537	**73960 8**		5		
	40	**S 283 UC-K 40**	GH S283 0164 R0557	**73970 7**		5		
	50	**S 283 UC-K 50**	GH S283 0164 R0577	**73980 6**		5	0.480	
	63	**S 283 UC-K 63**	GH S283 0164 R0607	**73990 5**		5		
4	0.2	**S 284 UC-K 0.2**	GH S284 0164 R0087	**74160 1**		5	0.520	2
	0.3	**S 284 UC-K 0.3**	GH S284 0164 R0117	**74170 0**		5		
	0.5	**S 284 UC-K 0.5**	GH S284 0164 R0157	**74180 9**		5		
	0.75	**S 284 UC-K 0.75**	GH S284 0164 R0187	**74190 8**		5		
	1	**S 284 UC-K 1**	GH S284 0164 R0217	**74200 4**		5		
	1.6	**S 284 UC-K 1.6**	GH S284 0164 R0257	**74210 3**		5		
	2	**S 284 UC-K 2**	GH S284 0164 R0277	**74220 2**		5		
	3	**S 284 UC-K 3**	GH S284 0164 R0317	**74230 1**		5		
	4	**S 284 UC-K 4**	GH S284 0164 R0337	**74240 0**		5		
	6	**S 284 UC-K 6**	GH S284 0164 R0377	**74250 9**		5		
	8	**S 284 UC-K 8**	GH S284 0164 R0407	**74260 8**		5		
	10	**S 284 UC-K 10**	GH S284 0164 R0427	**74270 7**		5		
	16	**S 284 UC-K 16**	GH S284 0164 R0467	**74280 6**		5		
	20	**S 284 UC-K 20**	GH S284 0164 R0487	**74300 1**		5		
	25	**S 284 UC-K 25**	GH S284 0164 R0517	**74310 0**		5		
U_{Bmax} 440 V~ 440 V ⎓ ①	32	**S 284 UC-K 32**	GH S284 0164 R0537	**74320 9**		5		
	40	**S 284 UC-K 40**	GH S284 0164 R0557	**74330 8**		5		
	50	**S 284 UC-K 50**	GH S284 0164 R0577	**74340 7**		5	0.640	
	63	**S 284 UC-K 63**	GH S284 0164 R0607	**74350 6**		5		

① U_{Bmax} 440 V ⎓ with 2 poles connected in series

High-performance MCBs S 280® series for AC/DC applications

S 280 UC-Z

Z

acc. to DIN VDE 0660 Part 101 for the protection of control circuits, voltage transformer circuits, semiconductor protection in the case of selective assignment and lines


SK 0325 B 91


SK 0326 B 91


SK 0186 B 92


SK 0187 B 92

Selection table

No. of poles	Rated current I_n A	Ordering details Type No.	Order code	bbn 40 12233 EAN	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece
1	0.5	**S 281 UC-Z 0.5**	GH S281 0164 R0158	**63860 4**		5	0.130	10/40
	1	**S 281 UC-Z 1**	GH S281 0164 R0218	**63870 3**		5		
	1.6	**S 281 UC-Z 1.6**	GH S281 0164 R0258	**63880 2**		5		
	2	**S 281 UC-Z 2**	GH S281 0164 R0278	**63890 1**		5		
	3	**S 281 UC-Z 3**	GH S281 0164 R0318	**63900 7**		5		
	4	**S 281 UC-Z 4**	GH S281 0164 R0338	**63910 6**		5		
	6	**S 281 UC-Z 6**	GH S281 0164 R0378	**63920 5**		5		
	8	**S 281 UC-Z 8**	GH S281 0164 R0408	**63940 3**		5		
	10	**S 281 UC-Z 10**	GH S281 0164 R0428	**63950 2**		5		
	16	**S 281 UC-Z 16**	GH S281 0164 R0468	**63960 1**		5		
	20	**S 281 UC-Z 20**	GH S281 0164 R0488	**63970 0**		5		
	25	**S 281 UC-Z 25**	GH S281 0164 R0518	**63980 9**		5		
	32	**S 281 UC-Z 32**	GH S281 0164 R0538	**63990 8**		5		
U_{Bmax}	40	**S 281 UC-Z 40**	GH S281 0164 R0558	**64000 3**		5		
440 V~	50	**S 281 UC-Z 50**	GH S281 0164 R0578	**64010 2**		5	0.160	
220 V ⎓	63	**S 281 UC-Z 63**	GH S281 0164 R0608	**64020 1**		5		
2	0.5	**S 282 UC-Z 0.5**	GH S282 0164 R0158	**64030 0**		5	0.260	5/20
	1	**S 282 UC-Z 1**	GH S282 0164 R0218	**64040 9**		5		
	1.6	**S 282 UC-Z 1.6**	GH S282 0164 R0258	**64230 4**		5		
	2	**S 282 UC-Z 2**	GH S282 0164 R0278	**64100 0**		5		
	3	**S 282 UC-Z 3**	GH S282 0164 R0318	**64110 9**		5		
	4	**S 282 UC-Z 4**	GH S282 0164 R0338	**64120 8**		5		
	6	**S 282 UC-Z 6**	GH S282 0164 R0378	**64130 7**		5		
	8	**S 282 UC-Z 8**	GH S282 0164 R0408	**64140 6**		5		
	10	**S 282 UC-Z 10**	GH S282 0164 R0428	**64150 5**		5		
	16	**S 282 UC-Z 16**	GH S282 0164 R0468	**64160 4**		5		
	20	**S 282 UC-Z 20**	GH S282 0164 R0488	**64170 3**		5		
	25	**S 282 UC-Z 25**	GH S282 0164 R0518	**64180 2**		5		
U_{Bmax}	32	**S 282 UC-Z 32**	GH S282 0164 R0538	**64190 1**		5		
440 V~	40	**S 282 UC-Z 40**	GH S282 0164 R0558	**64200 7**		5		
440 V ⎓	50	**S 282 UC-Z 50**	GH S282 0164 R0578	**64210 6**		5	0.320	
①	63	**S 282 UC-Z 63**	GH S282 0164 R0608	**64220 5**		5		
3	0.5	**S 283 UC-Z 0.5**	GH S283 0164 R0158	**74000 0**		5	0.390	3/12
	1	**S 283 UC-Z 1**	GH S283 0164 R0218	**74010 9**		5		
	1.6	**S 283 UC-Z 1.6**	GH S283 0164 R0258	**74020 8**		5		
	2	**S 283 UC-Z 2**	GH S283 0164 R0278	**74030 7**		5		
	3	**S 283 UC-Z 3**	GH S283 0164 R0318	**74040 6**		5		
	4	**S 283 UC-Z 4**	GH S283 0164 R0338	**74050 5**		5		
	6	**S 283 UC-Z 6**	GH S283 0164 R0378	**74060 4**		5		
	8	**S 283 UC-Z 8**	GH S283 0164 R0408	**74070 3**		5		
	10	**S 283 UC-Z 10**	GH S283 0164 R0428	**74080 2**		5		
	16	**S 283 UC-Z 16**	GH S283 0164 R0468	**74090 1**		5		
	20	**S 283 UC-Z 20**	GH S283 0164 R0488	**74100 7**		5		
	25	**S 283 UC-Z 25**	GH S283 0164 R0518	**74110 6**		5		
U_{Bmax}	32	**S 283 UC-Z 32**	GH S283 0164 R0538	**74120 5**		5		
440 V~	40	**S 283 UC-Z 40**	GH S283 0164 R0558	**74130 4**		5		
440 V ⎓	50	**S 283 UC-Z 50**	GH S283 0164 R0578	**74140 3**		5	0.480	
①	63	**S 283 UC-Z 63**	GH S283 0164 R0608	**74150 2**		5		
4	0.5	**S 284 UC-Z 0.5**	GH S284 0164 R0158	**74360 5**		5	0.520	2
	1	**S 284 UC-Z 1**	GH S284 0164 R0218	**74370 4**		5		
	1.6	**S 284 UC-Z 1.6**	GH S284 0164 R0258	**74380 3**		5		
	2	**S 284 UC-Z 2**	GH S284 0164 R0278	**74390 2**		5		
	3	**S 284 UC-Z 3**	GH S284 0164 R0318	**74400 8**		5		
	4	**S 284 UC-Z 4**	GH S284 0164 R0338	**74410 7**		5		
	6	**S 284 UC-Z 6**	GH S284 0164 R0378	**74420 6**		5		
	8	**S 284 UC-Z 8**	GH S284 0164 R0408	**74430 5**		5		
	10	**S 284 UC-Z 10**	GH S284 0164 R0428	**74440 4**		5		
	16	**S 284 UC-Z 16**	GH S284 0164 R0468	**74450 3**		5		
	20	**S 284 UC-Z 20**	GH S284 0164 R0488	**74460 2**		5		
	25	**S 284 UC-Z 25**	GH S284 0164 R0518	**74470 1**		5		
U_{Bmax}	32	**S 284 UC-Z 32**	GH S284 0164 R0538	**74480 0**		5		
440 V~	40	**S 284 UC-Z 40**	GH S284 0164 R0558	**74490 9**		5		
440 V ⎓	50	**S 284 UC-Z 50**	GH S284 0164 R0578	**74500 5**		5	0.640	
①	63	**S 284 UC-Z 63**	GH S284 0164 R0608	**74510 4**		5		

① U_{Bmax} 440 V ⎓ with 2 poles connected in series

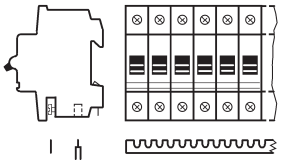
Additional devices for miniature circuit-breakers of the S 280® series

SK 0330 B 91

S 2-A ...

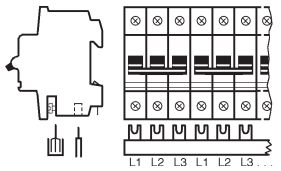
Selection table

	Ordering details Type No.	Order code	bbn 40 12233 EAN	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece
Auxiliary switch, low power							
1 S	**S2-H10 kL**	GH S270 1937 R0005	**33140 1** ①		5	0.05	1
Undervoltage release							
12 V DC	**S2-UA 12**	GH S280 1911 R0001	**42970 7**		5	0.09	1
24 V AC/DC	**S2-UA 24**	GH S280 1911 R0002	**42980 6**		5	0.09	1
48 V AC/DC	**S2-UA 48**	GH S280 1911 R0003	**79360 0**		5	0.09	1
110 V AC/DC	**S2-UA 110**	GH S280 1911 R0004	**43000 0**		5	0.09	1
220 V AC/DC	**S2-UA 220**	GH S280 1911 R0005	**43010 9**		5	0.09	1
380 V AC	**S2-UA 380**	GH S280 1911 R0006	**79370 9**		5	0.09	1
Shunt release							
12... 60 V AC/DC	**S2-A1**	GH S280 1909 R0001	**42930 1**		5	0.145	1
100...415 V AC and 110...250 V AC/DC	**S2-A2**	GH S280 1909 R0002	**42940 0**		5	0.145	1



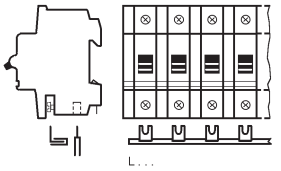
SK 0183 Z97

SZ-KS 1/12, SZ-KS 1/56
SZ-KS 2/12, SZ-KS 2/56
1 pole with 1 phase



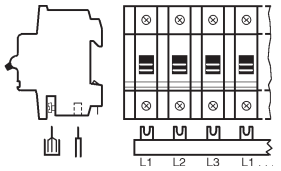
SK 0139 Z96

SZ-PSB 3 N, SZ-PSB 4 N
SZ-PSB 11 N, SZ-PSB 12 N
1- or 3 pole with 3 phases



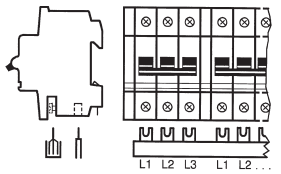
SK 0095 Z96

SZ-KS 3/39 N
SZ-KS 4/39 N
1 pole + aux.switch with 1 phase



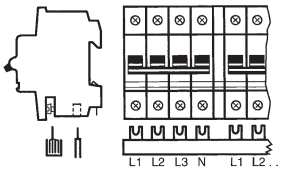
SK 0096 Z96

SZ-PSB 46 N
SZ-PSB 48 N
1 pole + aux.switch with 3 phases



SK 0097 Z96

SZ-PSB 49 N, SZ-PSB 50 N
SZ-PSB 51 N, SZ-PSB 52 N
3 pole + aux.switch with 3 phases



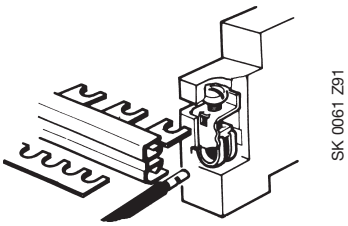
SK 0169 Z98

SZ-PSB 130 N
4 pole + aux.switch with 3 phases + N

Shock-resistant busbars and comb busbars for MCBs with combined terminals

(no connection piece required)

(end caps see page 40)



SK 0061 Z91

Capa-city mm²	Length-suppl. mm	No.- x Pole	**Ordering details** **Type No.**	Order code	**bbn 40 12233 EAN**	Cu No.	**Price** 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece
Universal comb busbar										
for MCBs:				**1 pole**						
supply:				**1 phase**						
12	207	12 x 1	**SZ-KS 1/12***	GJ I232 2322 R0001	**59790 1**	0.023		15	0.015	100
12	988	56 x 1	**SZ-KS 1/56**	GJ I232 2322 R0002	**59800 7**	0.110		15	0.073	50
24	207	12 x 1	**SZ-KS 2/12***	GJ I232 2322 R0003	**59810 6**	0.046		15	0.031	100
24	988	56 x 1	**SZ-KS 2/56**	GJ I232 2322 R0004	**59820 5**	0.220		15	0.138	50
36	988	56 x 1	**SZ-VB 45.32**	GJ I232 2148 R0001	**59720 8**	0.330		15	0.233	50
16	202	12 x 1	**SZ-KS 18/12 N**	GH V036 0875 R0041	**74530 2**	0.071		15	0.073	50
16	1007	56 x 1	**SZ-KS 18/56 N**	GH V036 0875 R0042	**74520 3**	0.320		15	0.300	50

* with shock protection cover

Busbar

for MCBs:				**1- or 3 pole**						end caps:
supply:				**3 phases**						**PSB-END 6**
10	213	4 x 3	**SZ-PSB 3 N**	GH L520 1915 R0005	**29400 3** ①	0.085		15	0.082	30
10	1058	20 x 3	**SZ-PSB 4 N**	GH L520 1915 R0006	**29410 2** ①	0.505		15	0.468	10
16	213	4 x 3	**SZ-PSB 11 N**	GH L520 1916 R0005	**29420 1** ①	0.160		15	0.136	30
16	1058	20 x 3	**SZ-PSB 12 N**	GH L520 1916 R0006	**29430 0** ①	0.720		15	0.70	10

Use SZ-BSK 5 shock protection cover, see page 40

				1 pole with auxiliary switch						end caps:
				1 phase						**END 1.1**
10	1020	39 x 1	**SZ-KS 3 /39 N**	GH V036 0874 R0060	**55130 9**	0.205		15	0.206	10
16	1020	39 x 1	**SZ-KS 4/39 N**	GH V036 0874 R0062	**55150 7**	0.320		15	0.283	10

				1 pole with auxiliary switch						end caps:
				3 phases						**PSB-END 3**
10	1018	13 x 3	**SZ-PSB 46 N***	GH V036 0874 R0024	**54870 5**	0.505		15	0.451	10
16	1018	13 x 3	**SZ-PSB 48 N**	GH V036 0874 R0026	**54890 3**	0.760		15	0.620	10

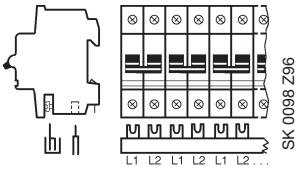
* L style

				3 pole with auxiliary switch						end caps:
				3 phases						**PSB-END 3**
10	176	3 x 3	**SZ-PSB 49 N**	GH V036 0874 R0027	**54900 9**	0.105		15	0.076	30
10	980	16 x 3	**SZ-PSB 50 N***	GH V036 0874 R0028	**54910 8**	0.505		15	0.442	10
16	176	3 x 3	**SZ-PSB 51 N**	GH V036 0874 R0029	**54920 7**	0.152		15	0.104	30
16	980	16 x 3	**SZ-PSB 52 N**	GH V036 0874 R0030	**54930 6**	0.760		15	0.632	10

* L style

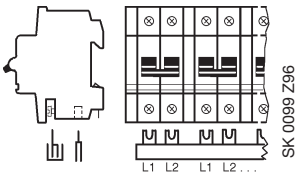
				4 pole with auxiliary switch						end caps:
				3 phases + N						**PSB-END 4**
16	1020	13 x 4	**SZ-PSB 130 N**	GH V036 0503 R0040	**40330 6** ①	1.32		15	0.810	10

① **bbn-No. 40 16779**



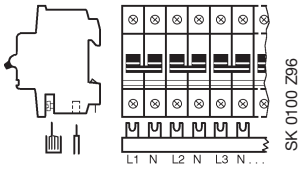
SK 0098 Z96

SZ-PSB 53 N, SZ-PSB 54 N
SZ-PSB 55 N, SZ-PSB 56 N
1 pole + NA or
2 pole with 2 phases or
1 phase + N



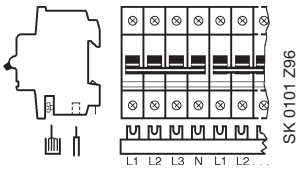
SK 0099 Z96

SZ-PSB 92 N
2 pole + auxiliary switch with 2 phases
1 pole + NA + auxiliary switch,
with 2 phases or
1 phase + N + auxiliary switch



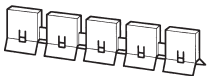
SK 0100 Z96

SZ-PSP 58 N
SZ-PSB 60 N
1 pole + NA with 4 phases or
3 phases + N



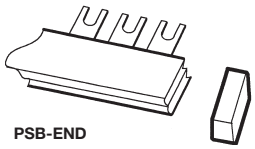
SK 0101 Z96

SZ-PSB 61 N, SZ-PSB 62 N
SZ-PSB 63 N, SZ-PSB 64 N
3 pole + NA or
4 pole with 4 phases or
3 phases + N



SZ-BSK 5 SK 0053 Z95

SZ-BSK SK 0100 B99



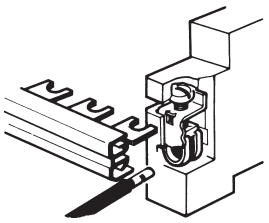
SK 0104 Z97

PSB-END

Shock-resistant busbars for MCBs with combined box terminal

(no terminal required)

(end caps see below)



SK 0074 Z91

Capa-city mm²	Length-suppl. mm	No.- x Pole	**Ordering details** **Type No.**	Order code	**bbn 40 12233 EAN**	Cu No.	**Price** 1 piece **€**	Price group	Weight 1 piece kg	Pack. unit piece
for MCBs: supply:				**1 pole + NA or 2 pole 1 phase + N or 2 phases**						end caps: **PSB-END 3**
10	212	6 x 2	**SZ-PSB 53 N**	GH V036 0874 R0031	**54940 5**	0.070		15	0.078	30
10	1035	29 x 2	**SZ-PSB 54 N**	GH V036 0874 R0032	**54950 4**	0.320		15	0.403	10
16	212	6 x 2	**SZ-PSB 55 N**	GH V036 0874 R0033	**54960 3**	0.115		15	0.106	30
16	1035	29 x 2	**SZ-PSB 56 N**	GH V036 0874 R0034	**54970 2**	0.545		15	0.534	10
				2 pole with auxiliary switch 1 phase + N or 2 phases						end caps: **PSB-END 3**
16	1044	24 x 2	**SZ-PSB 92 N**	GH V036 0875 R0010	**55380 8**	0.680		15	0.650	10
				1 pole + NA 3 phases + N						end caps: **PSB-END 4**
10	1056	29 x 2	**SZ-PSB 58 N**	GH V036 0874 R0036	**54990 0**	0.803		15	0.626	10
16	1056	29 x 2	**SZ-PSB 60 N**	GH V036 0874 R0038	**55010 4**	1.205		15	0.861	10
				3 pole + NA or 4 pole 3 phases + N						end caps: **PSB-END 4**
10	212	3 x 4	**SZ-PSB 61 N**	GH V036 0874 R0039	**55020 3**	0.120		15	0.112	30
10	1056	15 x 4	**SZ-PSB 62 N**	GH V036 0874 R0040	**55030 2**	0.803		15	0.650	10
16	212	3 x 4	**SZ-PSB 63 N**	GH V036 0874 R0041	**55040 1**	0.241		15	0.156	30
16	1056	15 x 4	**SZ-PSB 64 N**	GH V036 0874 R0042	**55050 0**	1.205		15	0.884	10

Shock-protection caps for busbars with fork-type connection

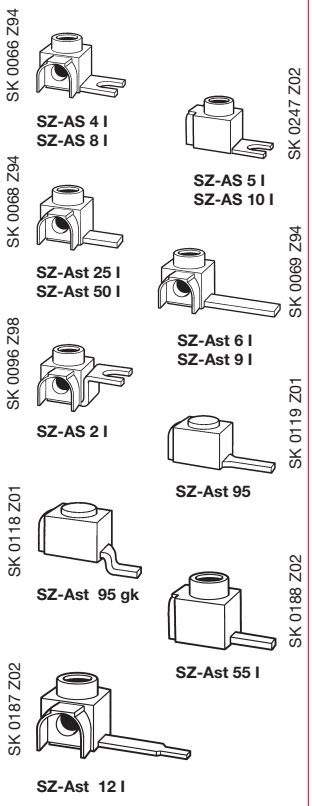
	5-teilig		**SZ-BSK 5 ***	GH V036 0505 R0001	**15430 7** ①			15	0,003	10
	5-teilig		**SZ-BSK**	2CDL 200 001 R0011	**42000 6** ①			15	0,003	10

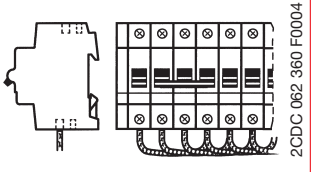
* for busbars SZ-PSB 3 N, 4 N, 11 N and 12 N

End caps for shock-protected busbars

			PSB-END 6	GH L520 1921 R0007	**51453 8** ①	–		15	0.006	50
			PSB-END 3	GH V036 1325 R0001	**55630 4**	–		15	0.001	50
			PSB-END 4	GH V036 1325 R0002	**55640 3**	–		15	0.001	50
			END 1.1	2CDL 200 011 R0011	**63891 3** ①	–		15	0.001	50

① **bbn-No. 40 16779**





Example 1
Connection of devices
with different module width
with SZ-DB 121 or 122

Capa-city mm²	Type of connect.	Terminal lug L/mm	Ordering details Type No.	Order code	bbn 40 12233 EAN	Cu No.	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece
Terminals insulated										
6-35	fork	10	**SZ-AS 2 I***	GH V036 0501 R0011	**39330 0** ①			15	0.023	30
6-25	fork	15	**SZ-AS 4 I***	GH V036 0501 R0005	**12410 2** ①			15	0.011	50
6-25	fork	15	**SZ-AS 5 I***	GH V036 0501 R0014	**57012 1** ①			15	0.012	50
6-50	fork	15	**SZ-AS 8 I***	GH V036 0501 R0008	**25950 7** ①			15	0.014	50
6-50	fork	15	**SZ-AS 10 I***	GH V036 0501 R0017	**58295 7** ①			15	0.014	50
6-25	pin	15	**SZ-Ast 25 I**	2CDL 200 001 R2501	**64993 3** ①			15	0.011	50
6-25	pin	30	**SZ-Ast 9 I**	2CDL 200 001 R2502	**65109 7** ①			15	0.014	50
6-25	pin	30	**SZ-Ast 6 I**	2CDL 200 001 R2503	**65110 3** ①			15	0.014	50
6-50	pin	15	**SZ-Ast 50 I**	2CDL 200 001 R5001	**64994 0** ①			15	0.014	50
6-50	pin	15	**SZ-Ast 55 I**	2CDL 200 002 R5002	**64995 7** ①			15	0.024	50
6-50	pin	32	**SZ-Ast 12 I**	2CDL 200 001 R5003	**64996 4** ①			15	0.014	50
	pin		**SZ-Ast 55 U**	2CDL 200 489 R5002	**64822 6** ①			15	0.015	50
	pin		**SZ-Ast 50 U**	2CDL 200 489 R5001	**64821 9** ①			15	0.015	50
25-95	pin	18	**SZ-Ast 95***	GH V036 0501 R0013	**52262 5** ①			15	0.067	3
25-95	pin	12	**SZ-Ast 95 gk***	GH V036 0501 R0012	**52261 8** ①			15	0.067	3

① **bbn-No. 40 16779** * not applicable to pro *M* compact

Feeder Terminal

Safe from touch by the back of the hand / finger acc. to DIN VDE 0660 Part 514.
Single-pole terminals can be butt-mounted as multipole terminals.

6-35			**SZ-ESK 2**	2CDL 200 001 R3501	**96920 3**			15	0.024	10

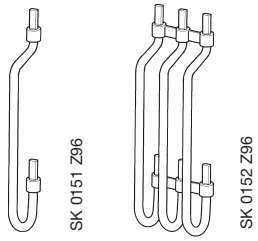
① **bbn-No. 40 16779**

Capa-city mm²	Length-suppl. mm		Ordering details Type No.	Order code	bbn 40 12233 EAN	Cu No.	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece
Wiring bridges (black)										
with cable lug										
6	125		**SZ-DB 121**	GH V036 1425 R0001	**55650 2**	0.006		15	0.025	1000/50
10	135		**SZ-DB 122 N**	GH V036 1425 R0031	**55670 0**	0.010		15	0.02	500/25
6	260		**SZ-DB 231 N**	GH V036 1425 R0032	**55680 9**	0.014		15	0.02	500/25
10			**SZ-DB 232 N**	GH V036 1425 R0033	**55690 8**	0.022		15	0.04	250/25
10	330		**SZ-DB 311**	GH V036 1425 R0034	**55700 4**	0.029		15	0.05	100/25
with cable lug and ultrasonically compressed cable ends*										
6	125		**SZ-DB 123**	GH V036 1425 R0006	**55660 1**	0.007		15	0.01	1000/50
10	135		**SZ-DB 124 N**	GH V036 1425 R0035	**55710 3**	0.012		15	0.02	500/25
6	260		**SZ-DB 235**	GH V036 1425 R0036	**55720 2**	0.014		15	0.02	500/25
10			**SZ-DB 236**	GH V036 1425 R0037	**55730 1**	0.024		15	0.04	250/25
with ultrasonically compressed cable ends*										
6	125		**SZ-DB 125 N**	GH V036 1425 R0038	**55740 0**	0.007		15	0.01	1000/50
6	260		**SZ-DB 233 N**	GH V036 1425 R0039	**55750 9**	0.015		15	0.02	500/25
10	135		**SZ-DB 126 N**	GH V036 1425 R0040	**55760 8**	0.013		15	0.02	500/25
10	260		**SZ-DB 234 N**	GH V036 1425 R0041	**55770 7**	0.025		15	0.04	250/25
10	330		**SZ-DB 312**	GH V036 1425 R0042	**55780 6**	0.032		15	0.05	100/25

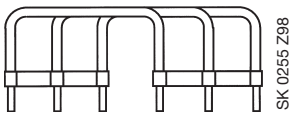
* Advantages:
– smaller dimensions although capacity remains the same (more space inside the terminal)
– hardly any contact resistance
– improved safety, connector sleeve may loosen in highly unfavorable circumstances

Wiring kit
Neutral (N) and Protective conductor (PE) Busbars

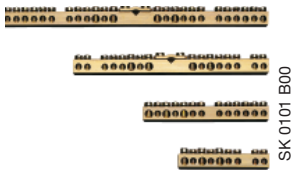
Cu


SK 0151 Z96 SK 0152 Z96

SZ-VS 1 **SZ-VS 3**


SK 0255 Z98

SZ-SM 3


SK 0101 B00

SZ-KLB 8, 12, 16, 24


SK 0082 B91

SZ-Ktr


SK 0059 B91

SZ-Ktr with KLB


SK 0087 B02

SZ-N6/3


SK 0084 B91

SZ-N11/3

Capacity mm²	No. of poles	**Ordering details** Type No.	Order code	**bbn 40 16779 EAN**	Cu No.	**Price** 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece
Wiring kit **									
For the wiring of component rows in the consumer unit with 125 mm spacing.									
10	1 pole	**SZ-VS 1**	GH V036 0504 R0001	**28790 6**	0.022		15	0.03	30
10	1 pole	**SZ-VS 1B***	GH V036 0504 R0011	**49670 4**	0.022		15	0.03	30
10	2 pole	**SZ-VS 2**	GH V036 0504 R0002	**28800 2**	0.044		15	0.06	30
10	3 pole	**SZ-VS 3**	GH V036 0504 R0003	**28810 1**	0.066		15	0.10	30
10	4 pole	**SZ-VS 4**	GH V036 0504 R0004	**28820 0**	0.088		15	0.13	30
* insulation blue									
Connection kit**									
for 3-pole miniature circuit-breakers of the S 2 series and motor circuit-breaker MS 225/325. If used without accessories, use filler piece SZ-FST 2.									
Connection kit		**SZ-SM 3**	GH V036 0504 R0005	**41580 4**	0.02		15	0.047	50
** not for System pro *M* compact									

Input mm²	Output mm²	**Ordering details** Type No.	Order code	**bbn 40 12233 EAN**		**Price** 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece
Neutral or protective-conductor terminals without insulation holder									
1 x 16	2 x to 16 6 x to 10	**SZ-KLB 8**	GJ I232 0131 R0001	**59660 7**			15	0.025	30
1 x 16	2 x to 16 10 x to 10	**SZ-KLB 12**	GJ I232 0071 R0013	**59530 3**			15	0.035	30
1 x 35	4 x to 16 12 x to 10	**SZ-KLB 16**	GJ I232 0072 R0017	**59540 2**			15	0.077	30
1 x 35	4 x to 16 20 x to 10	**SZ-KLB 24**	GJ I232 0073 R0016	**59550 1**			15	0.100	30
Holder for SZ-KLB terminals									
for screw fixing **for SZ-KLB 8 and 12 each 1 piece required** **for SZ-KLB 16 and 24 each 2 pieces required**									
		SZ-Ktr	GJ I202 4027 R0001	**59450 4**		**0.42**	15	0.003	100
Neutral and protective-conductor terminals with insulation holder for quick fixing onto mounting rails EN 50 022									
Neutral conductor with insulation holder blue; type C safe from finger touch, conductor openings one side closed									
1 x 16	6 x 16	**SZ-N 6/3**	GH V036 0876 R0001	**55570 3**			15	0.027	20
1 x 16	11 x 16	**SZ-N 11/3**	GH V036 0876 R0002	**55580 2**			15	0.043	20
1 x 16	6 x 16	**SZ-N 6/3 C**	GH V036 0876 R0011	**57095 4** ①			15	0.028	20
1 x 16	6 x 16	**SZ-N 11/3 C**	GH V036 0876 R0012	**57096 1** ①			15	0.046	20
Protective conductor with insulation holder green/yellow; type C safe from finger touch, conductor openings one side closed									
1 x 16	6 x 16	**SZ-PE 6/3**	GH V036 0876 R0004	**55600 7**			15	0.027	20
1 x 16	11 x 16	**SZ-PE 11/3**	GH V036 0876 R0005	**55610 6**			15	0.043	20
1 x 16	6 x 16	**SZ-PE 6/3 C**	GH V036 0876 R0014	**57097 8** ①			15	0.028	20
1 x 16	11 x 16	**SZ-PE 11/3 C**	GH V036 0876 R0015	**57098 5** ①			15	0.046	20

① **bbn-No. 40 16779**

Device mounting rails and fixing materials

SK 0100 B00


SK 0087 B91

SKV-GTS 1


SK 0088 B91

SZ-SI 45.460


SK 0089 B91

SZ-TS 7.5 L2


SK 0090 B91

SZ-SI 45.472


SK 0091 B91

SZ-TS 15 L2


SK 0092 B00

SZ-FB 45.53-1

SZ-FB 45.53-3

Length supplied mm	**Ordering details** **Type No.**	Order code	**bbn 40 12233** **EAN**	**Price** 1 piece **€**	Price group	Weight 1 piece kg	Pack. unit piece

Mounting rails

Mounting rails (DIN EN 60 715 – 35 x 7.5 mm)
for individual installation with 2 screws onto an even surface (1 module = 17.5 mm)

for 1 module	**DSW 1**	GH S210 1926 R0001	**13580 6**		5	0.060	10
for 2 modules	**DSW 2**	GH S210 1926 R0002	**13590 5**		5	0.012	10
for 3 modules	**DSW 3**	GH S210 1926 R0003	**13600 1**		5	0.018	10
for 4 modules	**DSW 4**	GH S210 1926 R0004	**13610 0**		5	0.024	10
for 6 modules	**DSW 6**	GH S210 1926 R0006	**13620 9**		5	0.036	10

Mounting rail DIN EN 60 715, 35 x 7.5 mm, material thickness 1 mm,
surface-protected, sendzimir / electrogalvanized.

241	**SKV-GTS 1**	GH L110 1915 R0001	**04090 2**		5	0.09	40

Mounting rail DIN EN 60 715, 35 x 7.5 mm, material thickness 1 mm, surface hot-dip galvanised.

1000	**SZ-SI 45.460**	GJ I232 2218 R0001	**59730 7**		5	0.35	10
2000	**SZ-TS 7,5 L2**	GJ I232 2218 R0007	**59760 4**		5	0.70	20

Mounting rail DIN EN 60 715, 35 x 15 mm, material thickness 1.5 mm, surface hot-dip galvanised.

2000	**SZ-SI 45.472**	GJ I232 2218 R0010	**59780 2**		5	1.30	10
2000	**SZ-TS 15 L2**	GJ I232 2218 R0009	**59770 3**		5	0.78	10

Catch spring for fixing devices onto mounting rails (DIN EN 60 715, 35 x 7.5 mm)

for screw M4	**SZ-FB 45.53-3**	GJ I184 2013 P0003	**64560 2**		5	0,03	50
for screw M5	**SZ-FB 45.53-1**	GJ I184 2013 P0004	**64580 0**		5	0,03	50

Blinding and sealing plates
Filler pieces


SZ-BP 1 SZ-BP SZ-BP 2 SK 0045 B91

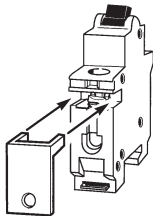

SZ-VP 1500 SK 0100 B91


END SK 0090 B00


SZ-FDT 2 SK 0103 B91


SZ-FST 2 + SZ-FDT 2 SK 0105 B91


SZ-FST SK 0184 B91


SZ-KA 20 SK 0194 Z98


S2C-DH 2CDC 023 191 F0003

Cutout-height/color mm	Width of cover mm	Ordering details Type No.	Order code	bbn 40 12233 EAN	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece

Blanking plates

for device covers with material thickness from 1 to 3 mm, spacing: 1 module = 17.5 mm; color: gray RAL 7035, white RAL 9001

46/gray	213	**SZ-BP 1**	GH L530 1904 R0001	**06050 4**		5	0.028	100
46/white	17.5	**SZ-BP**	GH S270 1913 R0001	**12629 7** ①		5	0.005	
46/gray	17.5	**SZ-BP 2**	GH S270 1913 R0002	**12861 1** ①		5	0.005	

① **bbn-No. 80 00126**

Sealing plate

seal-proof obstruction of stamped-out device covers.
Detachable only from the inside of the device cover.
Can be used for device covers with 1.5 to 3 mm material thickness.

46/gray	1500	**SZ-VP 1500**	GJ I995 9038 R0001	**60290 2**		5	0.366	10

End bracket

To prevent lateral movements of modular devices onto mounting rails acc. to DIN EN 60 715, 35 x 7.5 mm.

		END	GJ I100 1814 R0001	**59090 2**		5	0.02	50

Filler pieces

Serves - among other things - the heat dissipation of tightly mounted devices with intense heat development.
Width 8.75 mm, as spacer, two different heights, knock-out type, for mounting rails acc. to DIN EN 60715, 35 x 7.5 mm.

8.75		**SZ-FST 2**	GH L530 1908 R0002	**06070 2**		5	0.01	25

Spring piece

Holder for device covers, various distance heights (in connection with filler piece FST 2)

		SZ-FDT 2	GH L530 1908 R0005	**06080 1**		5	0.002	25

Filler piece

Two different heights, cutout, for mounting rails acc. to DIN EN 60 715, 35 x 7.5 mm
for miniature circuit-breakers S 220 (3 different heights)

8.75		**SZ-FST**	GJ I148 0003 R0001	**59410 8**		5	0.01	25

Terminal covers*

for S 260/S 270 IP 20		**SZ-KA 20**	GH S270 6612 P0002	**45200 7** ①		5	0.02	10

① **bbn-No. 40 16679** * to be discontinued

Rotary actuator

For the actuation of 2-, 3- or 4 pole miniature circuit-breakers in closed consumer units; for drive axles of 5 or 6 mm² (square)

		S2C-DH	GH S200 1901 R0003	**57960 5** ①		5	0.175	1

Locking device
Terminal covers


SK 0091 B00

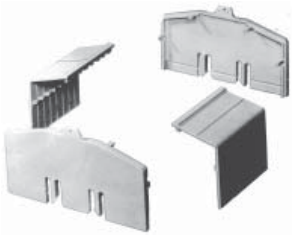
SZ-ES 68/83


SK 0108 B91

SA 1


SK 0109 B91

SA 2


KA 27 H + KA 27 S SK 0112 B91


SK 0076 B96

PCD 2 N


SK 0077 B96

PCD 4 N


SK 0079 B96

PCD 8 N

Description	**Ordering details** Type No.	Order code	**bbn 40 12233 EAN**	**Price** 1 piece **€**	Price group	Weight 1 piece kg	Pack. unit piece

Elevation piece

to account for the difference between modular devices with a mounting height of 68 mm and power miniature circuit-breakers of the S 210 series (83 mm).

	SZ-ES 68/83	GH V021 1425 R0001	**53390 9**		5	0.003	100

Locking device for miniature circuit-breakers and switches

for the protection against unauthorised or unsafe operation of the operating lever. An adaptor makes it possible to block the operating lever whether switched ON or OFF. The lever is blocked with a padlock having a bar cross section of 3 or 6 mm max. For multipole devices, one lock may be fitted per pole.

The lock adaptor can be used for all miniature circuit-breakers of the S 220, S 280 series as well as all E 220 and 270 switches.

lock-out latch for padlock bar 3 mm	**SA 1**	GJ F110 1903 R0001	**58760 5**		5	0.004	10
lock-out latch for padlock bar 6 mm	**SA 1E**	GJ F110 1903 R0004	**58790 2**		5	0.004	10
for S 290	**SA 1/S 290**	GJ F110 1903 R0007	**58261 2** ①		5	0.004	10
padlock with 2 keys	**SA 2**	GJ F110 1903 R0002	**58770 4**		5	0.02	10
padlock, identical locking with 2 keys	**SA 2 i**	GJ F110 9999 R0001	**96940 1**		5	0.02	10
lock adaptor incl. padlock with 3 keys in transparent box	**SA 3**	GJ F110 1903 R0003	**58780 3**		5	0.05	10

① **bbn-No. 40 16779**

Terminal cover KA 27

overall protection against electric shock. Suitable for switchgear according to DIN VDE 0106 Part 100 and BGV A2.

Front parts can be snapped onto mounting rails EN 60 715, 35 mm. The hoods are 475 mm = 27 modules (17.5 mm each), knockouts inside, per ° module to customize parts.

Front part, 1 piece	**KA 27 H**	GH S210 1933 R0001	**13630 8**		5	0.104	10
Hood, 1 piece	**KA 27 S**	GH S210 1934 R0001	**13640 7**		5	0.027	10

Terminal covers with base plate, IP 40 degree of protection

Material: high-impact and flame retardant (UL 94 V-0), color: white (RAL 9001), glow-wire test 960°C / 1760°F according to IEC 695-2-1

The base plate is fitted with an integrated mounting rail for snap-on devices, e.g. miniature circuit-breakers, rcd, modular devices, etc.

for 2 modules	**PCD 2 N**	GH S270 1921 R0002	**11869 8** ①		5	0.09	1
for 4 modules	**PCD 4 N**	GH S270 1921 R0004	**11872 8** ①		5	0.15	1
for 6 modules	**PCD 6 N**	GH S270 1921 R0006	**11877 3** ①		5	0.2	1
for 8 modules	**PCD 8 N**	GH S270 1921 R0008	**14222 8** ①		5	0.7	1

Terminal blocks for terminal covers PCD

for PCD 4 N and 6 N	**KL-PCD 4/6**	GH S270 1912 R0004	**12502 3** ①		5	0.017	1
for PCD 8 N	**KL-PCD 8**	GH S270 1912 R0008	**12492 7** ①		5	0.079	1

① **bbn-No. 80 00126**

Terminal cover
Flange frame
Insulation housing

SK 0127 B92

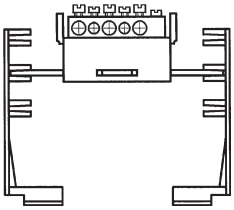
S 500-ME 2

SK 0018 B98

QES 10/3 N

SK 0019 B98

QES 4/3 N



SK 0089 Z98

SMO ...

Description	Ordering details Type No.	Order code	bbn 40 12233 EAN	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece

Installation kit for flange fixing

comprises: flange frame, fixing bolts and mounting rail

for miniature circuit-breakers of the S 280 and S 220 series

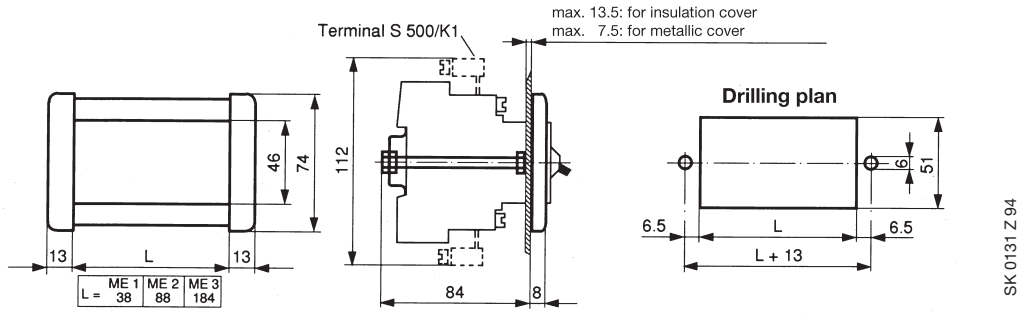
for 2 modules	**S 500-ME 1**	GH S500 1008 R0001	**48450 8**		3	0.097	1
for 5 modules	**S 500-ME 2**	GH S500 1008 R0002	**48460 7**		3	0.097	1
for 10 modules	**S 500-ME 3**	GH S500 1008 R0003	**48470 6**		3	0.097	1

Terminal for rear connection of main contacts in the case of front-mounted installations

to 25 mm²	**S 500-K 1**	GH S500 1210 R0001	**48530 7**		3	0.013	10pc.set

Flush frame

Measurements in mm



SK 0131 Z 94

Style with knockout Ø in mm	Cable entry fittings	Ordering details Type No.	Order code	bbn 80 00126 EAN	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece

Insulation housing IP 55

includes mounting rail acc. to DIN EN 60 715 and cable entry fittings **without** N + PE terminals (see SMO)
Material: high-impact and flame retardant (UL 94 V-0), color gray (RAL 7035), glow-wire test 960°C/1760°F according to IEC 695-2-1

Housing for 4 modules

2 x Ø 27	2	**QES 4/3 N**	GH L111 2304 R0013	**11925 1**		5	0.370	18

Housing for 6 modules

2 x Ø 27	2	**QES 6/3 N**	GH L111 2306 R0013	**11931 2**		5	0.440	12

Housing for 10 modules

6 x Ø 32	3	**QES 10/3 N**	GH L111 2310 R0013	**11937 4**		5	0.690	10

N + PE-Terminals for QES (IP 55)

Neutral and protective conductor terminals with insulation holder for screw-fixing

for QES 4/3 N	**SMO 4**	GH L430 1910 R0004	**11976 3**		5	0.093	10
for QES 6/3 N	**SMO 6**	GH L430 1910 R0006	**11979 4**		5	0.125	10
for QES 10/3 N	**SMO 10**	GH L430 1910 R0010	**11982 4**		5	0.105	10

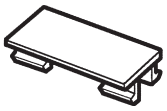
Identification materials for pro *M* devices

SK 0187 B91

ST + ST-E

SK 0120 B91

ST



SK 0018 Z94

SZ-KZS

SK 0202 B93

Description	Ordering details Type No.	Order code	bbn 40 12233 EAN	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece

Individual identification labels

consist of transparent label holders and insertable marked or blank paper labels. Can be used for e.g. switches, pushbuttons, indicator lights, latching relays, installations relays and miniature circuit-breakers, rcd and ABB i-bus EIB components.

label holder snap-on	**ST**	GH S210 1945 R0002	**13820 3**		5		100
label (1 set= 300 pieces)	**ST-E**	GH S210 1946 R0002	**13830 2**		5		1 set
label numbered 1 – 100 (1 set = 1 – 100)	**ST-EN**	GH S210 1946 R0003	**64530 5**		5		1 set

Identification label mats

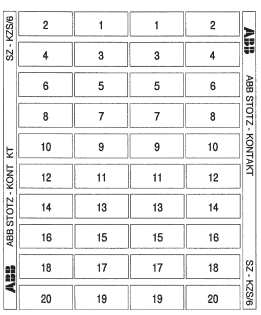
40 labels each, marked or blank. Blank label mats can be labeled by hand with an indelible, waterproof pen or with computerised labeling systems (plotters).

Identification labels

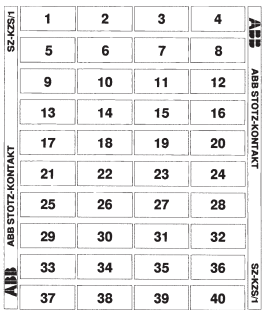
blank	**SZ-KZS**	GH S210 1946 R0004	**00850 1** ①		5	0.007	30
numbered 1 – 40	**SZ-KZS/1**	GH S210 1946 R0005	**00860 0** ①		5	0.007	30
numbered 41 – 80	**SZ-KZS/2**	GH S210 1946 R0006	**00870 9** ①		5	0.007	30
numbered 81 – 120	**SZ-KZS/3**	GH S210 1946 R0007	**00880 8** ①		5	0.007	30
numbered 121 – 160	**SZ-KZS/4**	GH S210 1946 R0008	**00890 7** ①		5	0.007	30
with pictograms	**SZ-KZS/5**	GH S210 1946 R0009	**00900 3** ①		5	0.007	30
numbered 2 x 1 – 20	**SZ-KZS/6**	GH S210 1946 R0010	**05080 7** ①		5	0.007	30
numbered 4 x 1 – 10	**SZ-KZS/9**	GH S210 1946 R0013	**39050 7** ①		5	0.007	30
numbered 4 x 11 – 20	**SZ-KZS/10**	GH S210 1946 R0014	**39060 6** ①		5	0.007	30
numbered L1	**SZ-KZS/11**	GH S210 1946 R0015	**52484 1** ①		5	0.007	30
numbered L2	**SZ-KZS/12**	GH S210 1946 R0016	**52485 8** ①		5	0.007	30
numbered L3	**SZ-KZS/13**	GH S210 1946 R0017	**52486 5** ①		5	0.007	30

Customized labels on request: Minimum order 50 mats, otherwise low-quantity surcharge.

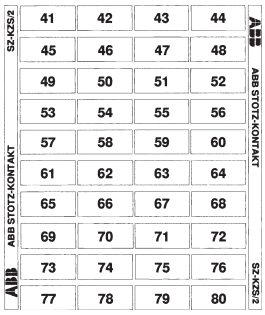
① **bbn-No. 40 16779**



SK 0004 Z94



SK 0162 Z93



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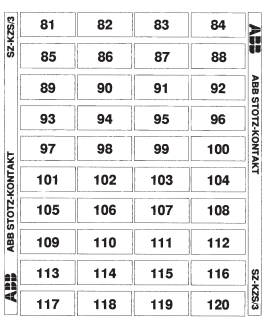
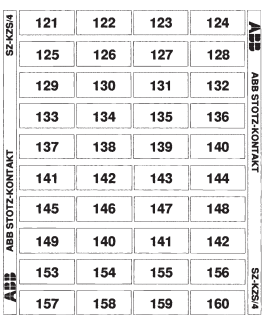
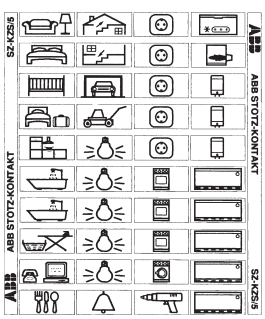


SK 0164 Z93



SK 0165 Z93



SK 0166 Z93

Technical Data

Specifications:	DIN VDE 0641, DIN VDE 0660 Part 101, BS 3871, IEC 898, EN 60 898, IEC 947-2, DIN EN 50 125-1, UL 1077, CSA C 22.2 No 235	
No. of poles:	1, 2, 3, 4	
Tripping characteristics:	B, K, Z	
Nominal current I_n:	0.2 ... 63 A	
Nominal voltage U_n:	AC 1-pole	230 V
	AC multipole	400 V
Max. Operating voltage $U_{Bmax:}$	AC Un + 10%	
	DC 1-pole	220 V
	DC 2-pole	440 V
acc. to UL 1077 and CSA 22.2:	AC multipole	480 V
	DC 1-pole	250 V
	DC 2-pole	500 V
Min. Operating voltage $U_{Bmin:}$	12 V ~, 12 V –	
Rated switching capacity:	see page 49	
Frequency:	16 2/3 ... 60 Hz	
Insulation coordination:	acc. to DIN VDE 0110 Part 1 and 2	
	– Overvoltage category:	III
	– Pollution degree:	2
	– Surge voltage:	5 kV (1.2/50 µs)
	– Impulse alternating voltage:	3 kV (50/60 Hz)
Housing:	insulation material rating I (CTI M 600) acc. to DIN IEC 112/VDE 0303 Part 1, RAL 7035	
Operating lever:	insulation material rating I (400 m CTI I 600) black, sealable	
Protection acc. to DIN VDE 0100:	IP 20, in the distribution board IP 40	
Protection acc. to VDE 0140:	IPXXB	
Dimensions:	acc. to DIN 43 880, size code 1	
Depth of device:	68 mm	
Mounting position:	optional	
Fixing:	snap-on onto mounting rail EN 50 022, 35 mm screw-fixing onto mounting rail	
Connection:	Combined box terminal top and bottom. Suitable for connecting single, multi and finely stranded conductors of 0.75 to 35 mm² (max. 25 mm² if also connected to rails - of 3 mm max.; from 0.75 mm² with sleeve and from 1.5 mm² without sleeve). Can be used as feeder terminal up to 140 A	
Tightening torque:	2 Nm	
Mechanical service life:	20.000 operations	
Service life at rated load I_n 0.2 ... 63 A (S 280 UC):	1.000 operations	
Climatic resistance acc. to DIN 40 046 and IEC 68-2:	constant climate 23/83, 40/93, 55/20 [°C/RH]	
	alternating climate 25/95 – 40/93 [°C/RH]	
Storage temperature:	T_{max} + 70 °C/158°F, Tmin – 50 °C/-58°F	
Ambient temperature:	T_{max} + 55°C/131°F, Tmin – 25°C/-13°F	
Shock resistance:	30 g, at least two impacts, shock duration 13 ms	
Vibration resistance acc. to DIN IEC 68-2-6:	5 g, 20 frequency cycle 5 ... 150 ... 5 Hz at 0.8 I_n	
Position indication acc. to IEC 73:	OFF = green, ON = red	
Weight:	see Selection tables	

Rated switching capacity

Operating sequence for B acc. to DIN VDE 0641 Part 12 for K acc. to DIN VDE 0660 Part 101/p-2.
For the short-circuit rupturing capacities indicated the time constant is T = L/R ≤ 15 ms in the case of DC; in the case of AC, it is 10 kA: cos ≥ 0.6 for 6 kA: cos ≥ 0.7 – for 4.5 kA and for 3 kA: cos ≥ 0.8 – for < 3 kA: cos ≥ 0.9.

S 280 UC	**1pole**			**2pole**				Max. back-up ⑤ protection; Utilization category gL (DIN VDE 0636/IEC 269)
in the case of DC	to 60 V ⎓	110 V ⎓	220 V ⎓	to 60 V ⎓	110 V ⎓	220 V ⎓	440 V ⎓	
B 6 ... 25 A	14 kA	10 kA	6 kA	25 kA	20 kA	10 kA	6 kA	100 A
Z, K 0.2 ... 2 A ⑥	unlimited	unlimited	unlimited	unlimited	unlimited	unlimited	unlimited	not required
Z, K 3 ... 4 A	14 kA	10 kA	6 kA	25 kA	20 kA	10 kA	6 kA	35 A
Z, K 6 ... 8 A	14 kA	10 kA	6 kA	25 kA	20 kA	10 kA	6 kA	63 A
Z, K 10 ... 40 A	14 kA	10 kA	6 kA	25 kA	20 kA	10 kA	6 kA	100 A
Z, K 50 ... 63 A	10 kA	6 kA	4,5 kA	20 kA	14 kA	6 kA	4,5 kA	125 A
in the case of AC	to 60 V ~	133 V ~	230 V ~	to 60 V ~	133 V ~	230 V ~	400 V ~	
B 6 ... 25 A	10 kA	10 kA	6 kA	10 kA	10 kA	10 kA	6 kA	100 A
Z, K 0.2 ... 2 A ⑥	unlimited	unlimited	unlimited	unlimited	unlimited	unlimited	unlimited	not required
Z, K 3 ... 4 A	10 kA	10 kA	6 kA	10 kA	10 kA	10 kA	6 kA	35 A
Z, K 6 ... 8 A	10 kA	10 kA	6 kA	10 kA	10 kA	10 kA	6 kA	63 A
Z, K 10 ... 40 A	10 kA	10 kA	6 kA	10 kA	10 kA	10 kA	6 kA	100 A
Z, K 50 ... 63 A	6 kA	6 kA	4,5 kA	10 kA	6 kA	6 kA	4,5 kA	125 A

⑤ Back-up protection is necessary only if the solid short-circuit current to be expected at the place of installation may exceed the rated switching capacity indicated.

⑥ Z as of 0.5 A

Auxiliary switch S2 – H.. (small power)
acc. to DIN VDE 0660 Part 200/7.92; EN 60947-5-1
I_{th} = 0.5 A

minimum switching capacity

AC 12	U_e	24 V	12 V
	I_e	4 mA	8 mA
DC 12	U_e	24 V	12 V
	I_e	4 mA	8 mA

Operating voltage U_{Bmin}: 12 V ~, 12 V ⎓

Insulation coordination: acc. to DIN VDE 0110 Part 1 and 2

– Overvoltage category: III

– Pollution degree: 2

Connection capacity: to 2 x 1.5 mm²

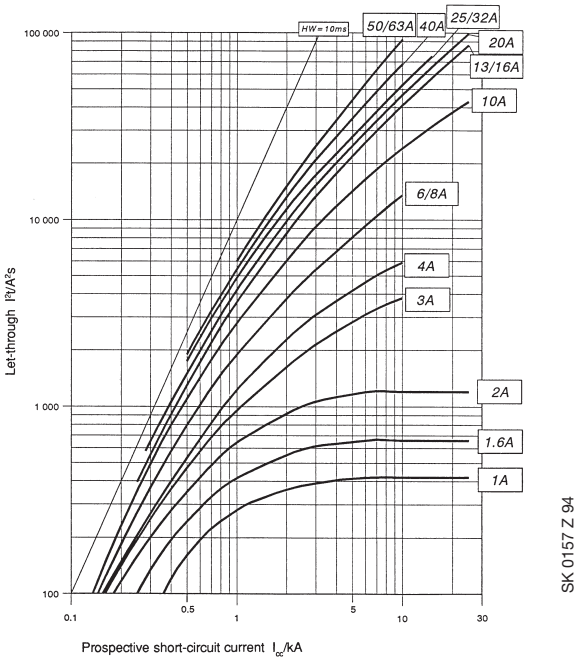
Internal resistance and power loss of miniature circuit-breakers

Internal resistance per pole in mΩ
Power loss per pole in W

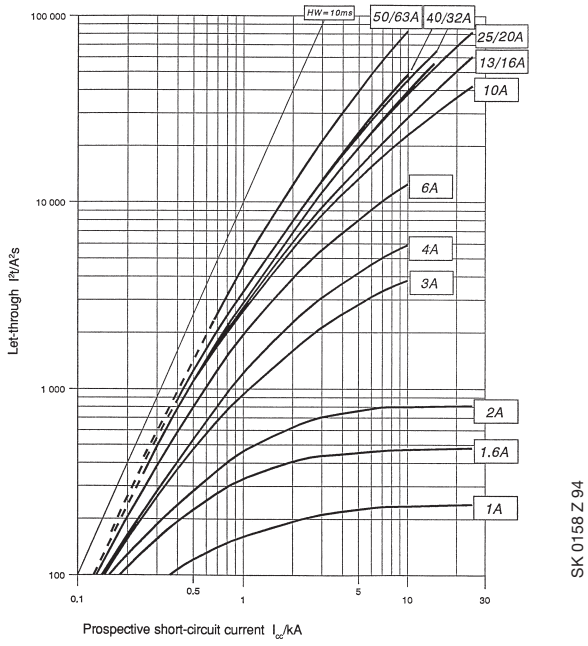
type	rated current I_n A	MCB series S 280 UC-B mΩ	W	280 UC-K mΩ	W	280 UC-Z mΩ	W
S 280	0.2	–	–	33300	1.33	–	–
	0.3	–	–	19700	1.77	–	–
	0.5	–	–	5020	1.26	10100	2.52
	0.75	–	–	2400	1.35	–	–
	1	–	–	1390	1.39	2270	2.27
	1.6	–	–	612	1.56	1100	2.81
	2	–	–	450	1.79	619	2.47
	3	–	–	147	1.32	202	1.82
	4	–	–	112	1.79	149	2.38
	6	55	2.0	54.1	1.95	104	3.74
	8	–	–	33.8	2.16	53.9	3.45
	10	13.5	1.35	15.1	1.51	17.5	1.75
	13	–	–	–	–	–	–
	16	9.7	2.5	8.1	2.07	10.9	2.80
	20	6.25	2.5	5.27	2.11	6.0	2.40
	25	3.0	1.9	3.97	2.48	4.1	2.56
	32	–	–	2.65	2.71	2.81	2.88
	40	–	–	2.44	3.90	2.55	4.09
	50	–	–	1.15	2.90	1.77	4.43
	63	–	–	0.7	5.20	1.31	5.20

Diagrams of let-through values I² t at 230/400 V ~

Miniature circuit-breakers S 280 K



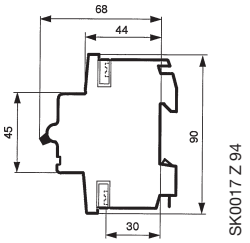
Miniature circuit-breakers S 280 Z



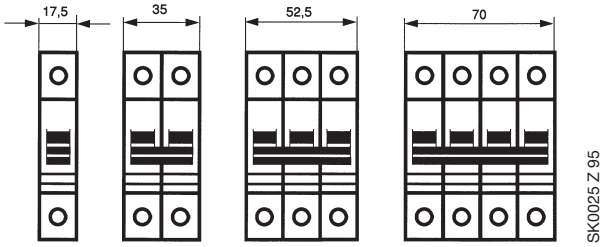
Miniature circuit-breakers S 280 UC
Dimension drawings

Miniature circuit-breakers S 280

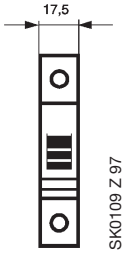
measurements in mm



S 280



S 281 S 282 S 283 S 284

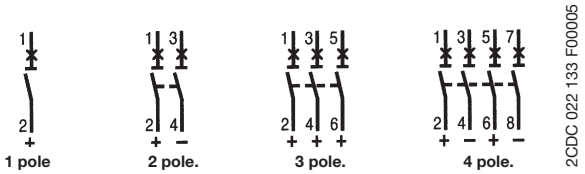


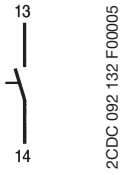
AL
UA

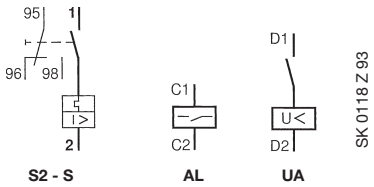
Connection drawings

Supply optional from top or bottom, terminal designation acc. to EN 50 005

S 280







Power miniature circuit-breakers S 280 UC for AC/DC applications

UC = Universal Current = AC/DC

S 280 UC miniature circuit-breakers can be used in the one-pole version as 220 V ⎓, 2- and in the 2-pole or 4-pole version with series connection of two poles up to 440 V ⎓ .

S 280 differs from the standard type as it is fitted with permanent magnets that support positive arc quenching. During the installation process, it is therefore necessary to pay due regard to the polarity and the conduction direction.

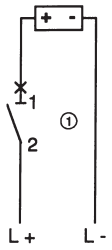
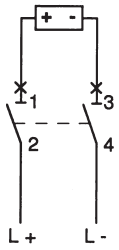
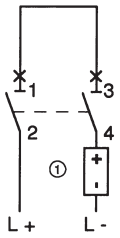
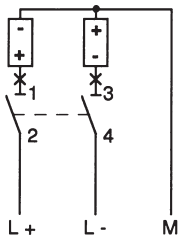
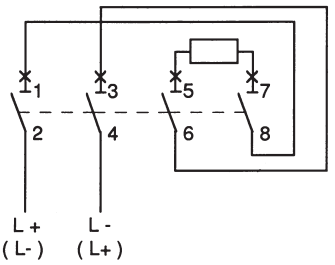
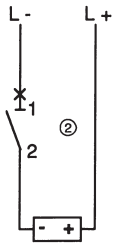
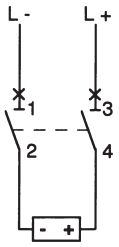
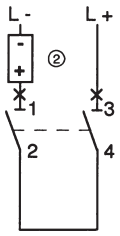
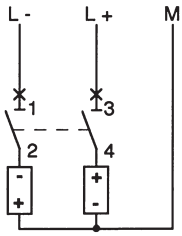
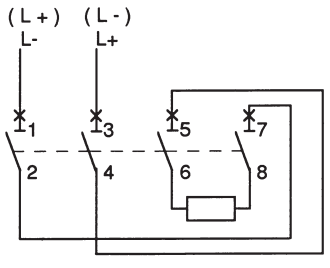
If voltages to earth exceeding 220 V DC may occur, 2-pole S 280 UC is to be used for one-pole disconnection, and four-pole S 280 UC for all-pole disconnection.

DC incoming supply from above

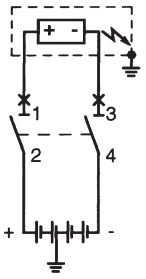
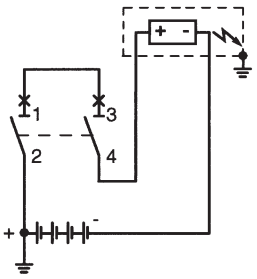
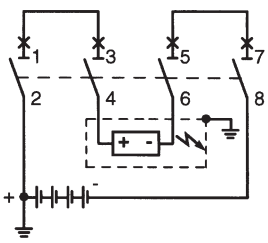
S 280 UC-… MCBs have, in the area of arcing pace outlets, permanent magnets, it is therefore necessary to take into account the polarity during the installation process.

Doing so ensures that in the case of a short circuit the magnetic field of the permanent magnets corresponds with the electromagnetic field of the short-circuit current, therefore safely leading the short circuit into the arc chute. Incorrect polarities may cause damage to the MCB. **This is why – in the case of top-fed devices – terminal 1 must be fed (–) and terminal 3 (+).**

Example for permissible voltages between the conductors depending on the number of poles and type of connection:

Voltage U_n between conductors	220 V–	440 V–	440 V–	440 V–	440 V– (inverted circuit)
Voltage U_n between conductor and earth	220 V–	220 V–	440 V–	220 V–	220 V–
MCB	1pole S 281 UC	2pole S 282 UC	2pole S 282 UC	2pole S 282 UC	4pole S 284 UC
Supply bottom					 SK 0114 Z 94
Supply top					 SK 0115 Z 94

Examples for different voltage levels between conductor and earth in the case of identical voltage between conductors:

Voltage U_n between conductors	440 V– all-pole disconnection	440 V– 1pole disconnection	440 V– all-pole disconnection
Voltage U_n between conductor and earth	220 V– circuit symmetrically earthed	440 V– circuit asymmetrically earthed	440 V– circuit unearthed or asymmetrically earthed
MCB automat	2pole S 282 UC	2pole S 282 UC	4pole S 284 UC
			 SK 0196 Z 98

① In the circuit diagram, the negative pole is earthed.

② In the circuit diagram, the positive pole is earthed.

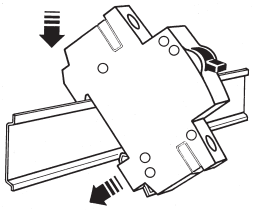


Abb. 1 Snap on

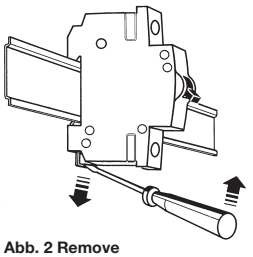


Abb. 2 Remove

Installation and operating instructions

Installation
can be installed in any mounting position due to snap-on fixing to DIN rails EN 60 715, 35 mm width (see figures 1 and 2).

Important: Installation and removal only by authorized personnel.

Connection
Supply optional from top or bottom. Ensure that conductors are connected correctly and firmly.
Max. tightening torque 2 Nm.

Operation
Miniature circuit-breakers are switched on by switching the operating lever into the upper position (with respect to the text block of the nameplate). The display changes from green to red. If an MCB, after it having tripped (display green), cannot be switched on again easily, the tripping is probably due to overload.
If the circuit-breaker trips again immediately when trying to reclose after a short period of time, a complete short-circuit, or as the case may be, earth connection can be assumed.
Do not try and continuously re-close an existing short circuit or earth fault. The MCB trips under overload, or short-circuit or earth fault conditions, even if the operating lever is maintained in the ON position by force (trip-free mechanism).

Cleaning the device
MCBs soiled by installation work should be cleaned with a dry, or, if necessary, a damp and soapy cloth. Never use caustic agents or dissolvent.

Maintenance
STOTZ miniature circuit-breakers are maintenance-free.

Opening the device will lead to a loss of warranty.


according to UL 489,
CSA 22.2 No. 5
TRAIN SPECIAL
003
003
240 V AC
277/480 V AC

Miniature circuit-breakers S 200 U
Special features
Application notes

2CDC 003 037 F0005

- Newly developed **System pro *M* compact** busbars UL 489. No time-consuming cutting to length. No extra end caps. Supplied ready to use in standard lengths.

2CDC 003 170 F0005

- Also in combination with RCCBs corss-wiring is possible.

2CDC 003 170 F0005

- Disconnector abilities according to EN 60 898-1, rated surge withstand capacity U_{imp} 4 kV (1.2/50); test voltage 6.2 kV at NN
- Can be used as main circuit breaker according to EN 60 947-3 due to positive contacts position indication for each pole red = ON, green = OFF

SK 0045 B 99

- A padlock device prevents unauthorized switching to ON or OFF.
- Incoming supply up to 25 mm² without supplementary terminal
  Incoming supply up to 50 mm² with supplementary terminal

2CDC 023 228 F0005

- Dual-Terminal different cross-sections can be connected

Miniature Moulded Case Circuit Breakers
S 200 U series
acc. to UL 489, CSA 22.2 No. 5

S 200 U-K
240 V AC

K

10 000

2CDC 021 314 F0004

2CDC 021 315 F0004

Selection table

No. of poles	Rated current I_n A	Ordering details Type No.	Order code	bbn 40 16779 EAN	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece
1	0.2	**S 201 U-K 0.2**	2CDS 271 417 R0087	**61922 6**			0.14	10
	0.3	**S 201 U-K 0.3**	2CDS 271 417 R0117	**61923 3**			0.14	10
	0.5	**S 201 U-K 0.5**	2CDS 271 417 R0157	**61924 0**			0.14	10
	0.75	**S 201 U-K 0.75**	2CDS 271 417 R0187	**61925 7**			0.14	10
	1	**S 201 U-K 1**	2CDS 271 417 R0217	**61926 4**			0.14	10
	1.6	**S 201 U-K 1.6**	2CDS 271 417 R0257	**61927 1**			0.14	10
	2	**S 201 U-K 2**	2CDS 271 417 R0277	**61928 8**			0.14	10
	3	**S 201 U-K 3**	2CDS 271 417 R0317	**61929 5**			0.14	10
	4	**S 201 U-K 4**	2CDS 271 417 R0337	**61930 1**			0.14	10
	5	**S 201 U-K 5**	2CDS 271 417 R0357	**61931 8**			0.14	10
	6	**S 201 U-K 6**	2CDS 271 417 R0377	**61932 5**			0.14	10
	8	**S 201 U-K 8**	2CDS 271 417 R0407	**61933 2**			0.14	10
	10	**S 201 U-K 10**	2CDS 271 417 R0427	**61934 9**			0.14	10
	15	**S 201 U-K 15**	2CDS 271 417 R0457	**61936 3**			0.14	10
	16	**S 201 U-K 16**	2CDS 271 417 R0467	**61937 0**			0.14	10
	20	**S 201 U-K 20**	2CDS 271 417 R0487	**61938 7**			0.14	10
	25	**S 201 U-K 25**	2CDS 271 417 R0517	**61939 4**			0.14	10
	30	**S 201 U-K 30**	2CDS 271 417 R0527	**61940 0**			0.14	10
	32	**S 201 U-K 32**	2CDS 271 417 R0537	**61941 7**			0.14	10
	40	**S 201 U-K 40**	2CDS 271 417 R0557	**61942 4**			0.14	10
	50	**S 201 U-K 50**	2CDS 271 417 R0577	**61943 1**			0.14	10
	60	**S 201 U-K 60**	2CDS 271 417 R0587	**61944 8**			0.14	10
	63	**S 201 U-K 63**	2CDS 271 417 R0607	**61945 5**			0.14	10
2	0.2	**S 202 U-K 0.2**	2CDS 272 417 R0087	**61946 2**			0.28	5
	0.3	**S 202 U-K 0.3**	2CDS 272 417 R0117	**61947 9**			0.28	5
	0.5	**S 202 U-K 0.5**	2CDS 272 417 R0157	**61948 6**			0.28	5
	0.75	**S 202 U-K 0.75**	2CDS 272 417 R0187	**61949 3**			0.28	5
	1	**S 202 U-K 1**	2CDS 272 417 R0217	**61950 9**			0.28	5
	1.6	**S 202 U-K 1.6**	2CDS 272 417 R0257	**61951 6**			0.28	5
	2	**S 202 U-K 2**	2CDS 272 417 R0277	**61952 3**			0.28	5
	3	**S 202 U-K 3**	2CDS 272 417 R0317	**61953 0**			0.28	5
	4	**S 202 U-K 4**	2CDS 272 417 R0337	**61954 7**			0.28	5
	5	**S 202 U-K 5**	2CDS 272 417 R0357	**61955 4**			0.28	5
	6	**S 202 U-K 6**	2CDS 272 417 R0377	**61956 1**			0.28	5
	8	**S 202 U-K 8**	2CDS 272 417 R0407	**61957 8**			0.28	5
	10	**S 202 U-K 10**	2CDS 272 417 R0427	**61958 5**			0.28	5
	15	**S 202 U-K 15**	2CDS 272 417 R0457	**61960 8**			0.28	5
	16	**S 202 U-K 16**	2CDS 272 417 R0467	**61961 5**			0.28	5
	20	**S 202 U-K 20**	2CDS 272 417 R0487	**61962 2**			0.28	5
	25	**S 202 U-K 25**	2CDS 272 417 R0517	**61963 9**			0.28	5
	30	**S 202 U-K 30**	2CDS 272 417 R0527	**61964 6**			0.28	5
	32	**S 202 U-K 32**	2CDS 272 417 R0537	**61965 3**			0.28	5
	40	**S 202 U-K 40**	2CDS 272 417 R0557	**61966 0**			0.28	5
	50	**S 202 U-K 50**	2CDS 272 417 R0577	**61967 7**			0.28	5
	60	**S 202 U-K 60**	2CDS 272 417 R0587	**61968 4**			0.28	5
	63	**S 202 U-K 63**	2CDS 272 417 R0607	**61969 1**			0.28	5

Miniature Moulded Case Circuit Breakers
S 200 U series
acc. to UL 489, CSA 22.2 No. 5

S 200 U-K
240 V AC

K

10 000

2CDC 021 316 F0004

2CDC 021 317 F0004

Selection table

No. of poles	Rated current I_n A	Ordering details Type No.	Order code	bbn 40 16779 EAN	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece
3	0.2	**S 203 U-K 0.2**	2CDS 273 417 R0087	**61970 7**			0.42	3
	0.3	**S 203 U-K 0.3**	2CDS 273 417 R0117	**61971 4**			0.42	3
	0.5	**S 203 U-K 0.5**	2CDS 273 417 R0157	**61972 1**			0.42	3
	0.75	**S 203 U-K 0.75**	2CDS 273 417 R0187	**61973 8**			0.42	3
	1	**S 203 U-K 1**	2CDS 273 417 R0217	**61974 5**			0.42	3
	1.6	**S 203 U-K 1.6**	2CDS 273 417 R0257	**61975 2**			0.42	3
	2	**S 203 U-K 2**	2CDS 273 417 R0277	**61976 9**			0.42	3
	3	**S 203 U-K 3**	2CDS 273 417 R0317	**61977 6**			0.42	3
	4	**S 203 U-K 4**	2CDS 273 417 R0337	**61978 3**			0.42	3
	5	**S 203 U-K 5**	2CDS 273 417 R0357	**61979 0**			0.42	3
	6	**S 203 U-K 6**	2CDS 273 417 R0377	**61980 6**			0.42	3
	8	**S 203 U-K 8**	2CDS 273 417 R0407	**61981 3**			0.42	3
	10	**S 203 U-K 10**	2CDS 273 417 R0427	**61982 0**			0.42	3
	15	**S 203 U-K 15**	2CDS 273 417 R0457	**61984 4**			0.42	3
	16	**S 203 U-K 16**	2CDS 273 417 R0467	**61985 1**			0.42	3
	20	**S 203 U-K 20**	2CDS 273 417 R0487	**61986 8**			0.42	3
	25	**S 203 U-K 25**	2CDS 273 417 R0517	**61987 5**			0.42	3
	30	**S 203 U-K 30**	2CDS 273 417 R0527	**61988 2**			0.42	3
	32	**S 203 U-K 32**	2CDS 273 417 R0537	**61989 9**			0.42	3
	40	**S 203 U-K 40**	2CDS 273 417 R0557	**61990 5**			0.42	3
	50	**S 203 U-K 50**	2CDS 273 417 R0577	**61991 2**			0.42	3
	60	**S 203 U-K 60**	2CDS 273 417 R0587	**61992 9**			0.42	3
	63	**S 203 U-K 63**	2CDS 273 417 R0607	**61993 6**			0.42	3
4	0.2	**S 204 U-K 0.2**	2CDS 274 417 R0087	**61994 3**			0.56	2
	0.3	**S 204 U-K 0.3**	2CDS 274 417 R0117	**61995 0**			0.56	2
	0.5	**S 204 U-K 0.5**	2CDS 274 417 R0157	**61996 7**			0.56	2
	0.75	**S 204 U-K 0.75**	2CDS 274 417 R0187	**61997 4**			0.56	2
	1	**S 204 U-K 1**	2CDS 274 417 R0217	**61998 1**			0.56	2
	1.6	**S 204 U-K 1.6**	2CDS 274 417 R0257	**61999 8**			0.56	2
	2	**S 204 U-K 2**	2CDS 274 417 R0277	**62000 0**			0.56	2
	3	**S 204 U-K 3**	2CDS 274 417 R0317	**62001 7**			0.56	2
	4	**S 204 U-K 4**	2CDS 274 417 R0337	**62002 4**			0.56	2
	5	**S 204 U-K 5**	2CDS 274 417 R0357	**62003 1**			0.56	2
	6	**S 204 U-K 6**	2CDS 274 417 R0377	**62004 8**			0.56	2
	8	**S 204 U-K 8**	2CDS 274 417 R0407	**62005 5**			0.56	2
	10	**S 204 U-K 10**	2CDS 274 417 R0427	**62006 2**			0.56	2
	15	**S 204 U-K 15**	2CDS 274 417 R0457	**62008 6**			0.56	2
	16	**S 204 U-K 16**	2CDS 274 417 R0467	**62009 3**			0.56	2
	20	**S 204 U-K 20**	2CDS 274 417 R0487	**62010 9**			0.56	2
	25	**S 204 U-K 25**	2CDS 274 417 R0517	**62011 6**			0.56	2
	30	**S 204 U-K 30**	2CDS 274 417 R0527	**62012 3**			0.56	2
	32	**S 204 U-K 32**	2CDS 274 417 R0537	**62013 0**			0.56	2
	40	**S 204 U-K 40**	2CDS 274 417 R0557	**62014 7**			0.56	2
	50	**S 204 U-K 50**	2CDS 274 417 R0577	**62015 4**			0.56	2
	60	**S 204 U-K 60**	2CDS 274 417 R0587	**62016 1**			0.56	2
	63	**S 204 U-K 63**	2CDS 274 417 R0607	**62017 8**			0.56	2

Miniature Moulded Case Circuit Breakers
S 200 U series
acc. to UL 489, CSA 22.2 No. 5

S 200 U-Z
240 V AC

Z

10 000

2CDC 021 314 F0004

2CDC 021 315 F0004

Selection table

No. of poles	Rated current I_n A	Ordering details Type No.	Order code	bbn 40 16779 EAN	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece
1	0.5	**S 201 U-Z 0.5**	2CDS 271 417 R0158	**620185**			0.14	10
	1	**S 201 U-Z 1**	2CDS 271 417 R0218	**620192**			0.14	10
	1.6	**S 201 U-Z 1.6**	2CDS 271 417 R0258	**620208**			0.14	10
	2	**S 201 U-Z 2**	2CDS 271 417 R0278	**620215**			0.14	10
	3	**S 201 U-Z 3**	2CDS 271 417 R0318	**620222**			0.14	10
	4	**S 201 U-Z 4**	2CDS 271 417 R0338	**620239**			0.14	10
	5	**S 201 U-Z 5**	2CDS 271 417 R0358	**620246**			0.14	10
	6	**S 201 U-Z 6**	2CDS 271 417 R0378	**620253**			0.14	10
	8	**S 201 U-Z 8**	2CDS 271 417 R0408	**620260**			0.14	10
	10	**S 201 U-Z 10**	2CDS 271 417 R0428	**620277**			0.14	10
	15	**S 201 U-Z 15**	2CDS 271 417 R0458	**620291**			0.14	10
	16	**S 201 U-Z 16**	2CDS 271 417 R0468	**620307**			0.14	10
	20	**S 201 U-Z 20**	2CDS 271 417 R0488	**620314**			0.14	10
	25	**S 201 U-Z 25**	2CDS 271 417 R0518	**620321**			0.14	10
	30	**S 201 U-Z 30**	2CDS 271 417 R0528	**622851**			0.14	10
	32	**S 201 U-Z 32**	2CDS 271 417 R0538	**620345**			0.14	10
	40	**S 201 U-Z 40**	2CDS 271 417 R0558	**620352**			0.14	10
	50	**S 201 U-Z 50**	2CDS 271 417 R0578	**620369**			0.14	10
	60	**S 201 U-Z 60**	2CDS 271 417 R0588	**620376**			0.14	10
	63	**S 201 U-Z 63**	2CDS 271 417 R0608	**620383**			0.14	10
2	0.5	**S 202 U-Z 0.5**	2CDS 272 417 R0158	**620390**			0.28	5
	1	**S 202 U-Z 1**	2CDS 272 417 R0218	**620406**			0.28	5
	1.6	**S 202 U-Z 1.6**	2CDS 272 417 R0258	**620413**			0.28	5
	2	**S 202 U-Z 2**	2CDS 272 417 R0278	**620420**			0.28	5
	3	**S 202 U-Z 3**	2CDS 272 417 R0318	**620437**			0.28	5
	4	**S 202 U-Z 4**	2CDS 272 417 R0338	**620444**			0.28	5
	5	**S 202 U-Z 5**	2CDS 272 417 R0358	**620451**			0.28	5
	6	**S 202 U-Z 6**	2CDS 272 417 R0378	**620468**			0.28	5
	8	**S 202 U-Z 8**	2CDS 272 417 R0408	**620475**			0.28	5
	10	**S 202 U-Z 10**	2CDS 272 417 R0428	**620482**			0.28	5
	15	**S 202 U-Z 15**	2CDS 272 417 R0458	**620505**			0.28	5
	16	**S 202 U-Z 16**	2CDS 272 417 R0468	**620512**			0.28	5
	20	**S 202 U-Z 20**	2CDS 272 417 R0488	**620529**			0.28	5
	25	**S 202 U-Z 25**	2CDS 272 417 R0518	**620536**			0.28	5
	30	**S 202 U-Z 30**	2CDS 272 417 R0528	**620543**			0.28	5
	32	**S 202 U-Z 32**	2CDS 272 417 R0538	**620550**			0.28	5
	40	**S 202 U-Z 40**	2CDS 272 417 R0558	**620567**			0.28	5
	50	**S 202 U-Z 50**	2CDS 272 417 R0578	**620574**			0.28	5
	60	**S 202 U-Z 60**	2CDS 272 417 R0588	**620581**			0.28	5
	63	**S 202 U-Z 63**	2CDS 272 417 R0608	**620598**			0.28	5

Miniature Moulded Case Circuit Breakers
S 200 U series
acc. to UL 489, CSA 22.2 No. 5

S 200 U-Z
240 V AC

Z

10 000

2CDC 021 316 F0004

2CDC 021 317 F0004

Selection table

No. of poles	Rated current I_n A	Ordering details Type No.	Order code	bbn 40 16779 EAN	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece
3	0.5	**S 203 U-Z 0.5**	2CDS 273 417 R0158	**620604**			0.42	3
	1	**S 203 U-Z 1**	2CDS 273 417 R0218	**620611**			0.42	3
	1.6	**S 203 U-Z 1.6**	2CDS 273 417 R0258	**620628**			0.42	3
	2	**S 203 U-Z 2**	2CDS 273 417 R0278	**620635**			0.42	3
	3	**S 203 U-Z 3**	2CDS 273 417 R0318	**620642**			0.42	3
	4	**S 203 U-Z 4**	2CDS 273 417 R0338	**620659**			0.42	3
	5	**S 203 U-Z 5**	2CDS 273 417 R0358	**620666**			0.42	3
	6	**S 203 U-Z 6**	2CDS 273 417 R0378	**620673**			0.42	3
	8	**S 203 U-Z 8**	2CDS 273 417 R0408	**620680**			0.42	3
	10	**S 203 U-Z 10**	2CDS 273 417 R0428	**620697**			0.42	3
	15	**S 203 U-Z 15**	2CDS 273 417 R0458	**620710**			0.42	3
	16	**S 203 U-Z 16**	2CDS 273 417 R0468	**620727**			0.42	3
	20	**S 203 U-Z 20**	2CDS 273 417 R0488	**620734**			0.42	3
	25	**S 203 U-Z 25**	2CDS 273 417 R0518	**620741**			0.42	3
	30	**S 203 U-Z 30**	2CDS 273 417 R0528	**620758**			0.42	3
	32	**S 203 U-Z 32**	2CDS 273 417 R0538	**620765**			0.42	3
	40	**S 203 U-Z 40**	2CDS 273 417 R0558	**620772**			0.42	3
	50	**S 203 U-Z 50**	2CDS 273 417 R0578	**620789**			0.42	3
	60	**S 203 U-Z 60**	2CDS 273 417 R0588	**620796**			0.42	3
	63	**S 203 U-Z 63**	2CDS 273 417 R0608	**620802**			0.42	3
4	0.5	**S 204 U-Z 0.5**	2CDS 274 417 R0158	**620819**			0.56	2
	1	**S 204 U-Z 1**	2CDS 274 417 R0218	**620826**			0.56	2
	1.6	**S 204 U-Z 1.6**	2CDS 274 417 R0258	**620833**			0.56	2
	2	**S 204 U-Z 2**	2CDS 274 417 R0278	**620840**			0.56	2
	3	**S 204 U-Z 3**	2CDS 274 417 R0318	**620857**			0.56	2
	4	**S 204 U-Z 4**	2CDS 274 417 R0338	**620864**			0.56	2
	5	**S 204 U-Z 5**	2CDS 274 417 R0358	**620871**			0.56	2
	6	**S 204 U-Z 6**	2CDS 274 417 R0378	**620888**			0.56	2
	8	**S 204 U-Z 8**	2CDS 274 417 R0408	**620895**			0.56	2
	10	**S 204 U-Z 10**	2CDS 274 417 R0428	**620901**			0.56	2
	15	**S 204 U-Z 15**	2CDS 274 417 R0458	**620925**			0.56	2
	16	**S 204 U-Z 16**	2CDS 274 417 R0468	**620932**			0.56	2
	20	**S 204 U-Z 20**	2CDS 274 417 R0488	**620949**			0.56	2
	25	**S 204 U-Z 25**	2CDS 274 417 R0518	**620956**			0.56	2
	30	**S 204 U-Z 30**	2CDS 274 417 R0528	**620963**			0.56	2
	32	**S 204 U-Z 32**	2CDS 274 417 R0538	**620970**			0.56	2
	40	**S 204 U-Z 40**	2CDS 274 417 R0558	**620987**			0.56	2
	50	**S 204 U-Z 50**	2CDS 274 417 R0578	**620994**			0.56	2
	60	**S 204 U-Z 60**	2CDS 274 417 R0588	**621007**			0.56	2
	63	**S 204 U-Z 63**	2CDS 274 417 R0608	**621014**			0.56	2

Miniature Moulded Case Circuit Breakers
S 200 UP series
acc. to UL 489, CSA 22.2 No. 5

S 200 UP-K
480Y/277 V AC

K

10 000


2CDC 021 318 F0004


2CDC 021 319 F0004


2CDC 021 320 F0004


2CDC 023 321 F0004

Selection table

No. of poles	Rated current I_n A	Ordering details Type No.	Order code	bbn 40 16779 EAN	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece
1	0.2	**S 201 UP-K 0.2**	2CDS 271 317 R0087	**61563 1**			0.14	10
	0.3	**S 201 UP-K 0.3**	2CDS 271 317 R0117	**61564 8**			0.14	10
	0.5	**S 201 UP-K 0.5**	2CDS 271 317 R0157	**61565 5**			0.14	10
	0.75	**S 201 UP-K 0.75**	2CDS 271 317 R0187	**61566 2**			0.14	10
	1	**S 201 UP-K 1**	2CDS 271 317 R0217	**61567 9**			0.14	10
	1.6	**S 201 UP-K 1.6**	2CDS 271 317 R0257	**61568 6**			0.14	10
	2	**S 201 UP-K 2**	2CDS 271 317 R0277	**61569 3**			0.14	10
	3	**S 201 UP-K 3**	2CDS 271 317 R0317	**61570 9**			0.14	10
	4	**S 201 UP-K 4**	2CDS 271 317 R0337	**61571 6**			0.14	10
	5	**S 201 UP-K 5**	2CDS 271 317 R0357	**61572 3**			0.14	10
	6	**S 201 UP-K 6**	2CDS 271 317 R0377	**61573 0**			0.14	10
	8	**S 201 UP-K 8**	2CDS 271 317 R0407	**61574 7**			0.14	10
	10	**S 201 UP-K 10**	2CDS 271 317 R0427	**61575 4**			0.14	10
	15	**S 201 UP-K 15**	2CDS 271 317 R0457	**61577 8**			0.14	10
	16	**S 201 UP-K 16**	2CDS 271 317 R0467	**61578 5**			0.14	10
	20	**S 201 UP-K 20**	2CDS 271 317 R0487	**61579 2**			0.14	10
	25	**S 201 UP-K 25**	2CDS 271 317 R0517	**61580 8**			0.14	10
2	0.2	**S 202 UP-K 0.2**	2CDS 272 317 R0087	**61587 7**			0.28	5
	0.3	**S 202 UP-K 0.3**	2CDS 272 317 R0117	**61588 4**			0.28	5
	0.5	**S 202 UP-K 0.5**	2CDS 272 317 R0157	**61589 1**			0.28	5
	0.75	**S 202 UP-K 0.75**	2CDS 272 317 R0187	**61590 7**			0.28	5
	1	**S 202 UP-K 1**	2CDS 272 317 R0217	**61591 4**			0.28	5
	1.6	**S 202 UP-K 1.6**	2CDS 272 317 R0257	**61592 1**			0.28	5
	2	**S 202 UP-K 2**	2CDS 272 317 R0277	**61593 8**			0.28	5
	3	**S 202 UP-K 3**	2CDS 272 317 R0317	**61594 5**			0.28	5
	4	**S 202 UP-K 4**	2CDS 272 317 R0337	**61595 2**			0.28	5
	5	**S 202 UP-K 5**	2CDS 272 317 R0357	**61596 9**			0.28	5
	6	**S 202 UP-K 6**	2CDS 272 317 R0377	**61597 6**			0.28	5
	8	**S 202 UP-K 8**	2CDS 272 317 R0407	**61598 3**			0.28	5
	10	**S 202 UP-K 10**	2CDS 272 317 R0427	**61599 0**			0.28	5
	15	**S 202 UP-K 15**	2CDS 272 317 R0457	**61601 0**			0.28	5
	16	**S 202 UP-K 16**	2CDS 272 317 R0467	**61602 7**			0.28	5
	20	**S 202 UP-K 20**	2CDS 272 317 R0487	**61603 4**			0.28	5
	25	**S 202 UP-K 25**	2CDS 272 317 R0517	**61604 1**			0.28	5
3	0.2	**S 203 UP-K 0.2**	2CDS 273 317 R0087	**61611 9**			0.42	3
	0.3	**S 203 UP-K 0.3**	2CDS 273 317 R0117	**61612 6**			0.42	3
	0.5	**S 203 UP-K 0.5**	2CDS 273 317 R0157	**61613 3**			0.42	3
	0.75	**S 203 UP-K 0.75**	2CDS 273 317 R0187	**61614 0**			0.42	3
	1	**S 203 UP-K 1**	2CDS 273 317 R0217	**61615 7**			0.42	3
	1.6	**S 203 UP-K 1.6**	2CDS 273 317 R0257	**61616 4**			0.42	3
	2	**S 203 UP-K 2**	2CDS 273 317 R0277	**61617 1**			0.42	3
	3	**S 203 UP-K 3**	2CDS 273 317 R0317	**61618 8**			0.42	3
	4	**S 203 UP-K 4**	2CDS 273 317 R0337	**61619 5**			0.42	3
	5	**S 203 UP-K 5**	2CDS 273 317 R0357	**61620 1**			0.42	3
	6	**S 203 UP-K 6**	2CDS 273 317 R0377	**61621 8**			0.42	3
	8	**S 203 UP-K 8**	2CDS 273 317 R0407	**61622 5**			0.42	3
	10	**S 203 UP-K 10**	2CDS 273 317 R0427	**61623 2**			0.42	3
	15	**S 203 UP-K 15**	2CDS 273 317 R0457	**61625 6**			0.42	3
	16	**S 203 UP-K 16**	2CDS 273 317 R0467	**61626 3**			0.42	3
	20	**S 203 UP-K 20**	2CDS 273 317 R0487	**61627 0**			0.42	3
	25	**S 203 UP-K 25**	2CDS 273 317 R0517	**61628 7**			0.42	3
4	0.2	**S 204 UP-K 0.2**	2CDS 274 317 R0087	**61635 5**			0.56	2
	0.3	**S 204 UP-K 0.3**	2CDS 274 317 R0117	**61636 2**			0.56	2
	0.5	**S 204 UP-K 0.5**	2CDS 274 317 R0157	**61637 9**			0.56	2
	0.75	**S 204 UP-K 0.75**	2CDS 274 317 R0187	**61638 6**			0.56	2
	1	**S 204 UP-K 1**	2CDS 274 317 R0217	**61639 3**			0.56	2
	1.6	**S 204 UP-K 1.6**	2CDS 274 317 R0257	**61640 9**			0.56	2
	2	**S 204 UP-K 2**	2CDS 274 317 R0277	**61641 6**			0.56	2
	3	**S 204 UP-K 3**	2CDS 274 317 R0317	**61642 3**			0.56	2
	4	**S 204 UP-K 4**	2CDS 274 317 R0337	**61643 0**			0.56	2
	5	**S 204 UP-K 5**	2CDS 274 317 R0357	**61644 7**			0.56	2
	6	**S 204 UP-K 6**	2CDS 274 317 R0377	**61645 4**			0.56	2
	8	**S 204 UP-K 8**	2CDS 274 317 R0407	**61646 1**			0.56	2
	10	**S 204 UP-K 10**	2CDS 274 317 R0427	**61647 8**			0.56	2
	15	**S 204 UP-K 15**	2CDS 274 317 R0457	**61649 2**			0.56	2
	16	**S 204 UP-K 16**	2CDS 274 317 R0467	**61650 8**			0.56	2
	20	**S 204 UP-K 20**	2CDS 274 317 R0487	**61651 5**			0.56	2
	25	**S 204 UP-K 25**	2CDS 274 317 R0517	**61652 2**			0.56	2

Miniature Moulded Case Circuit Breakers
S 200 UP series
acc. to UL 489, CSA 22.2 No. 5

S 200 UP-Z
480Y/277 V AC

Z

10 000


2CDC 021 318 F0004


2CDC 021 319 F0004


2CDC 021 320 F0004


2CDC 021 321 F0004

Selection table

No. of poles	Rated current I_n A	Ordering details Type No.	Order code	bbn 40 16779 EAN	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit piece
1	0.5	**S 201 UP-Z 0.5**	2CDS 271 317 R0158	**61659 1**			0.14	10
	1	**S 201 UP-Z 1**	2CDS 271 317 R0218	**61660 7**			0.14	10
	1.6	**S 201 UP-Z 1.6**	2CDS 271 317 R0258	**61661 4**			0.14	10
	2	**S 201 UP-Z 2**	2CDS 271 317 R0278	**61662 1**			0.14	10
	3	**S 201 UP-Z 3**	2CDS 271 317 R0318	**61663 8**			0.14	10
	4	**S 201 UP-Z 4**	2CDS 271 317 R0338	**61664 5**			0.14	10
	5	**S 201 UP-Z 5**	2CDS 271 317 R0358	**61665 2**			0.14	10
	6	**S 201 UP-Z 6**	2CDS 271 317 R0378	**61666 9**			0.14	10
	8	**S 201 UP-Z 8**	2CDS 271 317 R0408	**61667 6**			0.14	10
	10	**S 201 UP-Z 10**	2CDS 271 317 R0428	**61668 3**			0.14	10
	15	**S 201 UP-Z 15**	2CDS 271 317 R0458	**61670 6**			0.14	10
	16	**S 201 UP-Z 16**	2CDS 271 317 R0468	**61671 3**			0.14	10
	20	**S 201 UP-Z 20**	2CDS 271 317 R0488	**61672 0**			0.14	10
	25	**S 201 UP-Z 25**	2CDS 271 317 R0518	**61673 7**			0.14	10
2	0.5	**S 202 UP-Z 0.5**	2CDS 272 317 R0158	**61680 5**			0.28	5
	1	**S 202 UP-Z 1**	2CDS 272 317 R0218	**61681 2**			0.28	5
	1.6	**S 202 UP-Z 1.6**	2CDS 272 317 R0258	**61682 9**			0.28	5
	2	**S 202 UP-Z 2**	2CDS 272 317 R0278	**61683 6**			0.28	5
	3	**S 202 UP-Z 3**	2CDS 272 317 R0318	**61684 3**			0.28	5
	4	**S 202 UP-Z 4**	2CDS 272 317 R0338	**61685 0**			0.28	5
	5	**S 202 UP-Z 5**	2CDS 272 317 R0358	**61686 7**			0.28	5
	6	**S 202 UP-Z 6**	2CDS 272 317 R0378	**61687 4**			0.28	5
	8	**S 202 UP-Z 8**	2CDS 272 317 R0408	**61688 1**			0.28	5
	10	**S 202 UP-Z 10**	2CDS 272 317 R0428	**61689 8**			0.28	5
	15	**S 202 UP-Z 15**	2CDS 272 317 R0458	**61691 1**			0.28	5
	16	**S 202 UP-Z 16**	2CDS 272 317 R0468	**61692 8**			0.28	5
	20	**S 202 UP-Z 20**	2CDS 272 317 R0488	**61693 5**			0.28	5
	25	**S 202 UP-Z 25**	2CDS 272 317 R0518	**61694 2**			0.28	5
3	0.5	**S 203 UP-Z 0.5**	2CDS 273 317 R0158	**61701 7**			0.42	3
	1	**S 203 UP-Z 1**	2CDS 273 317 R0218	**61702 4**			0.42	3
	1.6	**S 203 UP-Z 1.6**	2CDS 273 317 R0258	**61703 1**			0.42	3
	2	**S 203 UP-Z 2**	2CDS 273 317 R0278	**61704 8**			0.42	3
	3	**S 203 UP-Z 3**	2CDS 273 317 R0318	**61705 5**			0.42	3
	4	**S 203 UP-Z 4**	2CDS 273 317 R0338	**61706 2**			0.42	3
	5	**S 203 UP-Z 5**	2CDS 273 317 R0358	**61707 9**			0.42	3
	6	**S 203 UP-Z 6**	2CDS 273 317 R0378	**61708 6**			0.42	3
	8	**S 203 UP-Z 8**	2CDS 273 317 R0408	**61709 3**			0.42	3
	10	**S 203 UP-Z 10**	2CDS 273 317 R0428	**61710 9**			0.42	3
	15	**S 203 UP-Z 15**	2CDS 273 317 R0458	**61712 3**			0.42	3
	16	**S 203 UP-Z 16**	2CDS 273 317 R0468	**61713 0**			0.42	3
	20	**S 203 UP-Z 20**	2CDS 273 317 R0488	**61714 7**			0.42	3
	25	**S 203 UP-Z 25**	2CDS 273 317 R0518	**61715 4**			0.42	3
4	0.5	**S 204 UP-Z 0.5**	2CDS 274 317 R0158	**61722 2**			0.56	2
	1	**S 204 UP-Z 1**	2CDS 274 317 R0218	**61723 9**			0.56	2
	1.6	**S 204 UP-Z 1.6**	2CDS 274 317 R0258	**61724 6**			0.56	2
	2	**S 204 UP-Z 2**	2CDS 274 317 R0278	**61725 3**			0.56	2
	3	**S 204 UP-Z 3**	2CDS 274 317 R0318	**61726 0**			0.56	2
	4	**S 204 UP-Z 4**	2CDS 274 317 R0338	**61727 7**			0.56	2
	5	**S 204 UP-Z 5**	2CDS 274 317 R0358	**61728 4**			0.56	2
	6	**S 204 UP-Z 6**	2CDS 274 317 R0378	**61729 1**			0.56	2
	8	**S 204 UP-Z 8**	2CDS 274 317 R0408	**61730 7**			0.56	2
	10	**S 204 UP-Z 10**	2CDS 274 317 R0428	**61731 4**			0.56	2
	15	**S 204 UP-Z 15**	2CDS 274 317 R0458	**61733 8**			0.56	2
	16	**S 204 UP-Z 16**	2CDS 274 317 R0468	**61734 5**			0.56	2
	20	**S 204 UP-Z 20**	2CDS 274 317 R0488	**61735 2**			0.56	2
	25	**S 204 UP-Z 25**	2CDS 274 317 R0518	**61736 9**			0.56	2

Miniature Moulded Case Circuit Breakers
S 200 U and S 200 UP series
acc. to UL 489, CSA 22.2 No. 5

2CDC 021 322 F0004

S2C-H6 RU

2CDC 021 324 F0004

S2C-S6 RU

2CDC 021 146 F0005

S2C-A1 U

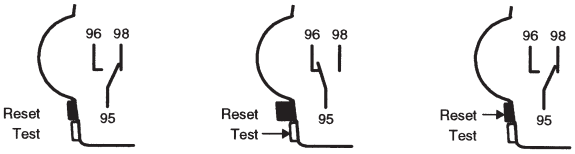
Accessories for S 200 U / S 200 UP

Description	Order details Type code	Order code	bbn 40 16779 EAN	Price 1 piece €	Price group	Weight 1 piece kg	Pack. unit pcs.
Auxiliary contact							
Auxiliary contact only for U/UP series	**S2C-H6RU**	2CDS 200 914 R0001	**61561 7**			0.035	1
Signal contact							
Signal contact only for U/UP series	**S2C-S6RU**	2CDS 200 924 R0001	**64677 2**			0.035	1
Shunt trip							
12…60 V AC/DC	**S2C-A1U**	2CDS 200 908 R0001	**64472 3**				
110…415 V AC 110…250 V DC	**S2C-A2U**	2CDS 200 908 R0002	**64473 0**				

Connection drawings

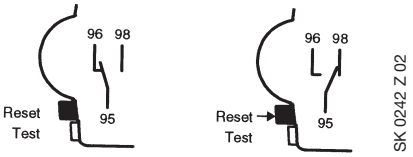
Signal contact S2C-S6 RU

in ON and OFF position after hand operation



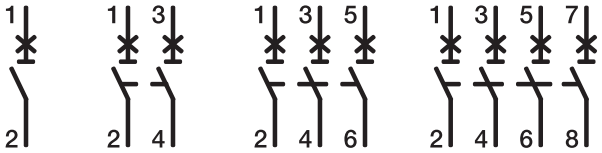
SK 0240 Z 02

in OFF position after tripping



SK 0242 Z 02

Miniature circuit breaker



2CDC 022 049 F0005

Feeder optional, top or bottom.
Terminal designation acc. to EN 50 005.

Auxiliary contact

Auxiliary contact in ON position

2CDC 092 047 F0005

Auxiliary contact in OFF position

2CDC 092 048 F0005

Shunt trip

S2C-A1 U
S2C-A2 U

2CDC 092 046 F0005

Miniature Moulded Case Circuit Breakers S 200 U and S 200 UP series acc. to UL 489, CSA 22.2 No. 5

Technical data	**S 200 U**	**S 200 UP**
Specifications:	UL 489, CSA 22.2 No.5, IEC 60 947-2	
UL File-Number:	E 2123233	
No. of poles:	1, 2, 3 und 4	
tripping characteristics:	K and Z	
rated current I_n:	0.2 (K) 0.5 (Z) ... 63 A	0.2 (K) 0.5 (Z) ... 25 A
rated voltage U_n:	1-pole: 240 V AC multipole: 240 V AC	1-pole: 277 V AC multipole: 480 Y/277 V AC
short circuit rupturing capacity:	10 kA	
frequency:	50/60 Hz	
degree of protection:	IP 20	
mounting position:	optional	
fixing:	35 mm DIN rail	
clamps only for Co:	18 … 4 AWG (0.75 … 25 mm²)	
service life,		
mech. and at rated load:	20.000 operations	
tightening torque:	25 in. lbs (2.8 Nm)	
reference temperature:	25 °C	
ambient temperature:	– 25 … + 55 °C	
shock resistance:	10 g at least 2 impacts shock duration 13 ms	
resistance to vibration acc. to IEC 60 068-2-6	5 g, 20 frequency cycles, 5 … 150 … 5 Hz bei 0.8 I_n	

These two equipment rows are calling oneself different rated current range, the rated voltage and the equipment measurement through hers.

Auxiliary contact S2C-H6RU and Signal contact S2C-S6RU for Miniature Moulded Case Circuit Breakers S 200 U and S 200 UP

rated current I_n:	10
rated voltage AC / DC:	24
short-circuit withstand capacity / 230 V AC:	1000 A bei S 201 K4
insulation coordination:	acc. to DIN VDE 0110 part 1 and 2
– overvoltage category:	III
– surge voltage:	4 kV (1.2/50 µs)
– pollution degtree:	2
contact:	1 change over
connection capacity mm²	0.75...2.5
tightening torque:	1.2 Nm
shock resistance acc. to DIN IEC 68-2-6:	5 g, 20 frequency cycles 5...150...5 Hz at 24 V AC/DC, 5 mA auto-reclosing < 10 ms
mechanical service life :	10.000 operations
dimensions:	68 x 74 x 99 mm

AC 14	U_e	400V	230 V
	I_e	1 A	2 A

DC 12	U_e	220 V	110 V
	I_e	1 A	1.5 A

DC	U_e	60 V	24 V
	I_e	2 A	4 A

Shunt trip		**Type**	**S 2C-A1 U**	**S 2C-A2 U**
Rated voltage	AC DC	V V	12 ... 60 12 ... 60	110 ... 415 110 ... 250
Max. release duration		ms	<10	<10
Min. release voltage	AC DC	V V	7 10	55 80
Consumption on release	AC DC	VA VA	40 ... 200 40 ... 200	55 ... 210 55 ... 110
Coil resistance		Ω	3.7	225
Terminals		mm²	16	16
Tightening torque		Nm	2	2
Dimensions (H x D x W)		mm	100 x 69 x 17.5	100 x 69 x 17.5

Undervoltage release		**Type**	**S 2C-UA 12 DC**	**S 2C-UA 24 AC**	**S 2C-UA 24 DC**	**S 2C-UA 48 AC**	**S 2C-UA 48 DC**	**S 2C-UA 110 AC**	**S 2C-UA 110 DC**	**S 2C-UA 230 AC**	**S 2C-UA 230 DC**	**S 2C-UA 400 AC**
Standards			IEC/EN 60947-1									
Rated voltage	AC DC	V V	12	24	24	48	48	110	110	230	230	400
Frequency		Hz	50 ... 60									
Release trip		V	0.35 UnOVO 0.7 Un									
Terminals		mm²	2 x 1.5									
Consumption		VA	0.2	3.6	2	3.6	2.1	3.5	2.2	3.7	2.3	2.4
R esistance to corrosion		°C/RH	constant atmosphere: 23/83 – 40/93 – 55/20; variable atmosphere: 25/95 – 40/93									
Protection degree			IPXXB / IP2X									
Tightening torque		Nm	0.4									
Dimensions (H x D x W)		mm	85 x 69 x 17.5									

Miniature Moulded Case Circuit Breakers S 200 U and S 200 UP series acc. to UL 489, CSA 22.2 No. 5

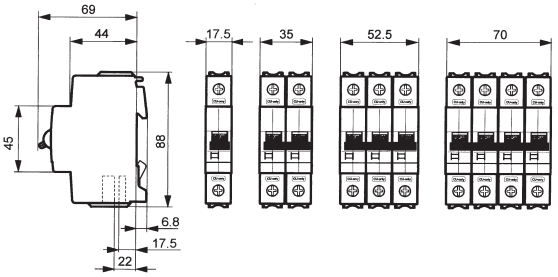
Short circuit rupturing capacity

series		alternating current				Back-up ①
trip characteristic		1phase		2/3phase		max.
rated current		120 V AC	240 V AC	240 V AC 120/240 V AC	400 V 277/480 V AC	Fuse
	A	kA/cos φ	kA/cos φ	kA/cos φ	kA/cos φ	gG/gL
S 200 U-K, Z	0.2/0.5 ... 2	unlimited				not required
	3	10/0.25	10/0.25	10/0.25		25 A
	4, 5					35 A
	6					63 A
	8					80 A
	10 ... 20					100 A
	25, 30					125 A
	32 ... 63					160 A
S 200 UP-K, Z	0.2/0.5 ... 2	unlimited				not required
	3	10/0.25	10/0.25	10/0.25	10/0.25	25 A
	4, 5					35 A
	6					63 A
	8					80 A
	10 ... 20					100 A
	25					125 A

① Back-up protection is necessary only if the solid short-circuit current to be expected at the place of installation may exceed the switching capacity indicated.

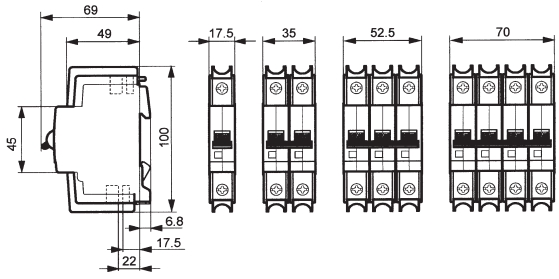
Dimension drawings in mm

S 200 U



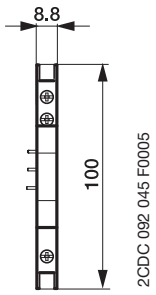
2CDC 022 291 F0004

S 200 UP



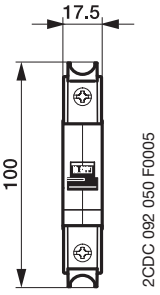
2CDC 022 218 F0004

S2C-H6RU, S2C-S6RU



2CDC 092 045 F0005

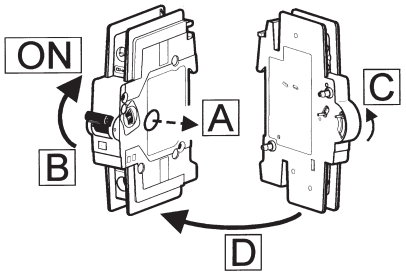
S2C-A..U



2CDC 092 050 F0005

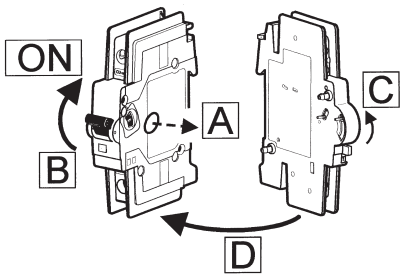
Mounting

built-on of a S2C-H6RU



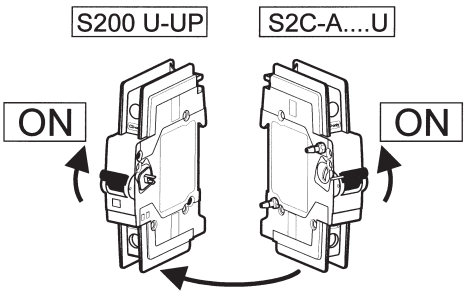
2CDC 022 290 F0004

built-on of a S2C-S6RU



2CDC 022 289 F0004

built-on of a S2C-A..U



2CDC 022 578 F0004

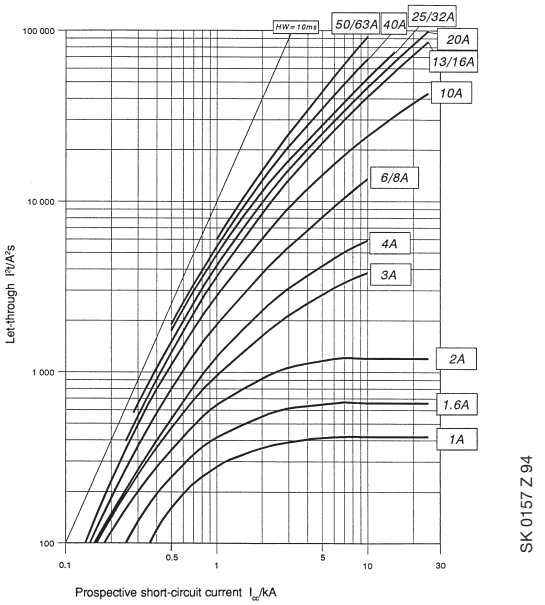
Internal resistance and power loss of the Miniature Moulded Case Circuit Breakers

Internal resistance per pole in mΩ, power loss per pole in W

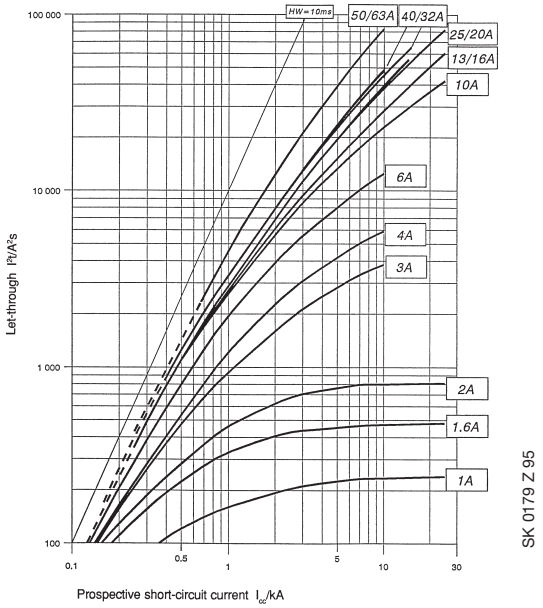
Type	rated current I_n A	device series K mΩ	W	Z mΩ	W
S 200 U **S 200 UP**	0.2	42500	1.7	–	–
	0.3	20000	1.8	–	–
	0.5	6340	1.6	10100	2.5
	0.75	2500	1.4	–	–
	1	1400	1.4	2270	2.3
	1.6	625	1.6	1100	2.8
	2	460	1.8	619	2.5
	3	211	1.9	211	1.9
	4	163	2.6	163	2.6
	6	67	2.4	104	3.7
	8	45	2.9	55	3.5
	10	19	1.9	21	2.1
	13	–	–	–	–
	16	8.2	2.1	10.9	2.8
	20	7.3	2.9	7.3	2.9
	25	5.6	3.5	5.6	3.5
	32	4.1	4.2	4.1	4.2
	40	4.0	6.4	4.0	6.4
	50	1.2	3.0	1.8	4.4
	63	1.3	5.2	1.3	5.2

Diagrams of let through values $I^2 t$ at 230/400 V AC

K



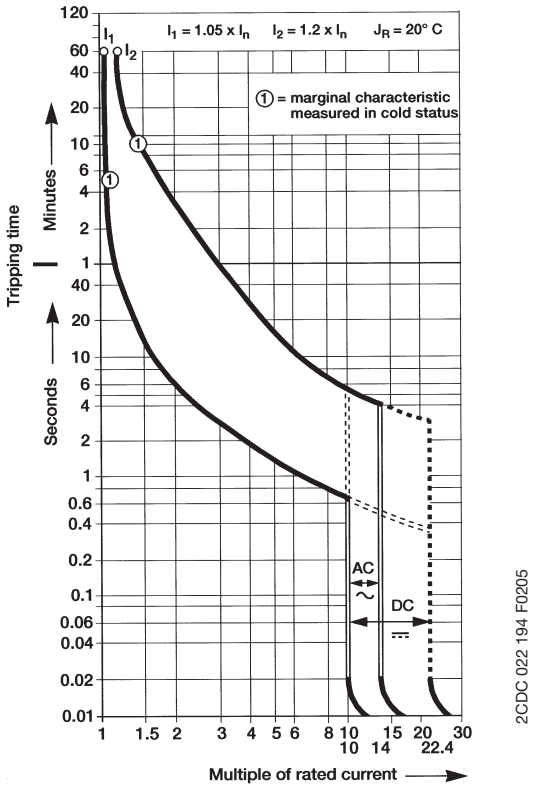
Z



Miniature Moulded Case Circuit Breakers S 200 U and S 200 UP series acc. to UL 489, CSA 22.2 No. 5

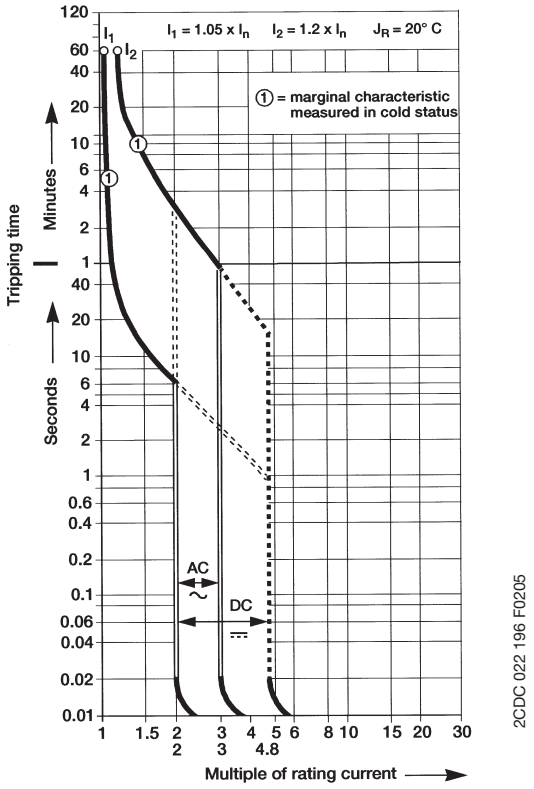
Tripping characteristic K

reference temperature 20 °C
The tripping device changes at a divergent ambient temperature by 6 % je 10 °C



Tripping characteristic Z

reference temperature 20 °C
The tripping device changes at a divergent ambient temperature by 6 % je 10 °C

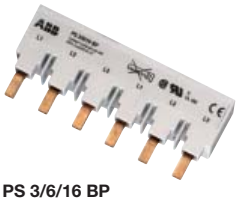


Max. operating current values depending on the ambient temperature for a cicruit-breaker in load circuit of characteristics type K and Z

K and Z	Ambient temperature T (°C/°F)											
I_n (A)	– 40	– 30	– 20	– 10	0	10	20	30	40	50	60	70
0.5	0.66	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	1.06	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	3.7	3.5	3.2	2.8	2.4
6.0	7.9	7.6	7.3	7.0	6.7	6.4	6.0	5.6	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	39.5	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	38.6

Mutual thermal interference when an even load is applied at the same time.
A correction factor must be taken into account in the case of butt-mounted MCBs and an evenly applied, high load:
2 and 3 MCBs multiply with factor 0.9 / 4 and 5 MCBs with factor 0.8 / 6 and more MCBs with factor 0.75
The interdependency becomes irrelevant if filling pieces or packing blocks FST...(9mm width) are used.

Busbars and accessories acc. to UL 489, CSA 22.2 No. 5



2CDC 061 423 F0004

PS 3/6/16 BP

SZ-BSK SK 0100 B99

conn. capac. mm²	No. of pins	Phases	Ordering details Type No.	Order code	bbn 40 16779 EAN	Cu-No.	Price 1 piece €	Price group	Weight 1 piece kg	Pack units piece
UL approved busbars										
Preassembled busbars not cutable										
1-phase busbars, pin distance 17.6 mm, UL 489										
16	6	1	**PS 1/6/16 BP**	2CDL 210 489 R1606	**64496 9**	0.035				1
16	12	1	**PS 1/12/16 BP**	2CDL 210 489 R1612	**64497 6**	0.070				1
16	18	1	**PS 1/18/16 BP**	2CDL 210 489 R1618	**64498 3**	0.105				1
2-phase busbars, pin distance 17.6 mm, UL 489										
16	6	2	**PS 2/6/16 BP**	2CDL 220 489 R1606	**64499 0**	0.070				1
16	12	2	**PS 2/12/16 BP**	2CDL 220 489 R1612	**64500 3**	0.140				1
16	18	2	**PS 2/18/16 BP**	2CDL 220 489 R1618	**64501 0**	0.210				1
3-phase busbars, pin distance 17.6 mm, UL 489										
16	6	3	**PS 3/6/16 BP**	2CDL 230 489 R1606	**64502 7**	0.110				1
16	12	3	**PS 3/12/16 BP**	2CDL 230 489 R1612	**64503 4**	0.221				1
16	18	3	**PS 3/18/16 BP**	2CDL 230 489 R1618	**64504 1**	0.332				1
Feeder terminals										
for S 200 U										
6 – 50	angled feeding		**SZ-Ast 50 U**	2CDL 200 489 R5001						
6 – 50	straight feeding		**SZ-Ast 55 U**	2CDL 200 489 R5002						
for S 200 UP										
6 – 35	angled feeding		**SZ-Ast 50 UP**	2CDL 200 489 R3511						
6 – 35	straight feeding		**SZ-Ast 55 UP**	2CDL 200 489 R3512						

conn. capac. mm²	module	Phases	Ordering details Type No.	Order code	bbn 40 16779 EAN	Price 1 piece €	Price group	Weight 1 piece kg	Pack units piece
Shock-protection caps for PS... busbar blocks									
		5-parts	**SZ-BSK**	2CDL 200 001 R0011	**42000 6**			0.003	10

Ring-tongue terminal SZ-Ast 55UP RT

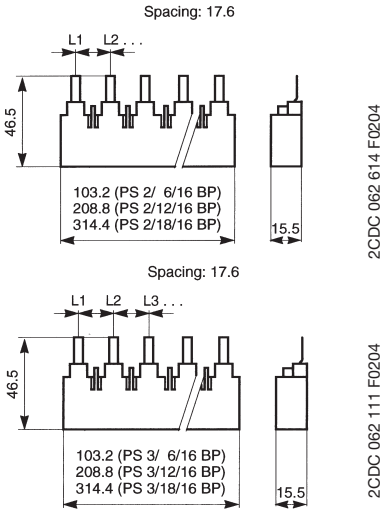
The terminal SZ-Ast 55UP RT is for connection of copper ring-tongue to our MCBs S200 UP.

Technical data	**SZ-Ast 55UP RT**
Max. electrical load	100 A
Max. operating voltage	600 V AC
Max. torque	3 Nm
Insulation	Cycoloy C 2100 UL–V0

Use single UL listed or CSA certified insulated ring terminal only with max. width 0.46 inch (12 mm).

			SZ-Ast 55UP RT	2CDL 201 489 R0012	**65011 3**			0.011	50

Dimension drawings in mm



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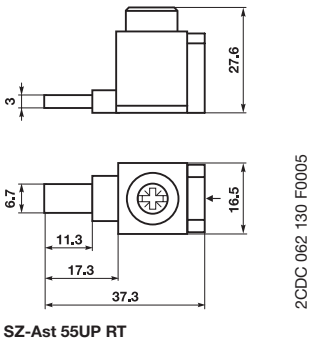
2CDC 062 111 F0204



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SZ-Ast 55UP RT

Miniature circuit-breakers for line and device protection as well as their respective areas of applications

Areas of application	S 200 S 200M	S 201 DC	S 280 UC S 200 P	S 220	S 500	S 700 WT 63 ①
industrial networks **690 V~** **1000 V~**				S 220	S 500 S 500 HV	WT 63
motor protection transformer	S 200-K		S 200P-K	S 220-K	S 500-K	S 700-K
USV photovoltaics 250 V⎓ to 1200 V⎓			S 280 UC		S 500 UC	
semicon-ductor control circuits 24 V DC	S 200-Z		S 200P-Z			
high discrimination						S 700
disconnector and main circuit breaker capabilities			S 200 P	S 220	S 500	S 700
USA, Canada 1077 **480 V AC** **500 V DC**	S 200		S 200 P S 280 UC	S 220	S 500	
USA, Canada 489 **60 V DC/AC** **240 V AC** **480Y/277 V AC**		S 201 DC	S 200 U S 200 UP			
nautical classificationen **GL LRS** **BV DNV**	S 200		S 200 P S 280 UC	S 220	S 500	S 700 (GL)
rated current switching capacity (230/400 V) I_{cn}/A I_n/A	6 000 10 000 ≤ 63	14 000 ≤ 25	25 000 ≤ 25	10 000 ≤ 32	50 000 ≤ 63	25 000 ≤ 100
innovative cost reduction **System pro *M* compact®**	S 200 S 200M	S 201 DC	S 200 P			

① as selective group or full automat

Notes

Notes

Pub. No. 2CDC 002 053 D0201

ABB STOTZ-KONTAKT GmbH

P.O. Box 10 16 80, 69006 Heidelberg, Germany
Eppelheimer Straße 82, 69123 Heidelberg, Germany
Telephone +49-(0) 62 21-7 01-0
Telefax +49-(0) 62 21-7 01-723

www.abb.de/stotz-kontakt