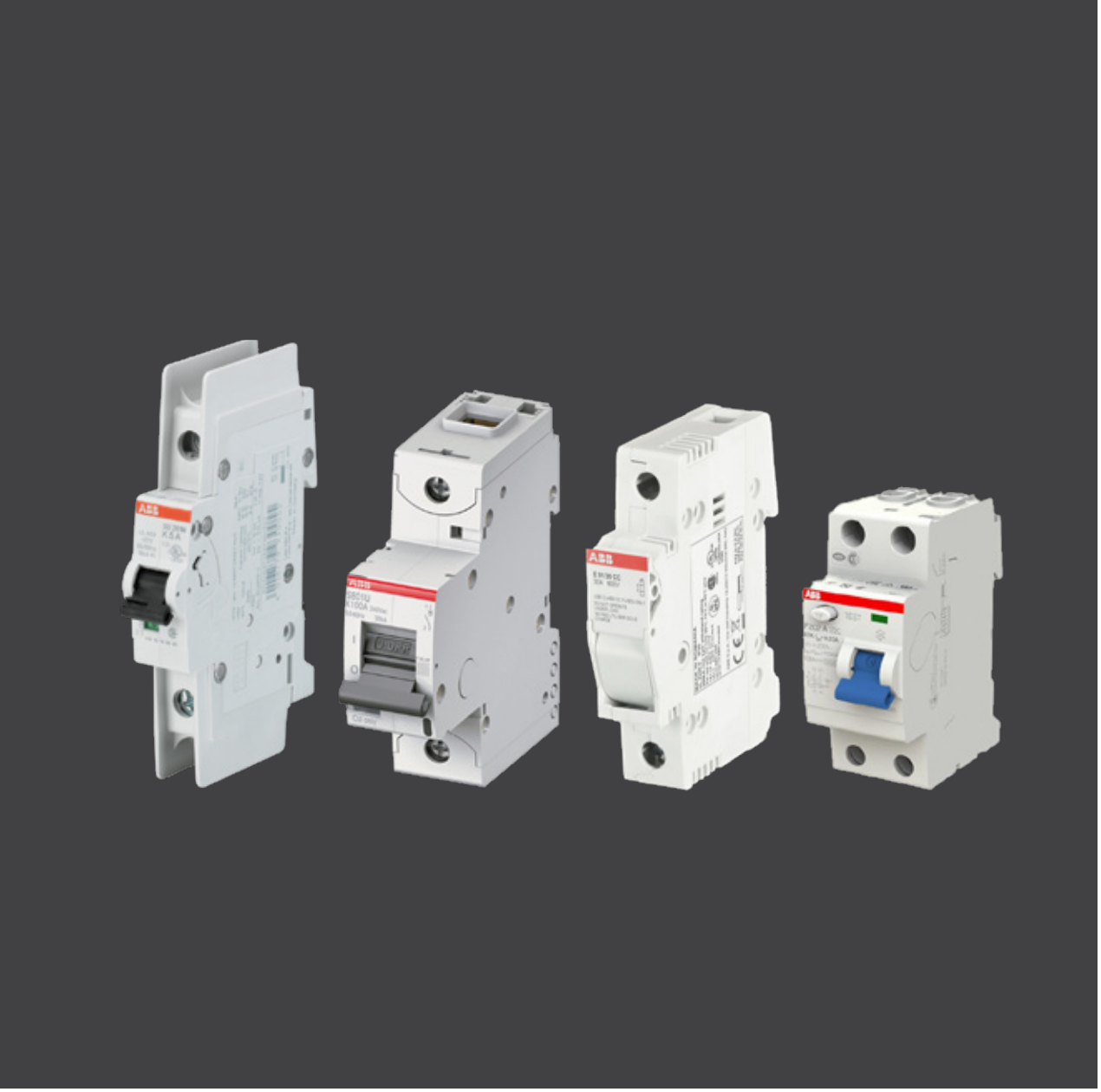


US CATALOG

SYSTEM PRO M COMPACT™

Circuit protection devices
on DIN rail

ENGINEERED
TO OUTRUN

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UL 489 SERIES

SU200M, SUP200M, SU200MR, SU200ML, SU200DC, S800U, S800UP, S800U-UCZ









Description

ABB's UL 489 miniature circuit breakers offer a compact solution for all branch circuit protection requirements. They are current-limiting according to UL 489 and DIN rail mounted.

ABB's UL 489 MCBs come in up to three trip curves to provide maximum circuit protection.

For the worldwide market, the breakers carry UL, CSA, IEC, CE and many other agency approvals and certifications.

Features

- UL current limiting
- Fast breaking time (2.3–2.5 ms)
- Bus connection system
- Wide range of accessories
- Available with variable depth handle mechanism
- CE certified and marked
- DIN rail mounting
- Finger-safe terminals
- Multi-function terminals
- Suitable for reverse feed (except for SU200DC)
- UL 489 listed branch circuit protective device, UL File #E212323 and E312425

	SU200M	SU200ML	SUP200M	SU200MR	SU200DC
Ampacities	0.2–63	0.2–63	1–63	0.2–63	1–63
Voltage	up to 480Y/ 277 V AC	230 V AC	480Y/277 V AC up to 40 A 240 V AC above 40 A	up to 480Y/ 277 V AC	125/250 V DC
	48/96 V DC	48/96 V DC	48/96 V DC	48/96 V DC	
Trip curves	Z, C, K	Z, C, K	Z, C, K	K	Z, K
Interrupt rating	10 kA	14 kA	14 kA	10 kA	14 kA
Auxiliary contacts	yes	yes	yes	yes	yes
Bell alarm	yes	yes	yes	yes	yes
Shunt trip	yes	yes	yes	yes	yes
Rotary handle mechanism	yes	yes	yes	yes	yes
LOTO adapter	yes	yes	yes	yes	yes
Busbars (cuttable)	yes	yes	yes	yes	yes
Busbars (fixed length)	yes	yes	yes	–	yes

	S800U	S800UP	S800U-UCZ
Amperage	10–100 A	20–70 A	10–80 A
Voltage	240 V AC	480Y/277 V AC	600 V DC
Poles	1, 2, 3, 4	3	4 in series
Trip curves	Z (B), K	K	Z (K)
Short circuit interrupt rating	30/50 kA (1-/multipole)	50 kA	10 kA
Auxiliary contacts	yes	yes	yes
Bell alarm	yes	yes	yes
Shunt trip	yes	yes	yes
Undervoltage release	yes	yes	yes
Rotary handle mechanism	yes	yes	yes
Motor operator	yes	yes	yes
Terminals	compression/ring tongue	compression/ring tongue	compression

SU200M-C

Branch circuit protection — UL 489, CSA 22.2 No. 5

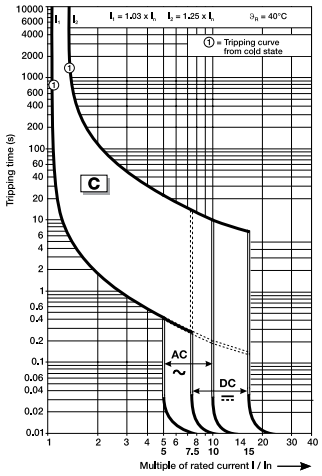








Diagram



Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.5	SU201M-C0.5	3	0.5	SU203M-C0.5
	1	SU201M-C1		1	SU203M-C1
	1.6	SU201M-C1.6		1.6	SU203M-C1.6
	2	SU201M-C2		2	SU203M-C2
	3	SU201M-C3		3	SU203M-C3
	4	SU201M-C4		4	SU203M-C4
	5	SU201M-C5		5	SU203M-C5
	6	SU201M-C6		6	SU203M-C6
	7	SU201M-C7		7	SU203M-C7
	8	SU201M-C8		8	SU203M-C8
	10	SU201M-C10		10	SU203M-C10
	13	SU201M-C13		13	SU203M-C13
	15	SU201M-C15		15	SU203M-C15
	16	SU201M-C16		16	SU203M-C16
	20	SU201M-C20		20	SU203M-C20
	25	SU201M-C25		25	SU203M-C25
	30	SU201M-C30		30	SU203M-C30
	32	SU201M-C32		32	SU203M-C32
	35	SU201M-C35		35	SU203M-C35
	40	SU201M-C40		40	SU203M-C40
	50	SU201M-C50		50	SU203M-C50
	60	SU201M-C60		60	SU203M-C60
	63	SU201M-C63		63	SU203M-C63
2	0.5	SU202M-C0.5	4	0.5	SU204M-C0.5
	1	SU202M-C1		1	SU204M-C1
	1.6	SU202M-C1.6		1.6	SU204M-C1.6
	2	SU202M-C2		2	SU204M-C2
	3	SU202M-C3		3	SU204M-C3
	4	SU202M-C4		4	SU204M-C4
	5	SU202M-C5		5	SU204M-C5
	6	SU202M-C6		6	SU204M-C6
	7	SU202M-C7		7	SU204M-C7
	8	SU202M-C8		8	SU204M-C8
	10	SU202M-C10		10	SU204M-C10
	13	SU202M-C13		13	SU204M-C13
	15	SU202M-C15		15	SU204M-C15
	16	SU202M-C16		16	SU204M-C16
	20	SU202M-C20		20	SU204M-C20
	25	SU202M-C25		25	SU204M-C25
	30	SU202M-C30		30	SU204M-C30
	32	SU202M-C32		32	SU204M-C32
	35	SU202M-C35		35	SU204M-C35
	40	SU202M-C40		40	SU204M-C40
	50	SU202M-C50		50	SU204M-C50
	60	SU202M-C60		60	SU204M-C60
	63	SU202M-C63		63	SU204M-C63

SU200M-K

Branch circuit protection — UL 489, CSA 22.2 No. 5

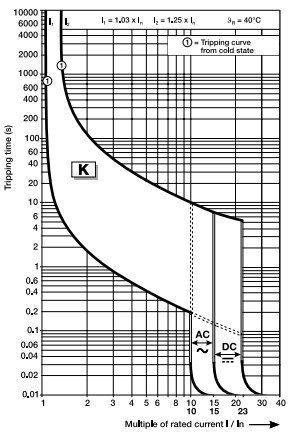








Diagram



Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.2	SU201M-K0.2	3	0.2	SU203M-K0.2
	0.3	SU201M-K0.3		0.3	SU203M-K0.3
	0.5	SU201M-K0.5		0.5	SU203M-K0.5
	0.75	SU201M-K0.75		0.75	SU203M-K0.75
	1	SU201M-K1		1	SU203M-K1
	1.6	SU201M-K1.6		1.6	SU203M-K1.6
	2	SU201M-K2		2	SU203M-K2
	3	SU201M-K3		3	SU203M-K3
	4	SU201M-K4		4	SU203M-K4
	5	SU201M-K5		5	SU203M-K5
	6	SU201M-K6		6	SU203M-K6
	7	SU201M-K7		7	SU203M-K7
	8	SU201M-K8		8	SU203M-K8
	10	SU201M-K10		10	SU203M-K10
	13	SU201M-K13		13	SU203M-K13
	15	SU201M-K15		15	SU203M-K15
	16	SU201M-K16		16	SU203M-K16
	20	SU201M-K20		20	SU203M-K20
	25	SU201M-K25		25	SU203M-K25
	30	SU201M-K30		30	SU203M-K30
	32	SU201M-K32		32	SU203M-K32
	35	SU201M-K35		35	SU203M-K35
	40	SU201M-K40		40	SU203M-K40
	50	SU201M-K50		50	SU203M-K50
	60	SU201M-K60		60	SU203M-K60
	63	SU201M-K63		63	SU203M-K63
2	0.2	SU202M-K0.2	4	0.2	SU204M-K0.2
	0.3	SU202M-K0.3		0.3	SU204M-K0.3
	0.5	SU202M-K0.5		0.5	SU204M-K0.5
	0.75	SU202M-K0.75		0.75	SU204M-K0.75
	1	SU202M-K1		1	SU204M-K1
	1.6	SU202M-K1.6		1.6	SU204M-K1.6
	2	SU202M-K2		2	SU204M-K2
	3	SU202M-K3		3	SU204M-K3
	4	SU202M-K4		4	SU204M-K4
	5	SU202M-K5		5	SU204M-K5
	6	SU202M-K6		6	SU204M-K6
	7	SU202M-K7		7	SU204M-K7
	8	SU202M-K8		8	SU204M-K8
	10	SU202M-K10		10	SU204M-K10
	13	SU202M-K13		13	SU204M-K13
	15	SU202M-K15		15	SU204M-K15
	16	SU202M-K16		16	SU204M-K16
	20	SU202M-K20		20	SU204M-K20
	25	SU202M-K25		25	SU204M-K25
	30	SU202M-K30		30	SU204M-K30
	32	SU202M-K32		32	SU204M-K32
	35	SU202M-K35		35	SU204M-K35
	40	SU202M-K40		40	SU204M-K40
	50	SU202M-K50		50	SU204M-K50
	60	SU202M-K60		60	SU204M-K60
	63	SU202M-K63		63	SU204M-K63

SU200M-Z

Branch circuit protection — UL 489, CSA 22.2 No. 5



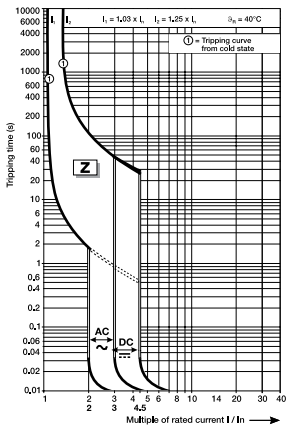






Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.5	SU201M-Z0.5	3	0.5	SU203M-Z0.5
	1	SU201M-Z1		1	SU203M-Z1
	1.6	SU201M-Z1.6		1.6	SU203M-Z1.6
	2	SU201M-Z2		2	SU203M-Z2
	3	SU201M-Z3		3	SU203M-Z3
	4	SU201M-Z4		4	SU203M-Z4
	5	SU201M-Z5		5	SU203M-Z5
	6	SU201M-Z6		6	SU203M-Z6
	7	SU201M-Z7		7	SU203M-Z7
	8	SU201M-Z8		8	SU203M-Z8
	10	SU201M-Z10		10	SU203M-Z10
	13	SU201M-Z13		13	SU203M-Z13
	15	SU201M-Z15		15	SU203M-Z15
	16	SU201M-Z16		16	SU203M-Z16
	20	SU201M-Z20		20	SU203M-Z20
	25	SU201M-Z25		25	SU203M-Z25
	30	SU201M-Z30		30	SU203M-Z30
	32	SU201M-Z32		32	SU203M-Z32
	35	SU201M-Z35		35	SU203M-Z35
	40	SU201M-Z40		40	SU203M-Z40
	50	SU201M-Z50		50	SU203M-Z50
	60	SU201M-Z60		60	SU203M-Z60
	63	SU201M-Z63		63	SU203M-Z63
2	0.5	SU202M-Z0.5	4	0.5	SU204M-Z0.5
	1	SU202M-Z1		1	SU204M-Z1
	1.6	SU202M-Z1.6		1.6	SU204M-Z1.6
	2	SU202M-Z2		2	SU204M-Z2
	3	SU202M-Z3		3	SU204M-Z3
	4	SU202M-Z4		4	SU204M-Z4
	5	SU202M-Z5		5	SU204M-Z5
	6	SU202M-Z6		6	SU204M-Z6
	7	SU202M-Z7		7	SU204M-Z7
	8	SU202M-Z8		8	SU204M-Z8
	10	SU202M-Z10		10	SU204M-Z10
	13	SU202M-Z13		13	SU204M-Z13
	15	SU202M-Z15		15	SU204M-Z15
	16	SU202M-Z16		16	SU204M-Z16
	20	SU202M-Z20		20	SU204M-Z20
	25	SU202M-Z25		25	SU204M-Z25
	30	SU202M-Z30		30	SU204M-Z30
	32	SU202M-Z32		32	SU204M-Z32
	35	SU202M-Z35		35	SU204M-Z35
	40	SU202M-Z40		40	SU204M-Z40
	50	SU202M-Z50		50	SU204M-Z50
	60	SU202M-Z60		60	SU204M-Z60
	63	SU202M-Z63		63	SU204M-Z63

Diagram



SU200ML-C

Branch circuit protection — UL 489, CSA 22.2 No. 5



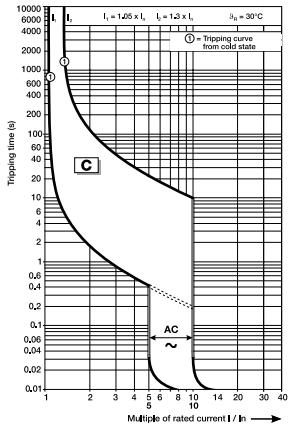






Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.5	SU201ML-C0,5	3	0.5	SU203ML-C0,5
	1	SU201ML-C1		1	SU203ML-C1
	1.6	SU201ML-C1,6		1.6	SU203ML-C1,6
	2	SU201ML-C2		2	SU203ML-C2
	3	SU201ML-C3		3	SU203ML-C3
	4	SU201ML-C4		4	SU203ML-C4
	5	SU201ML-C5		5	SU203ML-C5
	6	SU201ML-C6		6	SU203ML-C6
	7	SU201ML-C7		7	SU203ML-C7
	8	SU201ML-C8		8	SU203ML-C8
	10	SU201ML-C10		10	SU203ML-C10
	13	SU201ML-C13		13	SU203ML-C13
	15	SU201ML-C15		15	SU203ML-C15
	16	SU201ML-C16		16	SU203ML-C16
	20	SU201ML-C20		20	SU203ML-C20
	25	SU201ML-C25		25	SU203ML-C25
	30	SU201ML-C30		30	SU203ML-C30
	32	SU201ML-C32		32	SU203ML-C32
	35	SU201ML-C35		35	SU203ML-C35
	40	SU201ML-C40		40	SU203ML-C40
	50	SU201ML-C50		50	SU203ML-C50
	60	SU201ML-C60		60	SU203ML-C60
	63	SU201ML-C63		63	SU203ML-C63
2	0.5	SU202ML-C0,5	4	0.5	SU204ML-C0,5
	1	SU202ML-C1		1	SU204ML-C1
	1.6	SU202ML-C1,6		1.6	SU204ML-C1,6
	2	SU202ML-C2		2	SU204ML-C2
	3	SU202ML-C3		3	SU204ML-C3
	4	SU202ML-C4		4	SU204ML-C4
	5	SU202ML-C5		5	SU204ML-C5
	6	SU202ML-C6		6	SU204ML-C6
	7	SU202ML-C7		7	SU204ML-C7
	8	SU202ML-C8		8	SU204ML-C8
	10	SU202ML-C10		10	SU204ML-C10
	13	SU202ML-C13		13	SU204ML-C13
	15	SU202ML-C15		15	SU204ML-C15
	16	SU202ML-C16		16	SU204ML-C16
	20	SU202ML-C20		20	SU204ML-C20
	25	SU202ML-C25		25	SU204ML-C25
	30	SU202ML-C30		30	SU204ML-C30
	32	SU202ML-C32		32	SU204ML-C32
	35	SU202ML-C35		35	SU204ML-C35
	40	SU202ML-C40		40	SU204ML-C40
	50	SU202ML-C50		50	SU204ML-C50
	60	SU202ML-C60		60	SU204ML-C60
	63	SU202ML-C63		63	SU204ML-C63

Diagram



SU200ML-K

Branch circuit protection — UL 489, CSA 22.2 No. 5



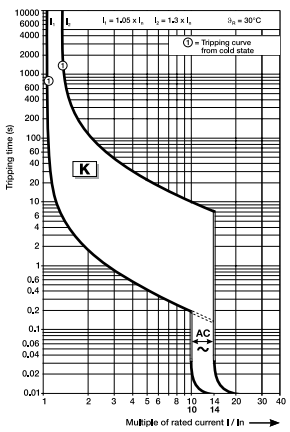






Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.2	SU201ML-K0,2	3	0.2	SU203ML-K0,2
	0.3	SU201ML-K0,3		0.3	SU203ML-K0,3
	0.5	SU201ML-K0,5		0.5	SU203ML-K0,5
	0.75	SU201ML-K0,75		0.75	SU203ML-K0,75
	1	SU201ML-K1		1	SU203ML-K1
	1.6	SU201ML-K1,6		1.6	SU203ML-K1,6
	2	SU201ML-K2		2	SU203ML-K2
	3	SU201ML-K3		3	SU203ML-K3
	4	SU201ML-K4		4	SU203ML-K4
	5	SU201ML-K5		5	SU203ML-K5
	6	SU201ML-K6		6	SU203ML-K6
	7	SU201ML-K7		7	SU203ML-K7
	8	SU201ML-K8		8	SU203ML-K8
	10	SU201ML-K10		10	SU203ML-K10
	13	SU201ML-K13		13	SU203ML-K13
	15	SU201ML-K15		15	SU203ML-K15
	16	SU201ML-K16		16	SU203ML-K16
	20	SU201ML-K20		20	SU203ML-K20
	25	SU201ML-K25		25	SU203ML-K25
	30	SU201ML-K30		30	SU203ML-K30
	32	SU201ML-K32		32	SU203ML-K32
	35	SU201ML-K35		35	SU203ML-K35
	40	SU201ML-K40		40	SU203ML-K40
	50	SU201ML-K50		50	SU203ML-K50
	60	SU201ML-K60		60	SU203ML-K60
	63	SU201ML-K63		63	SU203ML-K63
2	0.2	SU202ML-K0,2	4	0.2	SU204ML-K0,2
	0.3	SU202ML-K0,3		0.3	SU204ML-K0,3
	0.5	SU202ML-K0,5		0.5	SU204ML-K0,5
	0.75	SU202ML-K0,75		0.75	SU204ML-K0,75
	1	SU202ML-K1		1	SU204ML-K1
	1.6	SU202ML-K1,6		1.6	SU204ML-K1,6
	2	SU202ML-K2		2	SU204ML-K2
	3	SU202ML-K3		3	SU204ML-K3
	4	SU202ML-K4		4	SU204ML-K4
	5	SU202ML-K5		5	SU204ML-K5
	6	SU202ML-K6		6	SU204ML-K6
	7	SU202ML-K7		7	SU204ML-K7
	8	SU202ML-K8		8	SU204ML-K8
	10	SU202ML-K10		10	SU204ML-K10
	13	SU202ML-K13		13	SU204ML-K13
	15	SU202ML-K15		15	SU204ML-K15
	16	SU202ML-K16		16	SU204ML-K16
	20	SU202ML-K20		20	SU204ML-K20
	25	SU202ML-K25		25	SU204ML-K25
	30	SU202ML-K30		30	SU204ML-K30
	32	SU202ML-K32		32	SU204ML-K32
	35	SU202ML-K35		35	SU204ML-K35
	40	SU202ML-K40		40	SU204ML-K40
	50	SU202ML-K50		50	SU204ML-K50
	60	SU202ML-K60		60	SU204ML-K60
	63	SU202ML-K63		63	SU204ML-K63

Diagram



SU200ML-Z

Branch circuit protection — UL 489, CSA 22.2 No. 5



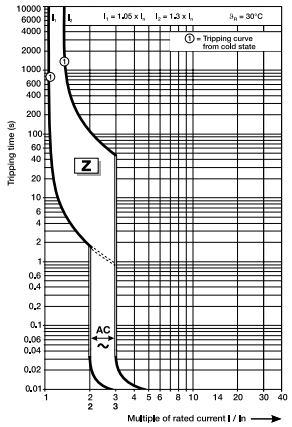






Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.5	SU201ML-Z0,5	3	0.5	SU203ML-Z0,5
	1	SU201ML-Z1		1	SU203ML-Z1
	1.6	SU201ML-Z1,6		1.0	SU203ML-Z1,6
	2	SU201ML-Z2		2	SU203ML-Z2
	3	SU201ML-Z3		3	SU203ML-Z3
	4	SU201ML-Z4		4	SU203ML-Z4
	5	SU201ML-Z5		5	SU203ML-Z5
	6	SU201ML-Z6		6	SU203ML-Z6
	7	SU201ML-Z7		7	SU203ML-Z7
	8	SU201ML-Z8		8	SU203ML-Z8
	10	SU201ML-Z10		10	SU203ML-Z10
	13	SU201ML-Z13		13	SU203ML-Z13
	15	SU201ML-Z15		15	SU203ML-Z15
	16	SU201ML-Z16		16	SU203ML-Z16
	20	SU201ML-Z20		20	SU203ML-Z20
	25	SU201ML-Z25		25	SU203ML-Z25
	30	SU201ML-Z30		30	SU203ML-Z30
	32	SU201ML-Z32		32	SU203ML-Z32
	35	SU201ML-Z35		35	SU203ML-Z35
	40	SU201ML-Z40		40	SU203ML-Z40
	50	SU201ML-Z50		50	SU203ML-Z50
	60	SU201ML-Z60		60	SU203ML-Z60
	63	SU201ML-Z63		63	SU203ML-Z63
2	0.5	SU202ML-Z0,5	4	0.5	SU204ML-Z0,5
	1	SU202ML-Z1		1	SU204ML-Z1
	1.6	SU202ML-Z1,6		1.6	SU204ML-Z1,6
	2	SU202ML-Z2		2	SU204ML-Z2
	3	SU202ML-Z3		3	SU204ML-Z3
	4	SU202ML-Z4		4	SU204ML-Z4
	5	SU202ML-Z5		5	SU204ML-Z5
	6	SU202ML-Z6		6	SU204ML-Z6
	7	SU202ML-Z7		7	SU204ML-Z7
	8	SU202ML-Z8		8	SU204ML-Z8
	10	SU202ML-Z10		10	SU204ML-Z10
	13	SU202ML-Z13		13	SU204ML-Z13
	15	SU202ML-Z15		15	SU204ML-Z15
	16	SU202ML-Z16		16	SU204ML-Z16
	20	SU202ML-Z20		20	SU204ML-Z20
	25	SU202ML-Z25		25	SU204ML-Z25
	30	SU202ML-Z30		30	SU204ML-Z30
	32	SU202ML-Z32		32	SU204ML-Z32
	35	SU202ML-Z35		35	SU204ML-Z35
	40	SU202ML-Z40		40	SU204ML-Z40
	50	SU202ML-Z50		50	SU204ML-Z50
	60	SU202ML-Z60		60	SU204ML-Z60
	63	SU202ML-Z63		63	SU204ML-Z63

Diagram



SUP200M-C

Branch circuit protection — UL 489, CSA 22.2 No. 5

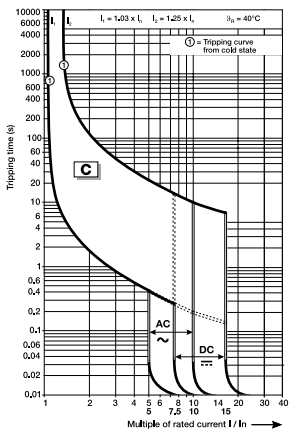






Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	1	SUP201M-C1	3	1	SUP203M-C1
	1.6	SUP201M-C1.6		1.6	SUP203M-C1.6
	2	SUP201M-C2		2	SUP203M-C2
	3	SUP201M-C3		3	SUP203M-C3
	4	SUP201M-C4		4	SUP203M-C4
	5	SUP201M-C5		5	SUP203M-C5
	6	SUP201M-C6		6	SUP203M-C6
	7	SUP201M-C7		7	SUP203M-C7
	8	SUP201M-C8		8	SUP203M-C8
	10	SUP201M-C10		10	SUP203M-C10
	13	SUP201M-C13		13	SUP203M-C13
	15	SUP201M-C15		15	SUP203M-C15
	16	SUP201M-C16		16	SUP203M-C16
	20	SUP201M-C20		20	SUP203M-C20
	25	SUP201M-C25		25	SUP203M-C25
	30	SUP201M-C30		30	SUP203M-C30
	32	SUP201M-C32		32	SUP203M-C32
	35	SUP201M-C35		35	SUP203M-C35
	40	SUP201M-C40		40	SUP203M-C40
	50	SUP201M-C50		50	SUP203M-C50
	60	SUP201M-C60		60	SUP203M-C60
	63	SUP201M-C63		63	SUP203M-C63
2	1	SUP202M-C1			
	1.6	SUP202M-C1.6			
	2	SUP202M-C2			
	3	SUP202M-C3			
	4	SUP202M-C4			
	5	SUP202M-C5			
	6	SUP202M-C6			
	7	SUP202M-C7			
	8	SUP202M-C8			
	10	SUP202M-C10			
	13	SUP202M-C13			
	15	SUP202M-C15			
	16	SUP202M-C16			
	20	SUP202M-C20			
	25	SUP202M-C25			
	30	SUP202M-C30			
	32	SUP202M-C32			
	35	SUP202M-C35			
	40	SUP202M-C40			
	50	SUP202M-C50			
	60	SUP202M-C60			
	63	SUP202M-C63			

Diagram

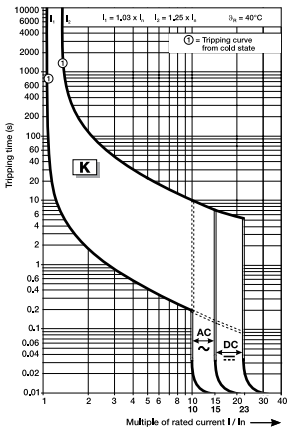


SUP200M-K

Branch circuit protection — UL 489, CSA 22.2 No. 5

	Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
	1	1	SUP201M-K1	3	1	SUP203M-K1
		1.6	SUP201M-K1.6		1.6	SUP203M-K1.6
		2	SUP201M-K2		2	SUP203M-K2
		3	SUP201M-K3		3	SUP203M-K3
		4	SUP201M-K4		4	SUP203M-K4
		5	SUP201M-K5		5	SUP203M-K5
		6	SUP201M-K6		6	SUP203M-K6
		7	SUP201M-K7		7	SUP203M-K7
		8	SUP201M-K8		8	SUP203M-K8
		10	SUP201M-K10		10	SUP203M-K10
		13	SUP201M-K13		13	SUP203M-K13
		15	SUP201M-K15		15	SUP203M-K15
		16	SUP201M-K16		16	SUP203M-K16
		20	SUP201M-K20		20	SUP203M-K20
		25	SUP201M-K25		25	SUP203M-K25
		30	SUP201M-K30		30	SUP203M-K30
		32	SUP201M-K32		32	SUP203M-K32
		35	SUP201M-K35		35	SUP203M-K35
		40	SUP201M-K40		40	SUP203M-K40
		50	SUP201M-K50		50	SUP203M-K50
		60	SUP201M-K60		60	SUP203M-K60
		63	SUP201M-K63		63	SUP203M-K63
	2	1	SUP202M-K1			
		1.6	SUP202M-K1.6			
		2	SUP202M-K2			
		3	SUP202M-K3			
		4	SUP202M-K4			
		5	SUP202M-K5			
		6	SUP202M-K6			
		7	SUP202M-K7			
		8	SUP202M-K8			
		10	SUP202M-K10			
		13	SUP202M-K13			
		15	SUP202M-K15			
		16	SUP202M-K16			
		20	SUP202M-K20			
		25	SUP202M-K25			
		30	SUP202M-K30			
		32	SUP202M-K32			
		35	SUP202M-K35			
		40	SUP202M-K40			
		50	SUP202M-K50			
		60	SUP202M-K60			
		63	SUP202M-K63			

Diagram



SUP200M-Z

Branch circuit protection — UL 489, CSA 22.2 No. 5

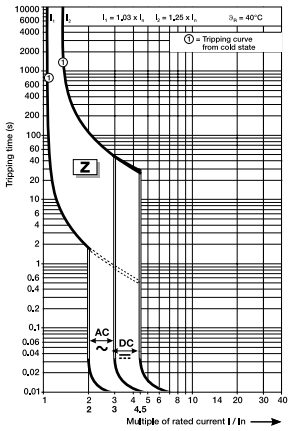






Number of poles	Rated current I_n A	Cat. no.
1	1	SUP201M-Z1
	1.6	SUP201M-Z1.6
	2	SUP201M-Z2
	3	SUP201M-Z3
	4	SUP201M-Z4
	5	SUP201M-Z5
	6	SUP201M-Z6
	7	SUP201M-Z7
	8	SUP201M-Z8
	10	SUP201M-Z10
	15	SUP201M-Z15
	16	SUP201M-Z16
	20	SUP201M-Z20
	25	SUP201M-Z25
	30	SUP201M-Z30
	32	SUP201M-Z32
	35	SUP201M-Z35
	40	SUP201M-Z40
	50	SUP201M-Z50
	60	SUP201M-Z60
	63	SUP201M-Z63
2	1	SUP202M-Z1
	1.6	SUP202M-Z1.6
	2	SUP202M-Z2
	3	SUP202M-Z3
	4	SUP202M-Z4
	5	SUP202M-Z5
	6	SUP202M-Z6
	7	SUP202M-Z7
	8	SUP202M-Z8
	10	SUP202M-Z10
	15	SUP202M-Z15
	16	SUP202M-Z16
	20	SUP202M-Z20
	25	SUP202M-Z25
	30	SUP202M-Z30
	32	SUP202M-Z32
	35	SUP202M-Z35
	40	SUP202M-Z40
	50	SUP202M-Z50
	60	SUP202M-Z60
	63	SUP202M-Z63
3	1	SUP203M-Z1
	1.6	SUP203M-Z1.6
	2	SUP203M-Z2
	3	SUP203M-Z3
	4	SUP203M-Z4
	5	SUP203M-Z5
	6	SUP203M-Z6
	7	SUP203M-Z7
	8	SUP203M-Z8
	10	SUP203M-Z10
	15	SUP203M-Z15
	16	SUP203M-Z16
	20	SUP203M-Z20
	25	SUP203M-Z25
	30	SUP203M-Z30
	32	SUP203M-Z32
	35	SUP203M-Z35
	40	SUP203M-Z40
	50	SUP203M-Z50
	60	SUP203M-Z6
	63	SUP203M-Z63

Diagram



SU200MR-K with ring tongue terminals

Branch circuit protection — UL 489, CSA 22.2 No. 5

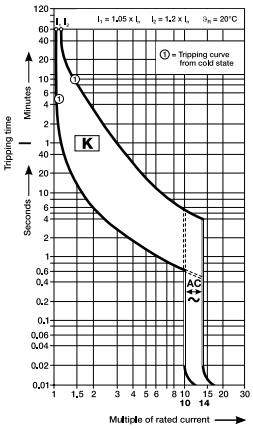








Diagram



Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.2	SU201MR-K0.2	3	0.2	SU203MR-K0.2
	0.3	SU201MR-K0.3		0.3	SU203MR-K0.3
	0.5	SU201MR-K0.5		0.5	SU203MR-K0.5
	0.75	SU201MR-K0.75		0.75	SU203MR-K0.75
	1	SU201MR-K1		1	SU203MR-K1
	1.6	SU201MR-K1.6		1.6	SU203MR-K1.6
	2	SU201MR-K2		2	SU203MR-K2
	3	SU201MR-K3		3	SU203MR-K3
	4	SU201MR-K4		4	SU203MR-K4
	5	SU201MR-K5		5	SU203MR-K5
	6	SU201MR-K6		6	SU203MR-K6
	8	SU201MR-K8		8	SU203MR-K8
	10	SU201MR-K10		10	SU203MR-K10
	13	SU201MR-K13		13	SU203MR-K13
	15	SU201MR-K15		15	SU203MR-K15
	16	SU201MR-K16		16	SU203MR-K16
	20	SU201MR-K20		20	SU203MR-K20
	25	SU201MR-K25		25	SU203MR-K25
	30	SU201MR-K30		30	SU203MR-K30
	32	SU201MR-K32		32	SU203MR-K32
	35	SU201MR-K35		35	SU203MR-K35
	40	SU201MR-K40		40	SU203MR-K40
	50	SU201MR-K50		50	SU203MR-K50
	60	SU201MR-K60		60	SU203MR-K60
	63	SU201MR-K63		63	SU203MR-K63
2	0.2	SU202MR-K0.2	4	0.2	SU204MR-K0.2
	0.3	SU202MR-K0.3		0.3	SU204MR-K0.3
	0.5	SU202MR-K0.5		0.5	SU204MR-K0.5
	0.75	SU202MR-K0.75		0.75	SU204MR-K0.75
	1	SU202MR-K1		1	SU204MR-K1
	1.6	SU202MR-K1.6		1.6	SU204MR-K1.6
	2	SU202MR-K2		2	SU204MR-K2
	3	SU202MR-K3		3	SU204MR-K3
	4	SU202MR-K4		4	SU204MR-K4
	5	SU202MR-K5		5	SU204MR-K5
	6	SU202MR-K6		6	SU204MR-K6
	8	SU202MR-K8		8	SU204MR-K8
	10	SU202MR-K10		10	SU204MR-K10
	13	SU202MR-K13		13	SU204MR-K13
	15	SU202MR-K15		15	SU204MR-K15
	16	SU202MR-K16		16	SU204MR-K16
	20	SU202MR-K20		20	SU204MR-K20
	25	SU202MR-K25		25	SU204MR-K25
	30	SU202MR-K30		30	SU204MR-K30
	32	SU202MR-K32		32	SU204MR-K32
	35	SU202MR-K35		35	SU204MR-K35
	40	SU202MR-K40		40	SU204MR-K40
	50	SU202MR-K50		50	SU204MR-K50
	60	SU202MR-K60		60	SU204MR-K60
	63	SU202MR-K63		63	SU204MR-K63

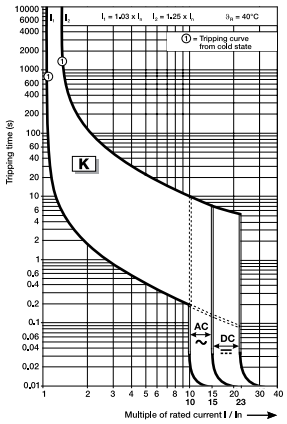
SU200DC-K

Branch circuit protection — UL 489, CSA 22.2 No. 5





Diagram



Number of poles	Rated current I_n A	Cat. no.
1	0.2	SU201DC-K0.2
	0.3	SU201DC-K0.3
	0.5	SU201DC-K0.5
	0.75	SU201DC-K0.75
	1	SU201DC-K1
	1.6	SU201DC-K1.6
	2	SU201DC-K2
	3	SU201DC-K3
	4	SU201DC-K4
	5	SU201DC-K5
	6	SU201DC-K6
	8	SU201DC-K8
	10	SU201DC-K10
	13	SU201DC-K13
	15	SU201DC-K15
	16	SU201DC-K16
	20	SU201DC-K20
	25	SU201DC-K25
	30	SU201DC-K30
	32	SU201DC-K32
	35	SU201DC-K35
	40	SU201DC-K40
	50	SU201DC-K50
	60	SU201DC-K60
	63	SU201DC-K63
2	0.2	SU202DC-K0.2
	0.3	SU202DC-K0.3
	0.5	SU202DC-K0.5
	0.75	SU202DC-K0.75
	1	SU202DC-K1
	1.6	SU202DC-K1.6
	2	SU202DC-K2
	3	SU202DC-K3
	4	SU202DC-K4
	5	SU202DC-K5
	6	SU202DC-K6
	8	SU202DC-K8
	10	SU202DC-K10
	13	SU202DC-K13
	15	SU202DC-K15
	16	SU202DC-K16
	20	SU202DC-K20
	25	SU202DC-K25
	30	SU202DC-K30
	32	SU202DC-K32
	35	SU202DC-K35
	40	SU202DC-K40
	50	SU202DC-K50
	60	SU202DC-K60
	63	SU202DC-K63

Note: Standard UL 489 (only DC; please note polarity of device).

SU200DC-Z

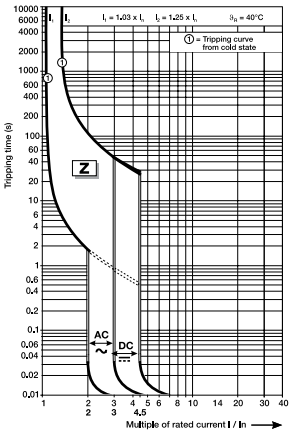
Branch circuit protection — UL 489, CSA 22.2 No. 5





Number of poles	Rated current I_n A	Cat. no.
1	0.5	SU201DC-Z0.5
	1	SU201DC-Z1
	1.6	SU201DC-Z1.6
	2	SU201DC-Z2
	3	SU201DC-Z3
	4	SU201DC-Z4
	5	SU201DC-Z5
	6	SU201DC-Z6
	8	SU201DC-Z8
	10	SU201DC-Z10
	13	SU201DC-Z13
	15	SU201DC-Z15
	16	SU201DC-Z16
	20	SU201DC-Z20
	25	SU201DC-Z25
	30	SU201DC-Z30
	32	SU201DC-Z32
	35	SU201DC-Z35
	40	SU201DC-Z40
	50	SU201DC-Z50
	60	SU201DC-Z60
	63	SU201DC-Z63
2	0.5	SU202DC-K0.5
	1	SU202DC-Z1
	1.6	SU202DC-Z1.6
	2	SU202DC-Z2
	3	SU202DC-Z3
	4	SU202DC-Z4
	5	SU202DC-Z5
	6	SU202DC-Z6
	8	SU202DC-Z8
	10	SU202DC-Z10
	13	SU202DC-Z13
	15	SU202DC-Z15
	16	SU202DC-Z16
	20	SU202DC-Z20
	25	SU202DC-Z25
	30	SU202DC-Z30
	35	SU202DC-Z35
	32	SU202DC-Z32
	40	SU202DC-Z40
	50	SU202DC-Z50
	60	SU202DC-Z60
	63	SU202DC-Z63

Diagram



Note: Standard UL 489 (only DC; please note polarity of device).

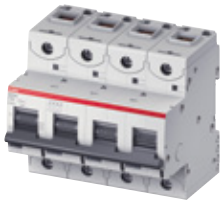
S800U-K, 240 V AC

Branch circuit protection — UL 489



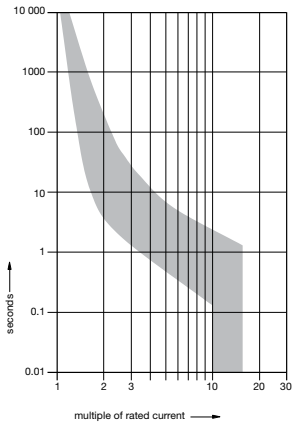






Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	10	S801U-K10	3	10	S803U-K10
	15	S801U-K15		15	S803U-K15
	20	S801U-K20		20	S803U-K20
	25	S801U-K25		25	S803U-K25
	30	S801U-K30		30	S803U-K30
	40	S801U-K40		40	S803U-K40
	50	S801U-K50		50	S803U-K50
	60	S801U-K60		60	S803U-K60
	70	S801U-K70		70	S803U-K70
	80	S801U-K80		80	S803U-K80
	90	S801U-K90		90	S803U-K90
	100	S801U-K100		100	S803U-K100
2	10	S802U-K10	4	10	S804U-K10
	15	S802U-K15		15	S804U-K15
	20	S802U-K20		20	S804U-K20
	25	S802U-K25		25	S804U-K25
	30	S802U-K30		30	S804U-K30
	40	S802U-K40		40	S804U-K40
	50	S802U-K50		50	S804U-K50
	60	S802U-K60		60	S804U-K60
	70	S802U-K70		70	S804U-K70
	80	S802U-K80		80	S804U-K80
	90	S802U-K90		90	S804U-K90
	100	S802U-K100		100	S804U-K100

Diagram



Available with ring tongue terminals upon request.

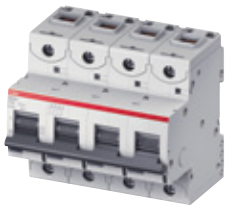
S800U-Z, 240 V AC

Branch circuit protection — UL 489



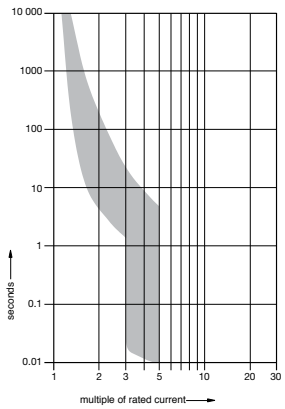






Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	10	S801U-Z10	3	10	S803U-Z10
	15	S801U-Z15		15	S803U-Z15
	20	S801U-Z20		20	S803U-Z20
	25	S801U-Z25		25	S803U-Z25
	30	S801U-Z30		30	S803U-Z30
	40	S801U-Z40		40	S803U-Z40
	50	S801U-Z50		50	S803U-Z50
	60	S801U-Z60		60	S803U-Z60
	70	S801U-Z70		70	S803U-Z70
	80	S801U-Z80		80	S803U-Z80
	90	S801U-Z90		90	S803U-Z90
	100	S801U-Z100		100	S803U-Z100
2	10	S802U-Z10	4	10	S804U-Z10
	15	S802U-Z15		15	S804U-Z15
	20	S802U-Z20		20	S804U-Z20
	25	S802U-Z25		25	S804U-Z25
	30	S802U-Z30		30	S804U-Z30
	40	S802U-Z40		40	S804U-Z40
	50	S802U-Z50		50	S804U-Z50
	60	S802U-Z60		60	S804U-Z60
	70	S802U-Z70		70	S804U-Z70
	80	S802U-Z80		80	S804U-Z80
	90	S802U-Z90		90	S804U-Z90
	100	S802U-Z100		100	S804U-Z100

Diagram



Available with ring tongue terminals upon request.

S800UP-K, 480Y/277 V AC

Branch circuit protection — UL 489

ORDERING INFORMATION



Rated current (A)	Cat. no.
20	S803UP-K20
25	S803UP-K25
30	S803UP-K30
40	S803UP-K40
50	S803UP-K50
60	S803UP-K60
70	S803UP-K70

S804U-UCZ, 600 V DC

Branch circuit protection — UL 489

ORDERING INFORMATION



Rated current (A)	Cat. no.
10	S804U-UCZ10
15	S804U-UCZ15
20	S804U-UCZ20
25	S804U-UCZ25
30	S804U-UCZ30
40	S804U-UCZ40
50	S804U-UCZ50
60	S804U-UCZ60
70	S804U-UCZ70
80	S804U-UCZ80

Accessories

SU200M, SU200ML, SUP200M, SU200MR and SU200DC — UL 489, CSA 22.2 No. 5

Auxiliary contacts

The auxiliary contacts will signal whether the breaker is in the on or off position.

	Description	Cat. no.
	For field mounting: right side	S2C-H6RU

Shunt trip

For remote tripping of breaker, a shunt trip device can be added to the MCB. The solenoid device opens the breaker after control voltage is applied.

	Description	Cat. no.
S2C-A...U 	For field mounting: right side 12...110 V AC/DC	S2C-A1U
	For field mounting: right side 110...415 V AC 110...250 V DC	S2C-A2U

Note: For shafts and handles, refer to parts in the Disconnect Switch and MCCB section.

Bell alarm

The bell alarm includes a set of contacts that will only signal when the breaker has tripped. Typically, the contacts would be connected to an alarm or bell to signal the operator that an over-current trip has occurred. The bell alarm also includes a test button for testing the alarm contacts without opening the breaker.

	Description	Cat. no.
	For field mounting: right side	S2C-S6RU

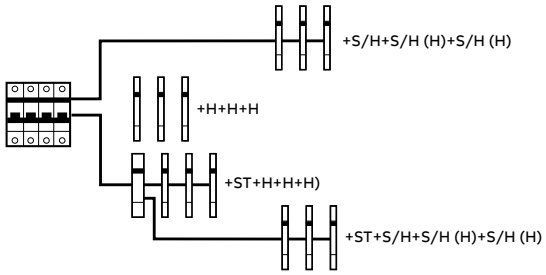
Possible mounting arrangements of MCB accessories

LEGEND

Auxiliary contact	H
Bell alarm/auxiliary contact	S/H
Bell alarm/auxiliary contact used as auxiliary contact	S/H (H)
Shunt trip	ST

Note: Right-hand mount accessories cannot be used in conjunction with S2C-DH, rotary operating mechanism.

Diagram



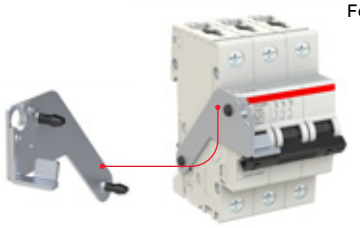
Accessories

SU200M, SU200ML, SUP200M, SU200MR and SU200DC — UL 489, CSA 22.2 No. 5

Rotary operating mechanism
For through-the-door operation with a pistol or selector handle in applications where the breaker is also used as a main disconnecting means (disconnect switch).

	Description	Cat. no.
	Rotary handle mechanism can be used with any 5 or 6 mm shaft and any kind of handle (for example, selector handles, pistol handles)	S2C-DH

LOCKOUT/TAG OUT DEVICE

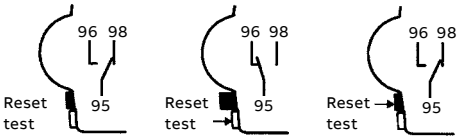
	Product description	Cat. no.
	For single-pole MCBs	S2C-LOTO-S
	For multi-pole MCBs	S2C-LOTO-M
	For all MCBs	S2C-LOTO-L

Accessories

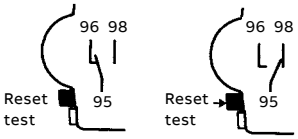
SU200M, SU200ML, SUP200M, SU200MR and SU200DC — UL 489, CSA 22.2 No. 5

Connection drawings

Bell alarm S2C-S6RU

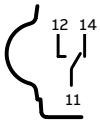


In ON and OFF position after hand operation



In OFF position after tripping

Auxiliary contact S2C-H6RU



Auxiliary contact in ON position

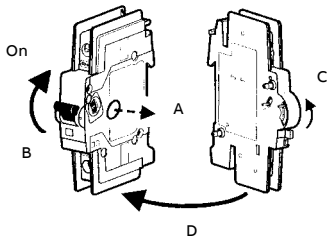


Auxiliary contact in OFF position

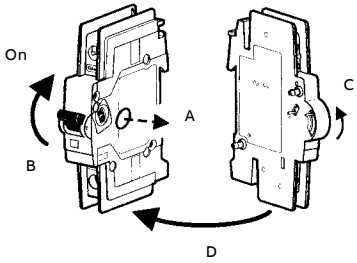
Shunt trip S2C-A...U



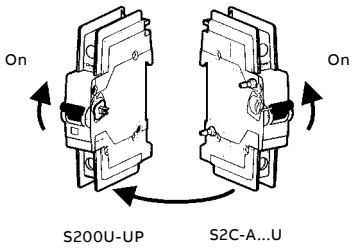
Mounting



Addition of a S2C-H6RU auxiliary contact



Addition of a S2C-S6RU bell alarm contact

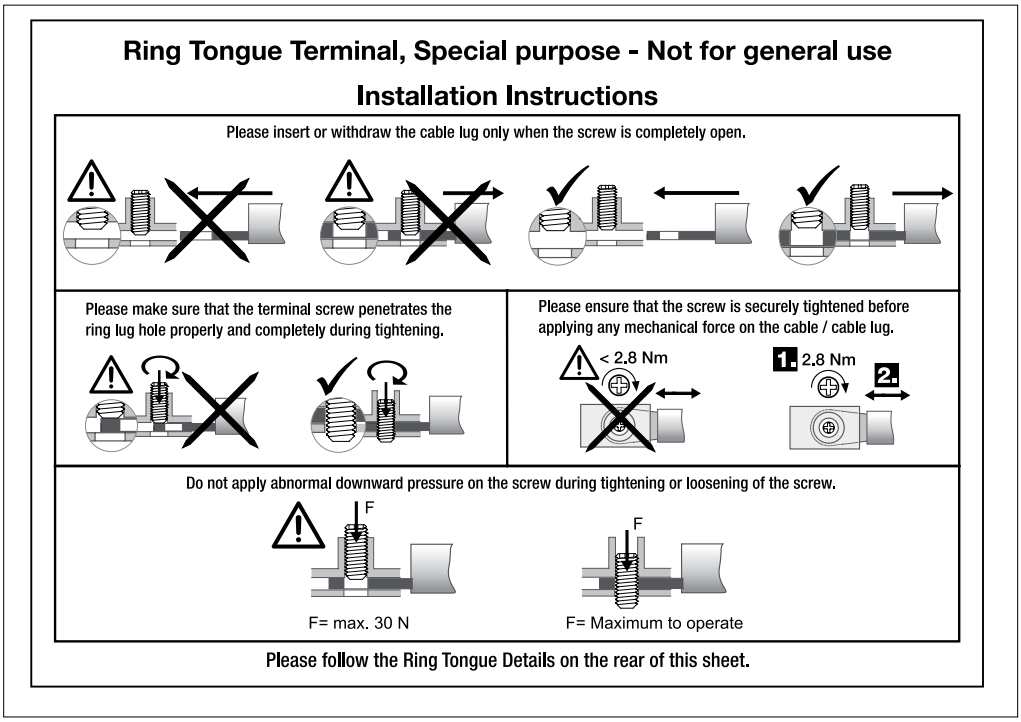


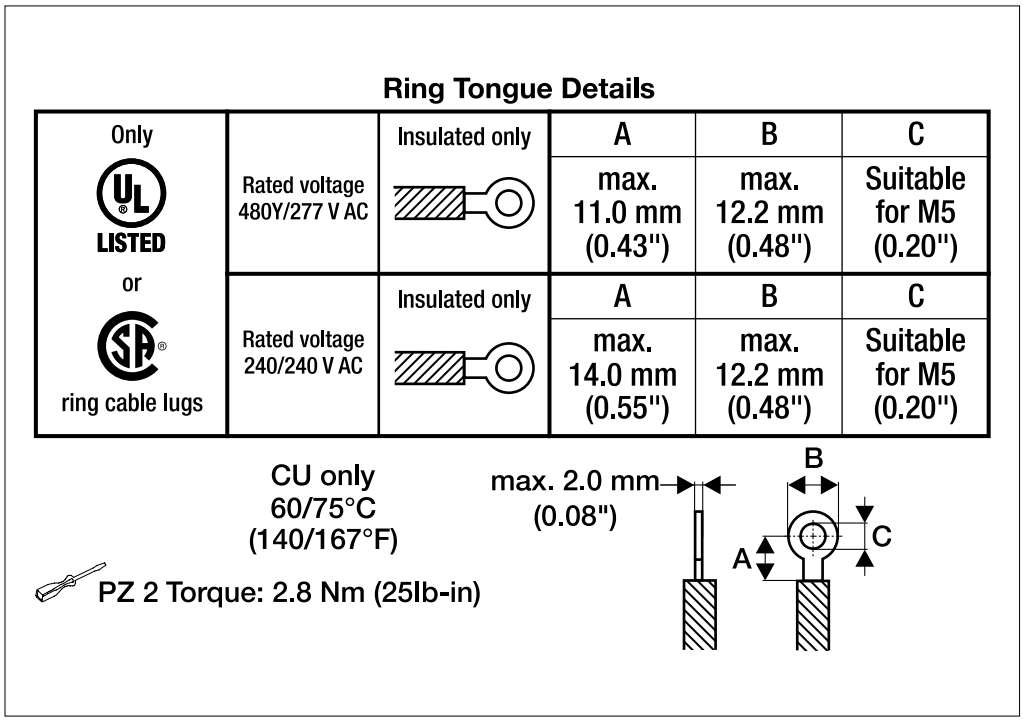
Addition of a S2C-A...U shunt trip

Accessories

SU200MR — UL 489, CSA 22.2 No. 5

SU200MR Instructions for use





Accessories

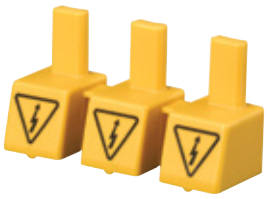
SU200M, SU200ML, SUP200M, SU200MR and SU200DC — UL 489, CSA 22.2 No. 5

BUSBARS FOR USE WITH SU200M, S200UDC, SU200ML AND SUP200M, CANNOT BE CUT

	Amp rating*	Number of poles	Phases	Busbar length (mm)	Cat. no.
	80/115	6	1	103.2	PS1/6/16BP
		12	1	208.8	PS1/12/16BP
		18	1	314.4	PS1/18/16BP
	80/115	6	2	103.2	PS2/6/16BP
		12	2	208.8	PS2/12/16BP
		18	2	314.4	PS2/18/16BP
	80/115	6	3	103.2	PS3/6/16/BP
		12	3	208.8	PS3/12/16BP
		18	3	314.4	PS3/18/16BP

*Depending on enclosure size

BUSBAR TOOTH COVERS FOR BS...BP (UL 489)

	Description	Cat. no.
	Covers three unused poles of busbar	BSK-BP

FEEDER TERMINALS FOR PS...BP (UL 489)

	Description	Cat. no.
	Terminal, insulated with pin contact	AST35/15BP
	Feeder terminal, single-pole terminal, can be mounted side by side, feed on the pin of the busbar	SZ-ESK BP

BUSBARS PS...BP-C FOR USE WITH SU200M, SU200ML, SUP200M AND S200UDC, CAN BE CUT TO LENGTH

	Number of phases	Phase sequence	Cat. no.
PS...BP-C	1	L1-L1-L1...	PS1/57/25BP-C
		L1-Aux (free)-L1-Aux (free)...1)	PS1/37/25HBP-C
	2	L1-L2-L1-L2...	PS2/56/25BP-C
		L1-L2-Aux (free)-L1-L2-Aux (free)...1)	PS2/46/25HBP-C
	3	L1-L2-L3-L1-L2-L3...	PS3/57/25BP-C
		L1-L2-L3-Aux (free)-L1-L2-L3-Aux (free)...1)	PS3/48/25HBP-C
		L1-Aux (free)-L2-Aux (free)-L3-Aux (free)...1)	PS3/39/25HBP-C

[1] For devices with auxiliary contact (half module) after each phase sequence

ACCESSORIES

Description	Cat. no.
Tooth covers, for 3 pins	BSK BP-C
End caps	PS-END 3 BP-C
Feeder terminal	AST 35/58 BP-C

Accessories

SU200M, SU200ML, SUP200M, SU200MR and SU200DC — UL 489, CSA 22.2 No. 5

BUSBARS FOR SU200MR, CAN BE CUT TO LENGTH

Busbars PS...BP-CR for use with end caps PS-END 3 BP-C

	Number of phases	Phase sequence	Number of pins pc.	Cross section mm²	Cat. no.
PS...BP-CR 	1	L1-L1-L1...	57	25	PS1/57/25BP-CR
		L1-Aux (free)-L1-Aux (free)...1)	37	25	PS1/37/25HBP-CR
	2	L1-L2-L1-L2...	56	25	PS2/56/25BP-CR
		L1-L2-Aux (free)-L1-L2-Aux (free)...1)	46	25	PS2/46/25HBP-CR
	3	L1-L2-L3-L1-L2-L3...	57	25	PS3/57/25BP-CR
		L1-L2-L3-Aux (free)-L1-L2-L3-Aux (free)...1)	48	25	PS3/48/25HBP-CR
		L1-Aux (free)-L2-Aux (free)-L3-Aux (free)...1)	39	25	PS3/39/25HBP-CR

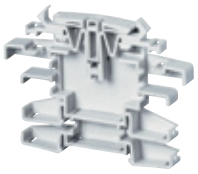
[1] For devices with auxiliary contact (half module) after each phase sequence

ACCESSORIES

Description	Cat. no.
Tooth covers, for 3 pins	BSK BP-CR
End caps	PS-END 3 BP-C

Filling piece

For heat dissipation of closely mounted devices that generate much heat. Width 8.75 mm, as spacer, two different heights, breakable, for DIN rails according to DIN EN 60 715, 35 x 7.5 mm.

	Product description	Weight 1 piece kg	Pack unit pc.	Cat. no.
	Filling piece	0.01	25	SZ-FST 2

Accessories

SU200M, SU200ML, SUP200M, SU200MR and SU200DC — UL 489, CSA 22.2 No. 5

FALSE POLES



	Weight 1 piece kg	Pack unit pc.	Cat. no.
False pole — 1 module	0.01	100	FP1
Support for false pole	0.012	10	SFP

FLANGES



	Weight 1 piece kg	Pack unit pc.	Cat. no.
Flange/front plate mounting 1 module — IP40	0.040	1	ME 1
Flange/front plate mounting 2 modules — IP40	0.045	1	ME 2
Flange/front plate mounting 3 modules — IP40	0.055	1	ME 3
Flange/front plate mounting 4 modules — IP40	0.060	1	ME 4
Flange/front plate mounting 6 modules — IP40	0.070	1	ME 6
Flange/front plate mounting 8 modules — IP40	0.080	1	ME 8

Flange for both UL 489 and UL 1077 MCBs

S800W-RSU Remote switching unit

UL 489

REMOTE SWITCHING UNIT

	Description	Cat. no.
S800W-RSU (breaker is not included)	Remote switching unit	S800W-RSU



S800-RSU CABLE INCLUDING PLUG

	Description	Cat. no.
	3 meter cable 0.5 mm² (20 AWG) including 10-pole Micro-Fit 3.0™ plug	S800-RSU-CP



Key features

- The remote switching unit S800W-RSU has a brushless high precision DC motor to ensure fast remote control operation
- Low power consumption
- Short switching times
- The S800W-RSU is mounted on any multi-pole S800 high-performance MCB
- Installation and wiring can be field installable
- The connection is done by a 10-pole Micro-Fit 3.0™ (not included in delivery)
- The S800W-RSU can be operated by a standard pushbutton or drive by a PLC

Switching times

- OFF -> ON <<500 ms
  from signal to contact closing
- ON -> OFF <<250 ms
  from signal to contact opening
- TRIP -> OFF -> ON <<1500 ms
  from signal to contact closing

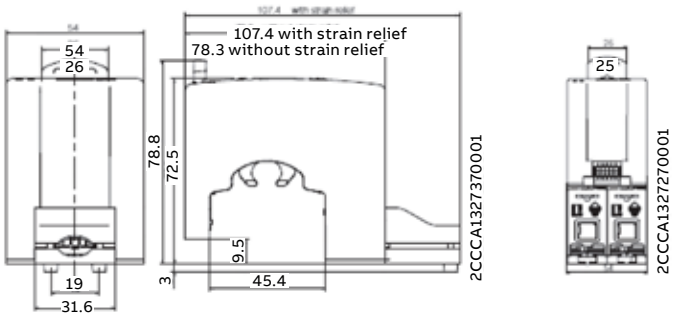
Safety intelligence

- Inputs are deactivated when detecting manual use
- All outputs become active when spindle is rotated more than 360°
- S800W-RSU is locked for five minutes after three switching attempts leading to a trip
- Manual switch off possible for three- and four-pole devices

TECHNICAL SPECIFICATIONS

Operational voltage	24 V DC
Current consumption I_{ms}	2, 5
Standby current $I_{Standby}$	< 50 mA
Switching time OFF-ON	< 500 msec
Switching time ON-OFF	<250 msec
Ambient operation temperature	-25 °C to 70 °C
Number of switching operations	10.000
Maximum cable lengths (20 AWG/0.5 mm²)	10 m
Degree of protection (mounted)	IP2
Weight	0.661387 lb.
Connection	10-pole Micro-Fit 3.0™

Diagrams



Approximate dimensions shown are in mm.

Accessories

S800U, S800UP and S804U-UCZ

Shunt trip

For remote tripping of breaker, a shunt trip device can be added to the MCB. The device opens the breaker after control voltage is applied.

	Description (for field mounting, left side)	Cat. no.
S800-SOR	Shunt operation release 24 V AC/DC	S800-SOR24
	Shunt operation release 48–130 V AC/DC	S800-SOR130
	Shunt operation release 110–250 V AC/DC	S800-SOR250

Under-voltage release

When control voltage drops below approximately 50 percent of rated voltage, the UVR opens the breaker. The breaker cannot be operated unless proper control voltage is first applied to the UVR coil.

	Description	Cat. no.
S800-UVR	Under-voltage release 24–36 V AC/DC	S800-UVR36
	Under-voltage release 48–60 V AC/DC	S800-UVR60
	Under-voltage release 110–130 V AC/DC	S800-UVR130
	Under-voltage release 220–250 V AC/DC	S800-UVR250

Auxiliary contacts

The auxiliary contacts will signal whether the breaker is in the ON or OFF position.

	Description	Cat. no.
	Auxiliary contact	S800-AUX

Bell alarm

The bell alarm includes a set of contacts that will only signal when the breaker has tripped. Typically, the contacts would be connected to an alarm or bell to signal the operator that an overcurrent trip has occurred. The bell alarm also includes a test button for testing the alarm contacts without opening the breaker.

	Cat. no.
	S800-AUX/ALT

RING TONGUE ADAPTER

	Cat. no.
	S800-RT2125

Accessories

S800U, S800UP and S804U-UCZ

Rotary operating mechanism
Allows “through-the-door” operation.

	Description	Cat. no.
	Handle mechanism	S800-RD

	Description	Cat. no.
	Gray rotary handle	S800-RHE-H

UL LOCKING DEVICE

	Description	Cat. no.
	Red rotary handle	S800-RHE-EM

	Description	Cat. no.
	Shaft extension	S800-RHE-S

	Description	Cat. no.
	Padlock not included	S800U-PLL

Technical specifications

SU200M, SU200ML, SUP200M, SU200MR and SU200DC — UL 489, CSA 22.2 No. 5

TECHNICAL SPECIFICATIONS

	SU200M	SU200ML	SUP200M	SU200MR	SU200DC
Standards	UL 489, CSA 22.2 No. 5, IEC 60947-2				
UL File number	E212323				
No. of poles	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3	1, 2, 3, 4	1, 2
Trip curves	C, K, Z	C, K, Z	C, K, Z	K	Z, K
Rated current	up to 63 A	0.2 to 63 A	up to 63 A	up to 63 A	up to 63 A
Rated voltage	480Y/277 V AC up to 40 A (Z and C trip curves)	230 V	480Y/277 V AC up to 40 A (Z and C curve)	480Y/277 V AC (up to 35 A)	125/250 V DC
	480Y/277 V AC up to 35 A (K trip curve)	1P: 48 V DC and 2P: 96 V DC (2P in series)	480Y/277 V AC up to 35 A (K trip curve)	240 V AC (up to 63 A)	
	240 V AC up to 63 A (all trip curves)		240 V AC up to 63 A (all trip curves)	48/96 V DC up to 63 A (1-/2-pole, all trip curves)	
	48/96 V DC up to 63 A (1-/2-pole, all trip curves)		48/96 V DC up to (1-/2-pole, all trip curves)		
Short circuit interrupt rating	10 kA	14 kA	14 kA	10 kA	14 kA
Calibration temperature	40 °C	40 °C	40 °C	40 °C	25 °C
Mounting position	Any				
Protection degree	IP 20	IP 20	IP 20	IP 20	IP 20 with accessory
Mounting	35 mm DIN rail, front panel/dead front (with accessories)				
Terminal screw tightening torque	Please refer to data sheet				
Cable size	18–4 AWG				
Ambient temperature	-40 °C to +70 °C				
Shock resistance (IEC60068-2-27)	25 g - 2 shocks - 13 ms				
Service life, mechanical	20,000 operations				

NOTE: For the ambient temperature -40 °C up to +70 °C, average over a period of 24 hours shall not exceed +55 °C.

AUXILIARY CONTACT S2C-H6RU AND S2C-S6RU

Rated current	**10**
Rated voltage AC/DC	24
Contact	1 pole double throw
Connection capacity	18–14 AWG (0.75–2.5 mm^2)
Tightening torque	11 in. lbs (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

SHUNT TRIP

		S2C-A1U	S2C-A2U
Rated voltage	V AC	12–110	110–415
	V DC	12–110	110–250
Maximum release duration	ms	<10	<10
Minimum release voltage	V AC	7	55
	V DC	10	80
Consumption on release	VA AC	40–200	55–210
	VA DC	40–200	55–110
Coil resistance	V	3.7	225
Terminals	AWG/mm^2	18–6/0.75–16	18–6/0.75–16
Tightening torque	in. lbs./Nm	18/2	18/2

Technical specifications

Busbars PS...BP-C/CR and accessories

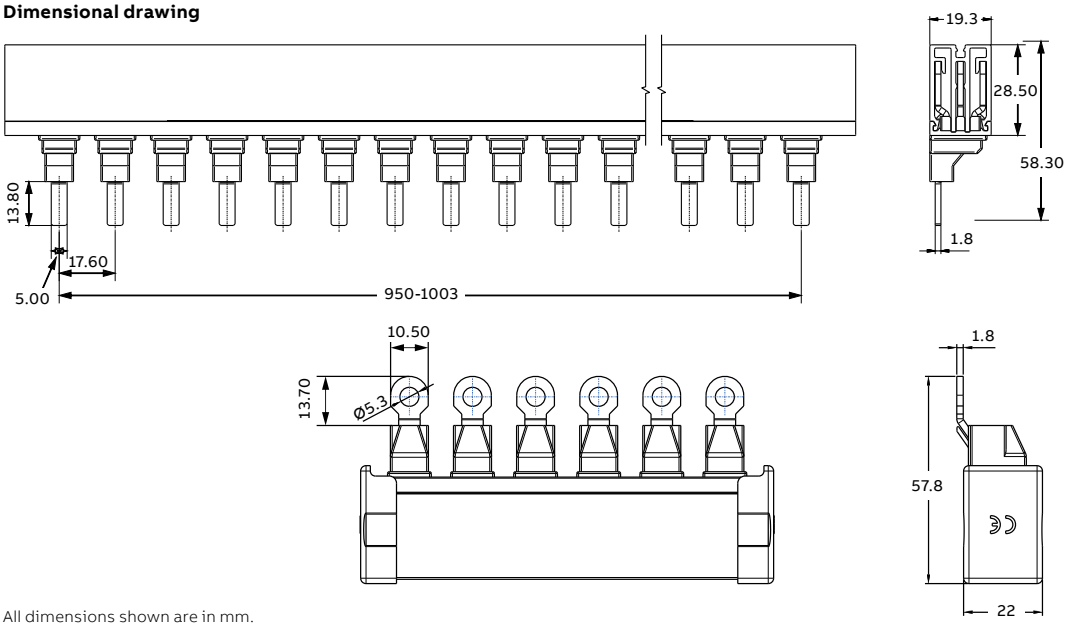
Electrical data	Busbars PS...BP-C/CR
Standards	UL508 EN 60947-1 / IEC 60947-1:2004
Rated voltage U_e	600 V AC/DC
Rated frequency	50 Hz (IEC) / 60 Hz (UL)
Rated impulse withstand voltage Uimp.	≥ 10 kV
Rated current / phase	
End fed [1)]	100 A
Center fed [1)]	200 A
Short circuit current rating	10 kA
Mechanical data	
Housing	Gray, RAL 7035
Resistance to climatic conditions	Acc. to DIN EN 60068
Isolation coordination	
Overvoltage category	III
Pollution degree	2
Installation	
Cross section	25 mm²
Mounting position	Optional
Supply	Via cable with ring lug (PS...BP-CR); direct or via feeder terminal (PS...BP-C)
Accessories	
Shock protection caps	BSK BP-CR (for PS...BP-CR), BSK BP-C (for PS...BP-C)
Endcaps	PS-END 3 BP-C
Approvals	
	CE, RoHS
	UL 508: cULus listed

[1)] Independently from the current rating of the feeder terminal or busbar, the current-carrying capacity/current rating of the MCB terminal must not be exceeded.

Installation/assembly

Warning: When busbars are shortened, they must be deburred and cleaned of debris. Touch-safe only when used with the required end caps.

Dimensional drawing



All dimensions shown are in mm.

Technical specifications

SU200M, SU200ML, SUP200M and SU200MR — UL 489, CSA 22.2 No. 5

Internal resistance and power loss per pole

Internal resistance per pole in mV, power loss per pole in W.

SU200M, SU200ML

	C, K characteristics		Z characteristics	
Rated current I_n A	Internal resistance per pole R_i mΩ	Power loss P_v W	Internal resistance per pole R_i mΩ	Power loss P_v W
0.2	42500	1.7	-	-
0.3	18889	1.7	-	-
0.5	5600	1.4	9000	2.3
0.75	2489	1.4	-	-
1	1400	1.4	2200	2.2
1.6	703	1.8	1000	2.6
2	450	1.8	650	2.6
3	178	1.6	250	2.3
4	113	1.8	140	2.2
5	50	1.3	100	2.5
6	56	2.0	70	2.5
8	23	1.5	28	1.8
10	21	2.1	21	2.1
13	14	2.3	17	2.9
15	11	2.4	13	2.9
16	9.8	2.5	10	2.6
20	6.3	2.5	6.5	2.6
25	5.1	3.2	5.1	3.2
30	3.9	3.5	3.9	3.5
32	3.6	3.7	3.6	3.7
35	3.3	4.1	3.3	4.1
40	2.8	4.5	2.8	4.5
50	1.8	4.5	1.8	4.5
60	1.4	4.9	1.4	4.9
63	1.4	5.4	1.4	5.4

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

SU200MR

Rated current A	Internal resistance per pole mΩ	Power loss per pole W
0.2	25300	1.01
0.3	13700	1.23
0.5	4740	1.19
0.75	2067	1.16
1	1270	1.27
1.5	610	1.56
2	442	1.77
3	140	1.26
4	109	1.75
5	50	1.26
6	54	1.94
8	22	1.41
10	18.2	1.82
13	14.8	2.50
15	8.1	1.83
16	11.1	2.83
20	8.5	3.40
25	5.5	3.43
30	3.8	3.39
32	4.6	4.70
35	3.9	4.76
40	2.8	4.40
50	1.7	4.25
60	1.7	6.18
63	1.9	7.56

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

SUP200M

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

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

Technical specifications

SU200M, SU200ML, SUP200M and SU200MR — UL 489, CSA 22.2 No. 5

TEMPERATURE DERATING FOR SU200M, SU200ML AND SUP200M

	Rated current	Maximum operating current at ambient temperature T A											
Standard	I_n A	- 40 °C	- 30 °C	- 20 °C	- 10 °C	0 °C	10 °C	20 °C	30 °C	40 °C	50 °C	60 °C	70 °C
UL 489	0.2 [1]	0.27	0.26	0.25	0.24	0.23	0.22	0.22	0.21	0.20	0.19	0.19	0.18
	0.3 [1]	0.40	0.39	0.37	0.36	0.35	0.33	0.32	0.31	0.30	0.29	0.28	0.27
	0.5	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.5	0.48	0.46	0.45
	0.75 [1]	1.00	0.97	0.93	0.90	0.87	0.84	0.81	0.78	0.75	0.72	0.70	0.67
	1	1.34	1.29	1.24	1.20	1.16	1.12	1.08	1.04	1	0.96	0.93	0.89
	1.6	1.74	1.68	1.62	1.56	1.50	1.45	1.40	1.35	1.3	1.25	1.21	1.16
	2	2.67	2.58	2.49	2.40	2.31	2.23	2.15	2.07	2	1.93	1.85	1.79
	3	4.01	3.87	3.73	3.60	3.47	3.35	3.23	3.11	3	2.89	2.78	2.68
	4	5.35	5.16	4.97	4.80	4.63	4.46	4.30	4.15	4	3.85	3.71	3.57
	5	6.69	6.45	6.22	6.00	5.78	5.58	5.38	5.19	5	4.82	4.64	4.47
	6	8.02	7.74	7.46	7.20	6.94	6.69	6.45	6.22	6	5.78	5.56	5.36
	8	10.70	10.32	9.95	9.59	9.25	8.92	8.60	8.30	8	7.70	7.42	7.14
	10	13.37	12.90	12.44	11.99	11.56	11.15	10.75	10.37	10	9.63	9.27	8.93
	13	17.38	16.76	16.17	15.59	15.03	14.50	13.98	13.48	13	12.52	12.06	11.61
	15	20.06	19.34	18.65	17.99	17.35	16.73	16.13	15.56	15	14.45	13.91	13.40
	16	21.40	20.63	19.90	19.19	18.50	17.84	17.21	16.59	16	15.41	14.84	14.29
	20	26.75	25.79	24.87	23.98	23.13	22.30	21.51	20.74	20	19.26	18.55	17.86
	25	33.43	32.24	31.09	29.98	28.91	27.88	26.88	25.93	25	24.08	23.18	22.33
	30	40.12	38.69	37.31	35.98	34.69	33.45	32.26	31.11	30	28.89	27.82	26.79
	32	42.79	41.27	39.79	38.37	37.01	35.69	34.41	33.18	32	30.82	29.68	28.58
	35	46.81	45.14	43.53	41.97	40.47	39.03	37.64	36.30	35	33.71	32.46	31.26
	40	53.49	51.58	49.74	47.97	46.26	44.61	43.01	41.48	40	38.52	37.09	35.72
	50	66.87	64.48	62.18	59.96	57.82	55.76	53.77	51.85	50	48.15	46.37	44.65
	60	80.24	77.38	74.61	71.95	69.39	66.91	64.52	62.22	60	57.78	55.64	53.58
	63	84.25	81.24	78.35	75.55	72.85	70.25	67.75	65.33	63	60.67	58.42	56.26

[1] Current ratings 0.2, 0.3 and 0.75 A available with K characteristic only.

Technical specifications

SU200DC series DC applications

DC = Direct current
SU200DC MCBs can be used in the one-pole version at 125 V DC through 63 A, and in the 2-pole version, with both poles connected in series, at 250 V DC through 63 A.

S200UDC contains fitted permanent magnets, which assist in the forced extinguishing of the arc. If voltages to earth exceeding 125 V DC may occur, 2-pole SU200DC is to be used for one-pole disconnection.

For DC incoming supply from above SU200DC-... MCBs have, in the area of arc chutes, 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 connected to (-) and terminal 3 to (+).

Technical specifications

SU200DC series DC applications

Deviating ambient temperature

The rated value of the current of a miniature circuit breaker of SU200DC series refers to a reference ambient temperature of 40 °C acc. UL/CSA.

The following table shows derating factors for ambient temperature from -40 °C to +55 °C for the characteristics K, Z.

TEMPERATURE DERATING FOR SU200DC

UL 489									Ambient temperature (°C)	
In (A)	**-25**	**-20**	**-10**	**0**	**10**	**20**	**30**	**40**	**50**	**55**
0.2 [1)]	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.3 [1)]	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.5	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5
0.75 [1)]	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.75	0.7	0.7
1	1.2	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.0	1.0
1.6	1.9	1.9	1.8	1.8	1.7	1.7	1.6	1.6	1.6	1.5
2	2.4	2.4	2.3	2.2	2.2	2.1	2.1	2.0	1.9	1.9
3	3.6	3.5	3.5	3.4	3.3	3.2	3.1	3.0	2.9	2.9
4	4.8	4.7	4.6	4.5	4.4	4.2	4.1	4.0	3.9	3.8
5	6.0	5.9	5.8	5.6	5.5	5.3	5.2	5.0	4.9	4.8
6	7.2	7.1	6.9	6.7	6.5	6.4	6.2	6.0	5.8	5.7
8	9.6	9.4	9.2	9.0	8.7	8.5	8.2	8.0	7.8	7.6
10	12.0	11.8	11.5	11.2	10.9	10.6	10.3	10.0	9.7	9.6
13	15.5	15.3	15.0	14.6	14.2	13.8	13.4	13.0	12.6	12.4
15	17.9	17.7	17.3	16.8	16.4	15.9	15.5	15.0	14.6	14.3
16	19.1	18.9	18.4	17.9	17.4	17.0	16.5	16.0	15.5	15.3
20	23.9	23.6	23.0	22.4	21.8	21.2	20.6	20.0	19.4	19.1
25	29.9	29.5	28.8	28.0	27.3	26.5	25.8	25.0	24.3	23.9
30	35.9	35.4	34.5	33.6	32.7	31.8	30.9	30.0	29.1	28.7
32	38.2	37.8	36.8	35.8	34.9	33.9	33.0	32.0	31.0	30.6
35	41.8	41.3	40.3	39.2	38.2	37.1	36.1	35.0	34.0	33.4
40	47.8	47.2	46.0	44.8	43.6	42.4	41.2	40.0	38.8	38.2
50	59.8	59.0	57.5	56.0	54.5	53.0	51.5	50.0	48.5	47.8
60	71.7	70.8	69.0	67.2	65.4	63.6	61.8	60.0	58.2	57.3
63	75.3	74.3	72.5	70.6	68.7	66.8	64.9	63.0	61.1	60.2

[1)] Current ratings 0.2, 0.3 and 0.75 A available with K characteristic only.

Technical specifications

SU200DC series DC applications

Influence of adjacent devices

If several miniature circuit breakers are installed directly side by side with high load on all poles, a correction factor has to be applied to the rated current (see table). If distance pieces are used, the factor is not to be considered.

INFLUENCE OF ADJACENT DEVICES

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

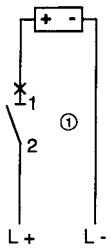
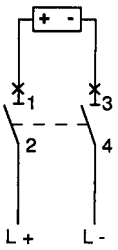
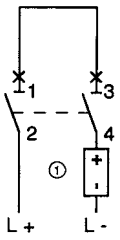
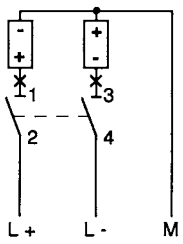
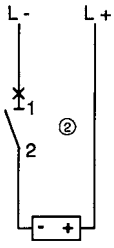
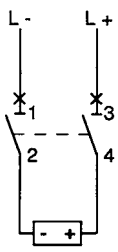
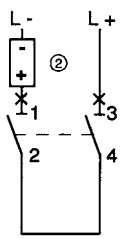
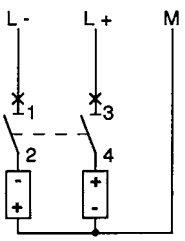
INTERNAL RESISTANCE AND POWER LOSS PER POLE (SU200DC)

	K tripping characteristics		Z tripping characteristic	
Rated current (A)	Internal resistance (mΩ)	Power loss (W)	Internal resistance (mΩ)	Power loss (W)
0.2	25745	1.0	–	–
0.3	12486	1.1	–	–
0.5	4370	1.1	8655	2.2
0.75	1968	1.1	–	–
1	1287	1.3	2314	2.3
1.6	489	1.3	879	2.2
2	326	1.3	586	2.3
3	138	1.2	248	2.2
4	78	1.2	140	2.2
5	45	1.1	81	2.0
6	46	1.7	83	3.0
8	19	1.2	27	1.7
10	16	1.6	23	2.3
13	13	2.3	–	–
15	9.1	2.1	13	2.9
16	8.6	2.2	12	3.1
20	5.5	2.2	7.0	2.8
25	4.0	2.5	4.4	2.7
30	3.4	3.1	3.9	3.5
32	3.5	3.5	4.0	4.0
35	3.3	4.1	4.7	5.8
40	2.4	3.8	2.5	4.0
50	1.4	3.6	1.6	4.0
60	1.3	4.6	1.3	4.6
63	1.3	5.2	1.3	5.1

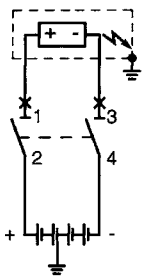
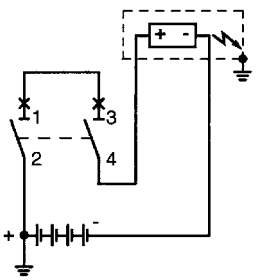
Technical specifications

SU200DC series DC applications

EXAMPLE FOR PERMISSIBLE VOLTAGES BETWEEN THE CONDUCTORS DEPENDING ON THE NUMBER OF POLES AND CIRCUIT LAYOUT (FOR AMPACITIES UP TO 40 A; FOR AMPACITIES ABOVE 40 A, THE CORRESPONDING VOLTAGES ARE REDUCED TO 60 V AND 125 V INSTEAD OF 125 V AND 250 V, RESPECTIVELY):

Voltage between conductors	Un	125 V	250 V	250 V	250 V
Voltage between conductor and earth	Un	125 V	125 V	250 V	125 V
MCB		1-pole	2-pole	2-pole	2-pole
		SU201DC	SU202DC	SU202DC	SU202DC
Supply from below					
Supply from above					

EXAMPLES FOR DIFFERENT VOLTAGE LEVELS BETWEEN CONDUCTOR AND EARTH IN THE CASE OF IDENTICAL VOLTAGE BETWEEN CONDUCTORS:

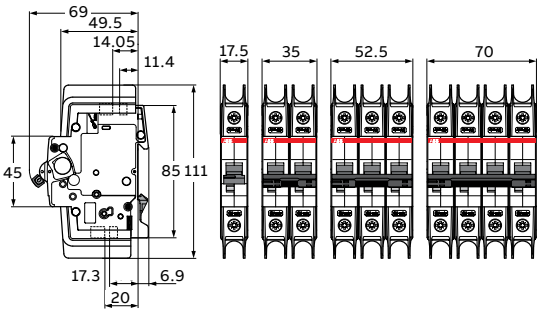
Voltage between conductors	Un	250 V All-pole disconnection	250 V 1-pole disconnection
Voltage between conductor and earth	Un	125 V Circuit symmetrically earthed	250 V Circuit unsymmetrically earthed
MCB		2-pole	2-pole
		SU202DC	SU202DC
			

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

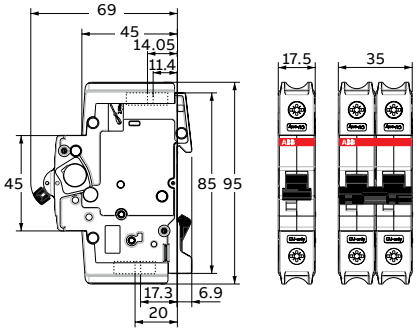
Approximate dimensions

SU200M, SUP200M, SU200MR, SU200ML and SU200DC — UL 489, CSA 22.2 No. 5

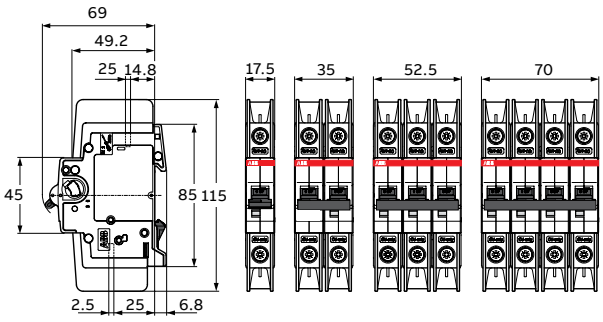
SU200M, SUP200M



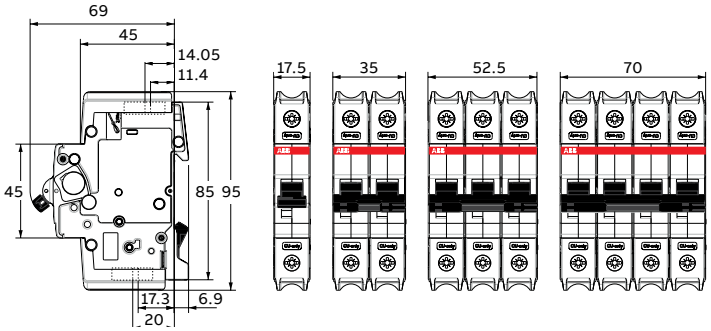
SU200DC



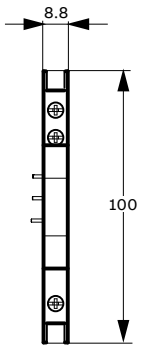
SU200MR



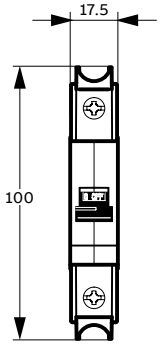
SU200ML



S2C-H6RU, S2C-S6RU



S2C-A..U



All dimensions shown are in mm.

Technical specifications

S800U

Characteristics					S800U K, Z
Rated operational current I_e				[A]	10...100
Pole					1...4
Rated operational voltage U_e compliant to UL489					
(AC)			50/60 Hz	[V]	240
Rated ultimate short-circuit breaking capacity compliant to UL489					
(AC)	50/60 Hz	240 V	Single-pole	[kA]	30
(AC)	50/60 Hz	240 V	Multi-pole	[kA]	50
Connections C_u				10–30 A	14–2 AWG
				40–100 A	8–1 AWG
Rated frequency				[Hz]	50/60
Tightening torque				[Nm]	3,5 (31 in. lb.)
Protection category					IP40 (actuating end only)
Mounting position					Any
Contacts					Cadmium-free
Permissible ambient temperature				[˚C]	-25 ˚C to 60 ˚C
Standards					UL489 CSA22.2 No.5-02
Approval					cULus File E312425

Technical specifications

S800U

TYPICAL INTERNAL RESISTANCES AND POWER LOSSES AT 25 °C AMBIENT TEMPERATURE

Rated current I_n [A]	Internal resistance R_i [mΩ] K, Z	Power loss P_v [W] K, Z
10	15.2	1.5
15	12.1	2.7
20	8.7	3.5
25	6.8	4.2
30	3.1	2.8
40	2.3	3.7
50	1.7	4.3
60	1.6	5.8
70	1.0	6.4
80	1.0	6.4
90	0.8	6.5
100	0.8	8.3

Influence of ambient temperature
Devices mounted singly (specifications in A).

S800U-K, -Z

I_n [A]	10 °C	15 °C	20 °C	25 °C	30 °C	35 °C	40 °C	45 °C	50 °C	55 °C	60 °C
10	10.9	10.7	10.4	10.0	9.6	9.3	9.0	8.7	8.4	8.0	7.6
15	16.5	16.0	15.6	15.0	14.4	14.0	13.5	13.0	12.6	12.0	11.4
20	22.0	21.4	20.8	20.0	19.2	18.6	18.0	17.4	16.8	16.0	15.2
25	27.5	26.8	26.0	25.0	24.0	23.3	22.5	21.8	21.0	20.0	19.0
30	33.1	32.1	31.2	30.0	28.8	27.9	27.0	26.1	25.2	24.0	22.9
40	44.0	42.8	41.6	40.0	38.4	37.2	36.0	34.8	33.6	32.0	30.9
50	55.1	53.5	52.0	50.0	48.0	46.5	45.0	43.5	42.0	40.0	38.3
60	66.2	64.2	62.4	60.0	57.6	55.8	54.0	52.2	50.4	48.0	46.0
70	76.9	74.9	72.8	70.0	67.2	65.1	63.0	60.9	58.8	56.0	53.4
80	88.0	85.6	83.2	80.0	76.8	74.4	72.0	69.6	67.1	64.0	61.6
90	99.1	96.3	93.6	90.0	86.4	83.7	81.0	78.3	75.6	72.0	69.5
100	110.5	107.0	104.0	100.0	96.0	93.0	90.0	87.0	83.8	80.0	77.8

Technical specifications

S800UP

General data		S800UP
Tripping characteristics		K
Standards		UL 489; IEC/EN 60947-2 (based on internal test)
Number of poles		3P
Rated current In	A	20…70
Rated frequency f	Hz	50/60
Rated insulation voltage Ui acc. to IEC/EN 60664-1	V	AC 690
Rated impulse withstand voltage Uimp. (1.2/50 µs)	kV	8
Dielectric test voltage at ind. freq. for 1 min.	kV	2.4
Overvoltage category		IV
Pollution degree		3
Suitable for isolation		yes
Data acc. to IEC/EN 60947-2 (based on internal test only)		
Rated operational voltage Ue	V	AC 240/415
Min. operating voltage	V	AC 12
Rated ultimate short-circuit capacity Icu	kA	AC 415 V (3-pole) = 50kA
Rated service short-circuit capacity Ics	kA	AC 415V (3-pole) = 40 kA
Electrical and mechanical endurance	cycle (OFF-ON-OFF)	20…30 A: 10000 electrical / 10000 mechanical 40…70 A: 6000 electrical / 10000 mechanical
Data acc. to UL489		
Rated voltage	V	AC 480Y/277
Interrupting rating	kA	AC 480Y/277 V = 50
UL 100% rated		yes
Electrical and mechanical endurance	cycle (OFF-ON-OFF)	acc. to UL489
6000 electrical; 4000 mechanical		
Series rating reaching full selectivity	kA	with XT4 = 50 with XT5 = 50
Mechanical data		
Housing		Material group I, RAL7035
Toggle		black, lockable
Plastic classification acc. to UL 94		V0
Classification for the component requirement / hazard level acc. to EN45545-2		R26 / HL3; R22 / HL2
Protection degree acc. to EN 60529		IP20; IP40 (under the cover frame)
Shock resistance acc. to IEC/EN 61373		5g / 30ms, Cat 1 / Class B
Shock resistance acc. to IEC/EN 60068-2-27		5g / 30ms, Test Ea
Vibration resistance acc. to IEC/EN 60068-2-6		5–13, 2 Hz /1 mm 13, 2–100Hz / 0.7g with load 80% x Ie, test Fc
Environmental conditions (damp heat) acc. to IEC/EN 60068-2-30	°C/RH	2 cycles: 12h 55°C @9 8% rh; 12h 25°C @ 93% rh
Environmental condition (dry heat) acc. to IEC/EN 60068-2-2	°C/RH	16 hours 70°C
Environmental condition (low temp) acc. to IEC/EN 60068-2-1	°C/RH	16 hours -40°C
Reference temperature for tripping characteristics	°C	40 (char. K)
Ambient temperature (in accordance to the derating table)	°C	-40…+70
Storage temperature	°C	-40…+70

Technical specifications

S800UP

General data		**S800UP**
Installation		
Terminal		Fail-safe cage or ring-lug terminal
Connection (top/bottom) — Cu only	mm²	1…50 flexible
		1…70 solid (rigid or stranded)
	AWG	20–30 A: 14–2 AWG
		40–70 A: 1–8 AWG
Tightening torque	Nm	3.5
	in-lbs.	31
Wire stripping length	mm²	19
Screwdriver		POZI 2
Mounting type		any
Mounting position		any
Supply from		Top and bottom
Dimensions and weight		
Dimensions (H x L x W)	mm	142 x 82.5 x 81 (3-pole)
Weight	g	approx. 750 (3-pole)
Combination with accessories		
Combination with accessories		Signal and auxiliary contact: S800-AUX, S800 AUX/ALT Remote switching unit: S800-RSU Shunt trip: S800-SOR Undervoltage release: S800-UVR Rotary drive Padlock device

PERFORMANCE AT DIFFERENT AMBIENT TEMPERATURES (DERATING)
S800UP-K

Ambient temperature T (°C)																							
In (A)	**-40**	**-35**	**-30**	**-25**	**-20**	**-15**	**-10**	**-5**	**0**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**65**	**70**
20 A	25.6	25.2	24.9	24.6	24.3	24.0	23.7	23.3	22.9	22.6	22.2	21.8	21.5	21.1	20.7	20.4	20.0	19.6	19.3	18.9	18.5	18.2	17.8
25 A	32.1	31.7	31.2	30.8	30.4	30.0	29.6	29.1	28.7	28.2	27.8	27.3	26.8	26.4	25.9	25.5	25.0	24.5	24.1	23.6	23.2	22.7	22.2
30 A	39.0	38.4	37.8	37.2	36.7	36.1	35.5	35.0	34.4	33.8	33.3	32.7	32.2	31.7	31.1	30.6	30.0	29.4	28.9	28.3	27.8	27.3	26.7
40 A	52.3	51.4	50.6	49.7	48.9	48.1	47.3	46.6	45.9	45.1	44.4	43.7	42.9	42.2	41.5	40.7	40.0	39.3	38.5	37.8	37.1	36.3	35.6
50 A	64.8	63.8	62.9	61.9	61.0	60.1	59.2	58.3	57.3	56.4	55.5	54.6	53.7	52.8	51.8	50.9	50.0	49.1	48.2	47.2	46.3	45.4	44.5
60 A	77.6	76.4	75.3	74.2	73.2	72.1	71.0	69.9	68.8	67.7	66.6	65.5	64.4	63.3	62.2	61.1	60.0	58.9	57.8	56.7	55.6	54.5	53.4
70 A	90.5	89.2	87.9	86.6	85.3	84.1	82.9	81.6	80.2	79.0	77.7	76.4	75.2	73.9	72.5	71.3	70.0	68.7	67.5	66.2	64.8	63.6	62.3

TYPICAL INTERNAL RESISTANCE AND POWER LOSS AT 25°C AMBIENT TEMPERATURE (PER POLE)
S800UP-K

Rated current In [A]	**Internal resistance Ri [mΩ]**	**Power loss Pv [W]**
Char. K	Char. K	Char. K
20	8.7	3.5
25	6.8	4.25
30	3.1	2.79
40	2.3	3.68
50	1.7	4.25
60	1.6	5.76
70	1.6	7.84

Technical specifications
S800U

AUXILIARY CONTACT S800-AUX

	S800-AUX
Usage category	AC15 400/2 A-UL AC15 240/ -UL DC13 250/0.55 A125 V/1.1A-IEC DC13 125 V/1.1A DC13 60 V/2A DC13 24 V/4A
Continuous thermal current I_n	6 A
Rated insulation voltage U_i	690 V
Number of contacts	2
Surge U_{test} (1.2/50µs)	6 kV
Degree of protection	3
Function of contact	Changeover contacts
Connection Cu	1 x 2.5 mm² 2 x 1.5 mm²
Tightening torque	1 Nm
Ensured contacts during shake test	5g, 20 frequency cycle
acc. to IEC 68-2-6	at 24 V AC/DC, 5mA brief interrupt <10 ms
AC/DC supply	Any EN 60715
Mounting on DIN top hat rail	EN 60715 IP20
Type of protection	IP20
Permissible ambient temperature for operations	-25 °C to 60 °C; -13 °F to 140 °F
Storage temperature	-40°C to 70 °C; -40 °F to 158 °F
Mechanical device service life	6000 switching cycles
I_{cu} with S450E	1000 A
Resistance to vibration	IEC 60068-2-27; IEC 60068-2; EN 61373 Cat. 1/class B

UNDERVOLTAGE RELEASE S800-UVR

	S800-UVR36	S800-UVR60	S800-UVR130	S800-UVR250
Rated voltage U_e	24–36 V AC/DC	48–60 V AC/DC	110–30 V AC/DC	220–250 V AC/DC
Operating range				
Operating opening				35...70% Ue
Operating clothing				85% Ue
Rated insulation voltage U_i				690 V
Coil pull in consumption	1 W, 14 VA	1 W, 25 VA	1 W, 41 VA	1 W, 91 VA
Rated frequency				DC; 50/60 Hz
Protection degree				3
Connection Cu				1...35 cable
Tightening torque				min. 3/max. 4 Nm
AC/DC supply				Any
DIN top hat rail				EN 60715
Type of protection				IP20 IP40 (only actuation side)
Permissible ambient temperature of operations				-25 °C to 60 °C; -13 °F to 140 °F
Storage temperature				-40°C to 70 °C; -40 °F to 158 °F
S800-UVR36				IEC 60068-2-27; IEC 60068-2; EN61373 Cat. 1/class B

Technical specifications

S800U

COMBINED AUXILIARY AND BELL ALARM

Usage category	AC15 400/2 A-UL AC15 240/6A-UL DC13 250/0.55 A125 V/1.1A-IEC DC13 125 V/1.1A-IEC DC13 60 V/2A DC13 24 V/4A
Continuous thermal current I_n	6 A
Rated insulation voltage U_i	690 V
Number of contacts	2 (1x AUX, 1 x AUX/ALT)
Surge U_{test} (1.2/50µs)	6 kV
Degree of protection	3
Function of contact	Changeover contacts
Connection Cu	1 x 2.5 mm² 2 x 1.5 mm²
Tightening torque	1 Nm
Ensured contacts during shake test	5g, 20 frequency cycle
acc. to IEC 68-2-6	5...150...5 Hz at 24 V AC/DC, 5 mA brief interrupt <10 ms
AC/DC supply	Any EN 60715
Mounting on DIN top hat rail	EN 60715
Type of protection	IP20
Permissible ambient temperature for operations	-25 °C to 60 °C; -13 °F to 140 °F
Storage temperature	-40°C to 70 °C; -40 °F to 158 °F
Mechanical device service life	6000 switching cycles
I_{cu} with S450E	1000 A
Resistance to vibration	IEC 60068-2-27; IEC 60068-2; EN 61373 Cat. 1/class B

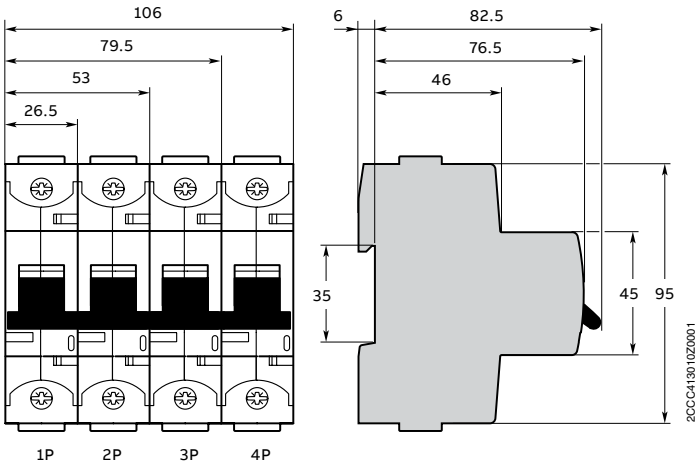
SHUNT OPERATION RELEASE — S800-SOR

	S800-SOR24	S800-SOR130	S800-SOR250	S800-SOR400
Rated voltage U_e	24 V AC/DC	48–130 V AC/DC	110–250 V AC/DC	220–250 V AC/DC
Operating range				70–110% U_e
Rated insulation voltage U_i				690 V
Coil pull in consumption	19.2 W/VA			On request
Rated frequency				DC; 50/60 Hz
Protection degree				3
Connection Cu				1–35 AWG
Tightening torque				min. 3/max. 4 Nm
AC/DC supply				Any
DIN top hat rail				EN 60715
Type of protection				IP20 IP40 (only actuation side)
Permissible ambient temperature of operations				-25 °C to 60 °C; -13 °F to 140 °F
Storage temperature				-40°C to 70 °C; -40 °F to 158 °F
S800-UVR36				IEC 60068-2-27; IEC 60068-2; EN61373 Cat. 1/class B

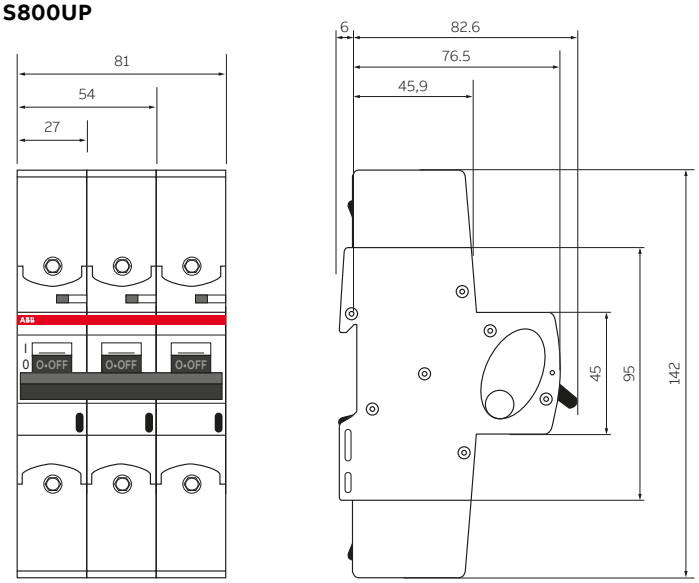
Approximate dimensions

S800U

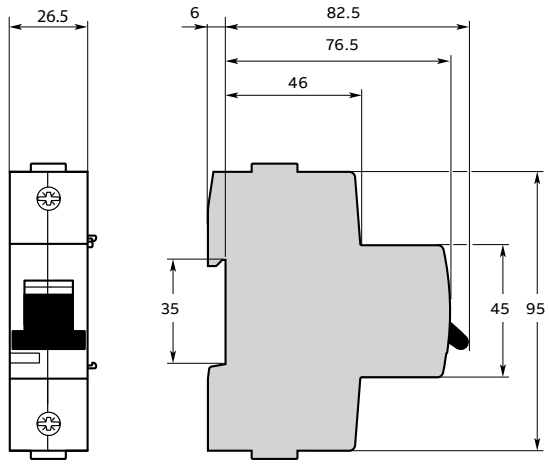
S800U



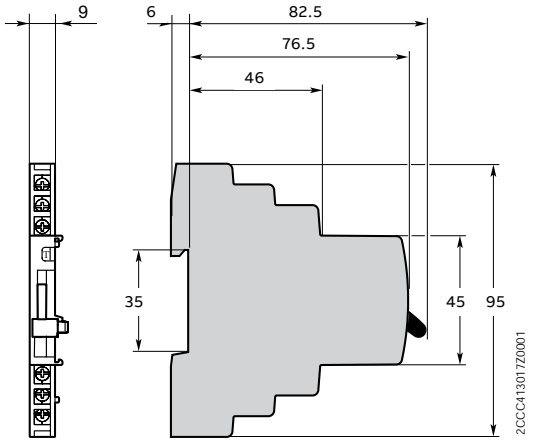
S800UP



S800-SOR and S800-UVR



S800-AUX

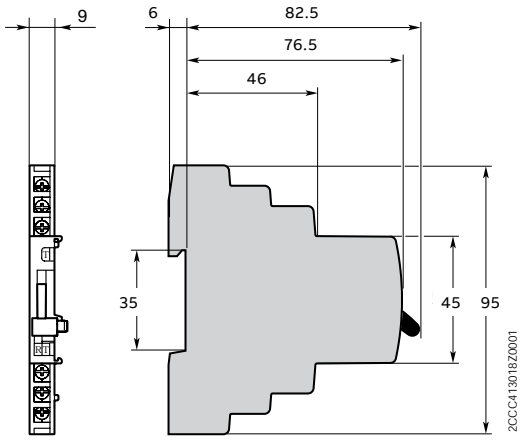


All dimensions shown are in mm.

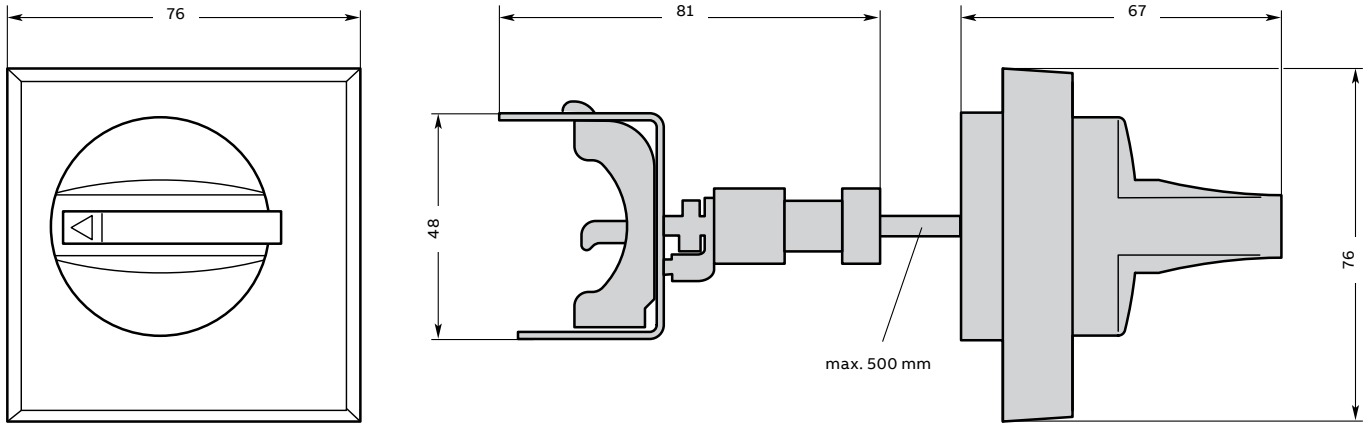
Approximate dimensions

S800U

S800-AUX/ALT



S800-RD AND S800-RHE



All dimensions shown are in mm.

S804U-UCZ

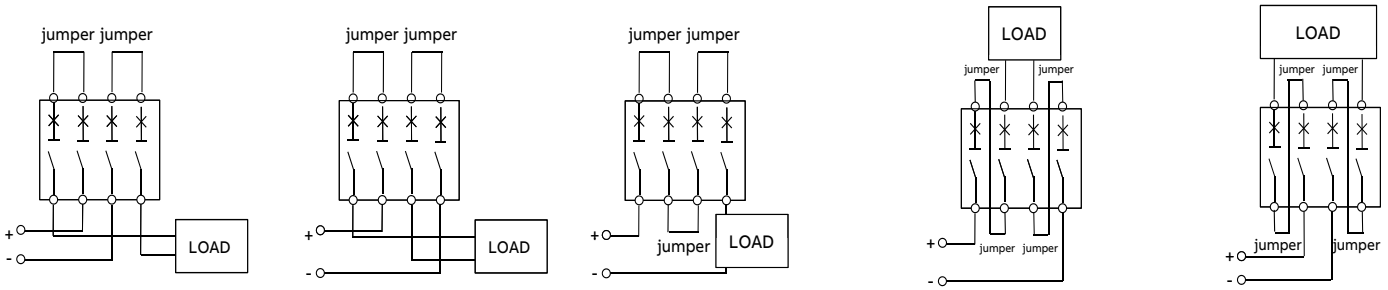
This breaker is specially designed for networks up to 600 V DC, i.e., a data center. It is available as 4-pole version with a short-circuit current rating of 10 kA according to UL 489.

TECHNICAL SPECIFICATIONS

Standard	**UL 489**
Characteristic	Z
Rated current I_e	10–80 A
Rated voltage U_e	600 V DC
No. of poles	4
Short-circuit current rating acc. to UL 489	10 kA
Tightening torque	3.5 Nm (31 in. lb.)
Protection category	IP40 (actuating end only)
Mounting position	Any
Contacts	Cadmium-free
Reference temperature for tripping characteristic	25 °C
Ambient temperature	-25 °C to 60 °C
Storage temperature	-40 °C to 70 °C
Approval	cULus File #E312425

S804U-UCZ

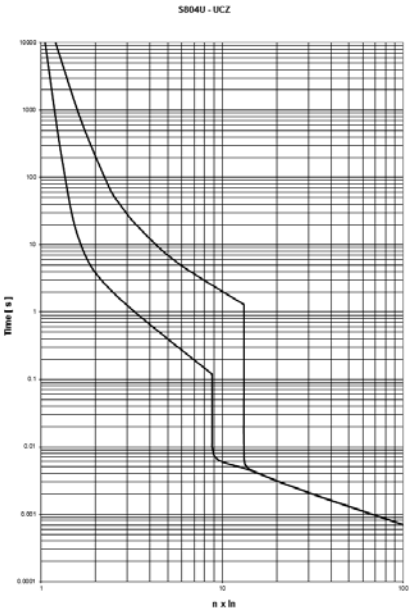
Tested and listed wirings



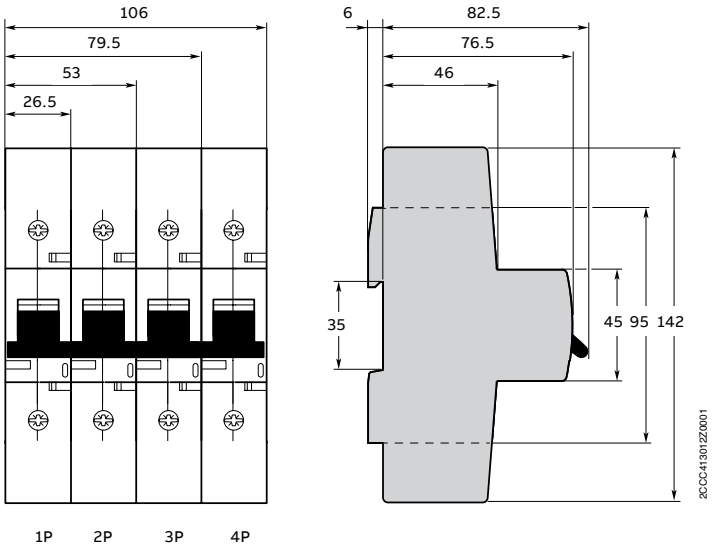
Line and load might be reversed

Ampere rating	10–32 A	40–63 A	70–80 A
Conductor type	Single conductor per terminal – copper only, 60/75 °C wire	Single conductor per terminal – copper only, 60 °C wire only	Single conductor per terminal – copper only, 60 °C wire only
AWG, wire range	14 AWG–2 AWG Cu, solid or stranded	1/0 AWG–8 AWG Cu, solid or stranded	1/0 AWG–8 AWG Cu, solid or stranded
Jumper length	1 ft. 30.5 cm	1 ft. 30.5 cm	2 ft. 61 cm

Trip curves for S804U-UCZ



Dimension of S804U-UCZ



All dimensions shown are in mm.

Tripping behavior acc. to UL489
Thermal tripping:1.00…1.35 x Ie
Electromagnetic tripping 11 x Ie ± 20 %

UL 1077 SERIES

ST200M, S200MUC, S800S, S800C, S800P, S300P, ST200MTR series







Description

The UL 1077 family of supplementary protectors offers a compact solution for protection requirements. The devices are DIN rail mounted.

The UL 1077 MCBs are available with application-specific trip characteristics to provide maximum circuit protection.

The supplementary protectors offer thermal magnetic trip protection according to B, C, D, K and Z trip curves.

For the worldwide market, the breakers carry UL, CSA, IEC, CE and many other agency approvals and certifications.

Features

- Energy limiting
- Fast breaking time (2.3–2.5 ms)
- Bus connection system
- Wide range of accessories
- Available with variable depth handle mechanism
- CE certified and marked
- DIN rail mounting
- Finger-safe terminals
- Multi-function terminals
- Suitable for reverse feed (except for S200MUC)
- UL 1077 recognized supplemental protective device, UL file #E76126 and E167556

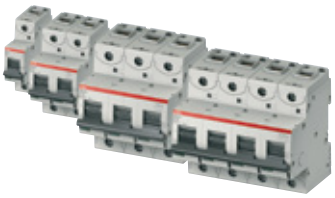
S800S, S800C and S800P series

The small pole width of only 27 mm allows a space-saving installation. The current range covers nominal rated currents from 10 A up to 63 A (S800C) and 6 A up to 63 A (S800C) and 80 A and 100 A (S800P) with a maximum rated short-circuit interrupt rating of up to 20 kA (S800C/P) and 30 kA (S800S) in UL applications.

Due to the number of global standards met by the S800C/S/P, the flexibility for worldwide installation is high. A single product can fulfill the needs of both, IEC and UL applications.

Features

- Rated operational voltage up to 480Y/277 V AC – 500 V DC (S800C/P) and 600Y/347 V AC (S800S), respectively (UL)
- Compression terminals can be easily converted to ring tongue terminals
- Compact
- Space saving



	ST200M	S200MUC	S800S	S800C	S800P	S300P	ST200MTR
Ampacity	0.5 to 63 A	0.2 to 63 A	0.5 to 63 A	10 to 63 A	80 A and 100 A	0.2 to 63 A	0.5 to 63 A
Voltage	480Y/277 V AC	480Y/277 V AC	600Y/347 V AC	480Y/277 V AC	480Y/277 V AC	480Y/277 V AC	480Y/277 V AC
	60/125 V DC (1-/2-pole)	250/500 V DC (1-/2-pole)	–	up to 500 V DC	up to 500 V DC	60/125 V DC (1-/2-pole)	1-pole: 250 V DC; 2-/4-pole: up to 500 V DC
Poles	1, 2, 3	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4 AC 1, 2, 4 DC
Trip curves	B, C, D, K, Z	C, K, Z	B, C, D, K	B, C, D, K	B, C, D, K	B, C, D, K, Z	K, Z
Short circuit interrupt rating	10/5 kA	up to 10 kA	up to 30 kA	up to 20 kA	up to 20 kA	10 kA	ST200MTR: 6 kA ST200MTR (DC): 10 kA
Auxiliary contacts	yes	yes	yes	yes	yes	yes	yes
Bell alarm	yes	yes	yes	yes	yes	yes	yes
Shunt trip	yes	yes	yes	yes	yes	yes	yes
Bottom-mount aux. contact	yes	yes	–	–	–	yes	–
Busbars	yes	yes	–	–	–	yes	Ring tongue busbar

ST200M-B

Supplemental protectors — UL 1077, CSA 22.2 No. 235

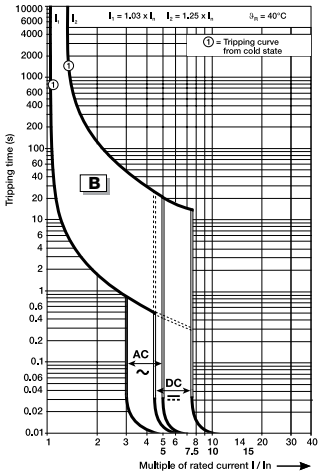








Diagram



Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.5	ST201M-B0.5	2	0.5	ST202M-B0.5
	1	ST201M-B1		1	ST202M-B1
	1.6	ST201M-B1.6		1.6	ST202M-B1.6
	2	ST201M-B2		2	ST202M-B2
	3	ST201M-B3		3	ST202M-B3
	4	ST201M-B4		4	ST202M-B4
	5	ST201M-B5		5	ST202M-B5
	6	ST201M-B6		6	ST202M-B6
	7	ST201M-B7		7	ST202M-B7
	8	ST201M-B8		8	ST202M-B8
	10	ST201M-B10		10	ST202M-B10
	13	ST201M-B13		13	ST202M-B13
	15	ST201M-B15		15	ST202M-B15
	16	ST201M-B16		16	ST202M-B16
	20	ST201M-B20		20	ST202M-B20
	25	ST201M-B25		25	ST202M-B25
	30	ST201M-B30		30	ST202M-B30
	32	ST201M-B32		32	ST202M-B32
	35	ST201M-B35		35	ST202M-B35
	40	ST201M-B40		40	ST202M-B40
	50	ST201M-B50		50	ST202M-B50
	60	ST201M-B60		60	ST202M-B60
	63	ST201M-B63		63	ST202M-B63
3	0.5	ST203M-B0.5			
	1	ST203M-B1			
	1.6	ST203M-B1.6			
	2	ST203M-B2			
	3	ST203M-B3			
	4	ST203M-B4			
	5	ST203M-B5			
	6	ST203M-B6			
	7	ST203M-B7			
	8	ST203M-B8			
	10	ST203M-B10			
	13	ST203M-B13			
	15	ST203M-B15			
	16	ST203M-B16			
	20	ST203M-B20			
	25	ST203M-B25			
	30	ST203M-B30			
	32	ST203M-B32			
	35	ST203M-B35			
	40	ST203M-B40			
	50	ST203M-B50			
	60	ST203M-B60			
	63	ST203M-B63			

ST200M-C

Supplemental protectors — UL 1077, CSA 22.2 No. 235



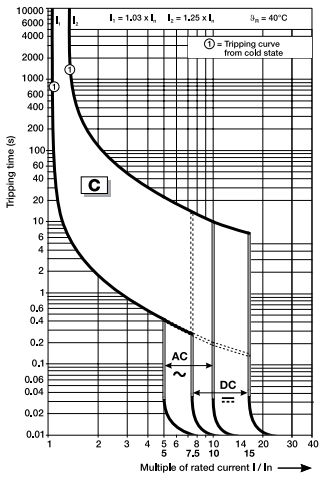






	Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
	1	0.5	ST201M-C0.5	2	0.5	ST202M-C0.5
		1	ST201M-C1		1	ST202M-C1
		1.6	ST201M-C1.6		1.6	ST202M-C1.6
		2	ST201M-C2		2	ST202M-C2
		3	ST201M-C3		3	ST202M-C3
		4	ST201M-C4		4	ST202M-C4
		5	ST201M-C5		5	ST202M-C5
		6	ST201M-C6		6	ST202M-C6
		7	ST201M-C7		7	ST202M-C7
		8	ST201M-C8		8	ST202M-C8
		10	ST201M-C10		10	ST202M-C10
		13	ST201M-C13		13	ST202M-C13
		15	ST201M-C15		15	ST202M-C15
		16	ST201M-C16		16	ST202M-C16
		20	ST201M-C20		20	ST202M-C20
		25	ST201M-C25		25	ST202M-C25
		30	ST201M-C30		30	ST202M-C30
		32	ST201M-C32		32	ST202M-C32
		35	ST201M-C35		35	ST202M-C35
		40	ST201M-C40		40	ST202M-C40
		50	ST201M-C50		50	ST202M-C50
		60	ST201M-C60		60	ST202M-C60
		63	ST201M-C63		63	ST202M-C63
	3	0.5	ST203M-C0.5			
		1	ST203M-C1			
		1.6	ST203M-C1.6			
		2	ST203M-C2			
		3	ST203M-C3			
		4	ST203M-C4			
		5	ST203M-C5			
		6	ST203M-C6			
		7	ST203M-C7			
		8	ST203M-C8			
		10	ST203M-C10			
		13	ST203M-C13			
		15	ST203M-C15			
		16	ST203M-C16			
		20	ST203M-BC20			
		25	ST203M-C25			
		30	ST203M-C30			
		32	ST203M-C32			
		35	ST203M-C35			
		40	ST203M-C40			
		50	ST203M-C50			
		60	ST203M-C60			
		63	ST203M-C63			

Diagram



ST200M-D

Supplemental protectors — UL 1077, CSA 22.2 No. 235



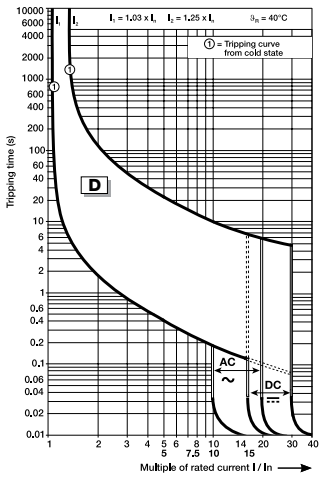






	Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
	1	0.5	ST201M-D0.5	2	0.5	ST202M-D0.5
		1	ST201M-D1		1	ST202M-D1
		1.6	ST201M-D1.6		1.6	ST202M-D1.6
		2	ST201M-D2		2	ST202M-D2
		3	ST201M-D3		3	ST202M-D3
		4	ST201M-D4		4	ST202M-D4
		5	ST201M-D5		5	ST202M-D5
		6	ST201M-D6		6	ST202M-D6
		7	ST201M-D7		7	ST202M-D7
		8	ST201M-D8		8	ST202M-D8
		10	ST201M-D10		10	ST202M-D10
		13	ST201M-D13		13	ST202M-D13
		15	ST201M-D15		15	ST202M-D15
		16	ST201M-D16		16	ST202M-D16
		20	ST201M-D20		20	ST202M-D20
		25	ST201M-D25		25	ST202M-D25
		30	ST201M-D30		30	ST202M-D30
		32	ST201M-D32		32	ST202M-D32
		35	ST201M-D35		35	ST202M-D35
		40	ST201M-D40		40	ST202M-D40
		50	ST201M-D50		50	ST202M-D50
		60	ST201M-D60		60	ST202M-D60
		63	ST201M-D63		63	ST202M-D63
	3	0.5	ST203M-D0.5			
		1	ST203M-D1			
		1.6	ST203M-D1.6			
		2	ST203M-D2			
		3	ST203M-D3			
		4	ST203M-D4			
		5	ST203M-D5			
		6	ST203M-D6			
		7	ST203M-D7			
		8	ST203M-D8			
		10	ST203M-D10			
		13	ST203M-D13			
		15	ST203M-D15			
		16	ST203M-D16			
		20	ST203M-D20			
		25	ST203M-D25			
		30	ST203M-D30			
		32	ST203M-D32			
		35	ST203M-D35			
		40	ST203M-D40			
		50	ST203M-D50			
		60	ST203M-D60			
		63	ST203M-D63			

Diagram



ST200M-K

Supplemental protectors — UL 1077, CSA 22.2 No. 235

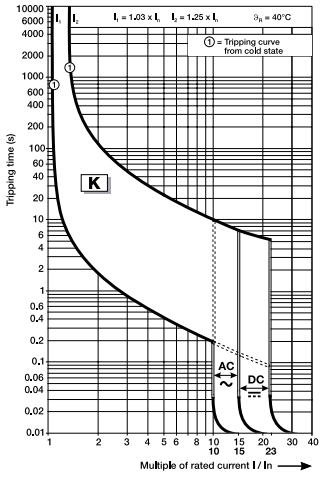








Diagram



Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.5	ST201M-K0.5	2	0.5	ST202M-K0.5
	1	ST201M-K1		1	ST202M-K1
	1.6	ST201M-K1.6		1.6	ST202M-K1.6
	2	ST201M-K2		2	ST202M-K2
	3	ST201M-K3		3	ST202M-K3
	4	ST201M-K4		4	ST202M-K4
	5	ST201M-K5		5	ST202M-K5
	6	ST201M-K6		6	ST202M-K6
	7	ST201M-K7		7	ST202M-K7
	8	ST201M-K8		8	ST202M-K8
	10	ST201M-K10		10	ST202M-K10
	13	ST201M-K13		13	ST202M-K13
	15	ST201M-K15		15	ST202M-K15
	16	ST201M-K16		16	ST202M-K16
	20	ST201M-K20		20	ST202M-K20
	25	ST201M-K25		25	ST202M-K25
	30	ST201M-K30		30	ST202M-K30
	32	ST201M-K32		32	ST202M-K32
	35	ST201M-K35		35	ST202M-K35
	40	ST201M-K40		40	ST202M-K40
	50	ST201M-K50		50	ST202M-K50
	60	ST201M-K60		60	ST202M-K60
	63	ST201M-K63		63	ST202M-K63
3	0.5	ST203M-K0.5			
	1	ST203M-K1			
	1.6	ST203M-K1.6			
	2	ST203M-K2			
	3	ST203M-K3			
	4	ST203M-K4			
	5	ST203M-K5			
	6	ST203M-K6			
	7	ST203M-K7			
	8	ST203M-K8			
	10	ST203M-K10			
	13	ST203M-K13			
	15	ST203M-K15			
	16	ST203M-K16			
	20	ST203M-K20			
	25	ST203M-K25			
	30	ST203M-K30			
	32	ST203M-K32			
	35	ST203M-K35			
	40	ST203M-K40			
	50	ST203M-K50			
	60	ST203M-K60			
	63	ST203M-K63			

ST200M-Z

Supplemental protectors — UL 1077, CSA 22.2 No. 235

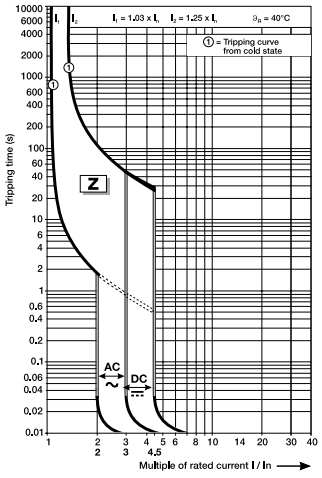








Diagram



Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.5	ST201M-Z0.5	2	0.5	ST202M-Z0.5
	1	ST201M-Z1		1	ST202M-Z1
	1.6	ST201M-Z1.6		1.6	ST202M-Z1.6
	2	ST201M-Z2		2	ST202M-Z2
	3	ST201M-Z3		3	ST202M-Z3
	4	ST201M-Z4		4	ST202M-Z4
	5	ST201M-Z5		5	ST202M-Z5
	6	ST201M-Z6		6	ST202M-Z6
	7	ST201M-Z7		7	ST202M-Z7
	8	ST201M-Z8		8	ST202M-Z8
	10	ST201M-Z10		10	ST202M-Z10
	13	ST201M-Z13		13	ST202M-Z13
	15	ST201M-Z15		15	ST202M-Z15
	16	ST201M-Z16		16	ST202M-Z16
	20	ST201M-Z20		20	ST202M-Z20
	25	ST201M-Z25		25	ST202M-Z25
	30	ST201M-Z30		30	ST202M-Z30
	32	ST201M-Z32		32	ST202M-Z32
	35	ST201M-Z35		35	ST202M-Z35
	40	ST201M-Z40		40	ST202M-Z40
	50	ST201M-Z50		50	ST202M-Z50
	60	ST201M-Z60		60	ST202M-Z60
	63	ST201M-Z63		63	ST202M-Z63
3	0.5	ST203M-Z0.5			
	1	ST203M-Z1			
	1.6	ST203M-Z1.6			
	2	ST203M-Z2			
	3	ST203M-Z3			
	4	ST203M-Z4			
	5	ST203M-Z5			
	6	ST203M-Z6			
	7	ST203M-Z7			
	8	ST203M-Z8			
	10	ST203M-Z10			
	13	ST203M-Z13			
	15	ST203M-Z15			
	16	ST203M-Z16			
	20	ST203M-Z20			
	25	ST203M-Z25			
	30	ST203M-Z30			
	32	ST203M-Z32			
	35	ST203M-Z35			
	40	ST203M-Z40			
	50	ST203M-Z50			
	60	ST203M-Z60			
	63	ST203M-Z63			

S200MUC-C

Supplemental protectors — UL 1077, CSA 22.2 No. 235



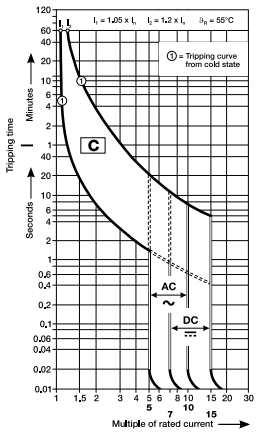






Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.5	S201MUC-C0.5	3	0.5	S203MUC-C0.5
	1	S201MUC-C1		1	S203MUC-C1
	1.6	S201MUC-C1.6		1.6	S203MUC-C1.6
	2	S201MUC-C2		2	S203MUC-C2
	3	S201MUC-C3		3	S203MUC-C3
	4	S201MUC-C4		4	S203MUC-C4
	6	S201MUC-C6		6	S203MUC-C6
	8	S201MUC-C8		8	S203MUC-C8
	10	S201MUC-C10		10	S203MUC-C10
	13	S201MUC-C13		13	S203MUC-C13
	16	S201MUC-C16		16	S203MUC-C16
	20	S201MUC-C20		20	S203MUC-C20
	25	S201MUC-C25		25	S203MUC-C25
	32	S201MUC-C32		32	S203MUC-C32
	40	S201MUC-C40		40	S203MUC-C40
	50	S201MUC-C50		50	S203MUC-C50
	63	S201MUC-C63		63	S203MUC-C63
2	0.5	S202MUC-C0.5	4	0.5	S204MUC-C0.5
	1	S202MUC-C1		1	S204MUC-C1
	1.6	S202MUC-C1.6		1.6	S204MUC-C1.6
	2	S202MUC-C2		2	S204MUC-C2
	3	S202MUC-C3		3	S204MUC-C3
	4	S202MUC-C4		4	S204MUC-C4
	6	S202MUC-C6		6	S204MUC-C6
	8	S202MUC-C8		8	S204MUC-C8
	10	S202MUC-C10		10	S204MUC-C10
	13	S202MUC-C13		13	S204MUC-C13
	16	S202MUC-C16		16	S204MUC-C16
	20	S202MUC-C20		20	S204MUC-C20
	25	S202MUC-C25		25	S204MUC-C25
	32	S202MUC-C32		32	S204MUC-C32
	40	S202MUC-C40		40	S204MUC-C40
	50	S202MUC-C50		50	S204MUC-C50
	63	S202MUC-C63		63	S204MUC-C63

Diagram



S200MUC-K

Supplemental protectors — UL 1077, CSA 22.2 No. 235

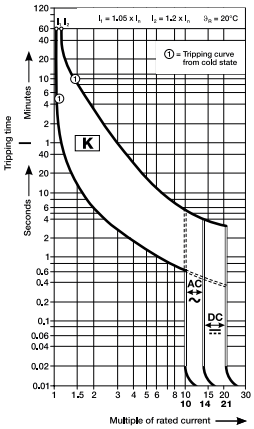








Diagram



Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.2	S201MUC-K0.2	3	0.2	S203MUC-K0.2
	0.3	S201MUC-K0.3		0.3	S203MUC-K0.3
	0.5	S201MUC-K0.5		0.5	S203MUC-K0.5
	0.75	S201MUC-KO.75		0.75	S203MUC-K0.75
	1	S201MUC-K1		1	S203MUC-K1
	1.6	S201MUC-K1.6		1.6	S203MUC-K1.6
	2	S201MUC-K2		2	S203MUC-K2
	3	S201MUC-K3		3	S203MUC-K3
	4	S201MUC-K4		4	S203MUC-K4
	5	S201MUC-K5		5	S203MUC-K5
	6	S201MUC-K6		6	S203MUC-K6
	8	S201MUC-K8		8	S203MUC-K8
	10	S201MUC-K10		10	S203MUC-K10
	13	S201MUC-K13		13	S203MUC-K13
	15	S201MUC-K15		15	S203MUC-K15
	16	S201MUC-K16		16	S203MUC-K16
	20	S201MUC-K20		20	S203MUC-K20
	25	S201MUC-K25		25	S203MUC-K25
	30	S201MUC-K30		30	S203MUC-K30
	32	S201MUC-K32		32	S203MUC-K32
	35	S201MUC-K35		35	S203MUC-K35
	40	S201MUC-K40		40	S203MUC-K40
	50	S201MUC-K50		50	S203MUC-K50
	60	S201MUC-K60		60	S203MUC-K60
	63	S201MUC-K63		63	S203MUC-K63
2	0.2	S202MUC-K0.2	4	0.2	S204MUC-K0.2
	0.3	S202MUC-K0.3		0.3	S204MUC-K0.3
	0.5	S202MUC-K0.5		0.5	S204MUC-K0.5
	0.75	S202MUC-K0.75		0.75	S204MUC-K0.75
	1	S202MUC-K1		1	S204MUC-K1
	1.6	S202MUC-K1.6		1.6	S204MUC-K1.6
	2	S202MUC-K2		2	S204MUC-K2
	3	S202MUC-K3		3	S204MUC-K3
	4	S202MUC-K4		4	S204MUC-K4
	5	S202MUC-K5		5	S204MUC-K5
	6	S202MUC-K6		6	S204MUC-K6
	8	S202MUC-K8		8	S204MUC-K8
	10	S202MUC-K10		10	S204MUC-K10
	13	S202MUC-K13		13	S204MUC-K13
	15	S202MUC-K15		15	S204MUC-K15
	16	S202MUC-K16		16	S204MUC-K16
	20	S202MUC-K20		20	S204MUC-K20
	25	S202MUC-K25		25	S204MUC-K25
	30	S202MUC-K30		30	S204MUC-K30
	32	S202MUC-K32		32	S204MUC-K32
	35	S202MUC-K35		35	S204MUC-K35
	40	S202MUC-K40		40	S204MUC-K40
	50	S202MUC-K50		50	S204MUC-K50
	60	S202MUC-K60		60	S204MUC-K60
	63	S202MUC-K63		63	S204MUC-K63

S200MUC-Z

Supplemental protectors — UL 1077, CSA 22.2 No. 235

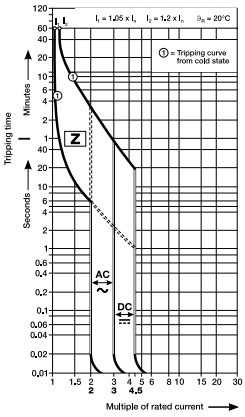








Diagram



Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.5	S201MUC-Z0.5	3	0.5	S203MUC-Z0.5
	1	S201MUC-Z1		1	S203MUC-Z1
	1.6	S201MUC-Z1.6		1.6	S203MUC-Z1.6
	2	S201MUC-Z2		2	S203MUC-Z2
	3	S201MUC-Z3		3	S203MUC-Z3
	4	S201MUC-Z4		4	S203MUC-Z4
	5	S201MUC-Z5		5	S203MUC-Z5
	6	S201MUC-Z6		6	S203MUC-Z6
	8	S201MUC-Z8		8	S203MUC-Z8
	10	S201MUC-Z10		10	S203MUC-Z10
	15	S201MUC-Z15		15	S203MUC-Z15
	16	S201MUC-Z16		16	S203MUC-Z16
	20	S201MUC-Z20		20	S203MUC-Z20
	25	S201MUC-Z25		25	S203MUC-Z25
	30	S201MUC-Z30		30	S203MUC-Z30
	32	S201MUC-Z32		32	S203MUC-Z32
	35	S201MUC-Z35		35	S203MUC-Z35
	40	S201MUC-Z40		40	S203MUC-Z40
	50	S201MUC-Z50		50	S203MUC-Z50
	60	S201MUC-Z60		60	S203MUC-Z60
	63	S201MUC-Z63		63	S203MUC-Z63
2	0.5	S202MUC-Z0.5	4	0.5	S204MUC-Z0.5
	1	S202MUC-Z1		1	S204MUC-Z1
	1.6	S202MUC-Z1.6		1.6	S204MUC-Z1.6
	2	S202MUC-Z2		2	S204MUC-Z2
	3	S202MUC-Z3		3	S204MUC-Z3
	4	S202MUC-Z4		4	S204MUC-Z4
	5	S202MUC-Z5		5	S204MUC-Z5
	6	S202MUC-Z6		6	S204MUC-Z6
	8	S202MUC-Z8		8	S204MUC-Z8
	10	S202MUC-Z10		10	S204MUC-Z10
	15	S202MUC-Z15		15	S204MUC-Z15
	16	S202MUC-Z16		16	S204MUC-Z16
	20	S202MUC-Z20		20	S204MUC-Z20
	25	S202MUC-Z25		25	S204MUC-Z25
	30	S202MUC-Z30		30	S204MUC-Z30
	32	S202MUC-Z32		32	S204MUC-Z32
	35	S202MUC-Z35		35	S204MUC-Z35
	40	S202MUC-Z40		40	S204MUC-Z40
	50	S202MUC-Z50		50	S204MUC-Z50
	60	S202MUC-Z60		60	S204MUC-Z60
	63	S202MUC-Z63		63	S204MUC-Z63

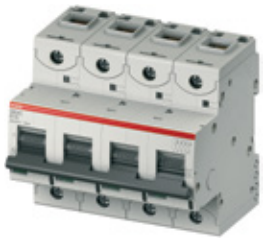
S800C-B

With interchangeable cage terminal









Number of poles	Rated current [A]	Cat. no.	Number of poles	Rated current [A]	Cat. no.
1	10	S801C-B10	3	10	S803C-B10
	13	S801C-B13		13	S803C-B13
	16	S801C-B16		16	S803C-B16
	20	S801C-B20		20	S803C-B20
	25	S801C-B25		25	S803C-B25
	32	S801C-B32		32	S803C-B32
	40	S801C-B40		40	S803C-B40
	50	S801C-B50		50	S803C-B50
	63	S801C-B63		63	S803C-B63
2	10	S802C-B10	4	10	S804C-B10
	13	S802C-B13		13	S804C-B13
	16	S802C-B16		16	S804C-B16
	20	S802C-B20		20	S804C-B20
	25	S802C-B25		25	S804C-B25
	32	S802C-B32		32	S804C-B32
	40	S802C-B40		40	S804C-B40
	50	S802C-B50		50	S804C-B50
	63	S802C-B63		63	S804C-B63

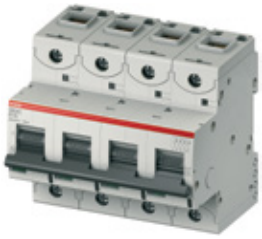
S800C-C

With interchangeable cage terminal









Number of poles	Rated current [A]	Cat. no.	Number of poles	Rated current [A]	Cat. no.
1	10	S801C-C10	3	10	S803C-C10
	13	S801C-C13		13	S803C-C13
	16	S801C-C16		16	S803C-C16
	20	S801C-C20		20	S803C-C20
	25	S801C-C25		25	S803C-C25
	32	S801C-C32		32	S803C-C32
	40	S801C-C40		40	S803C-C40
	50	S801C-C50		50	S803C-C50
	63	S801C-C63		63	S803C-C63
2	10	S802C-C10	4	10	S804C-C10
	13	S802C-C13		13	S804C-C13
	16	S802C-C16		16	S804C-C16
	20	S802C-C20		20	S804C-C20
	25	S802C-C25		25	S804C-C25
	32	S802C-C32		32	S804C-C32
	40	S802C-C40		40	S804C-C40
	50	S802C-C50		50	S804C-C50
	63	S802C-C63		63	S804C-C63

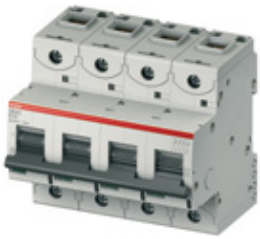
S800C-D

With interchangeable cage terminal









Number of poles	Rated current [A]	Cat. no.	Number of poles	Rated current [A]	Cat. no.
1	10	S801C-D10	3	10	S803C-D10
	13	S801C-D13		13	S803C-D13
	16	S801C-D16		16	S803C-D16
	20	S801C-D20		20	S803C-D20
	25	S801C-D25		25	S803C-D25
	32	S801C-D32		32	S803C-D32
	40	S801C-D40		40	S803C-D40
	50	S801C-D50		50	S803C-D50
	63	S801C-D63		63	S803C-D63
2	10	S802C-D10	4	10	S804C-D10
	13	S802C-D13		13	S804C-D13
	16	S802C-D16		16	S804C-D16
	20	S802C-D20		20	S804C-D20
	25	S802C-D25		25	S804C-D25
	32	S802C-D32		32	S804C-D32
	40	S802C-D40		40	S804C-D40
	50	S802C-D50		50	S804C-D50
	63	S802C-D63		63	S804C-D63

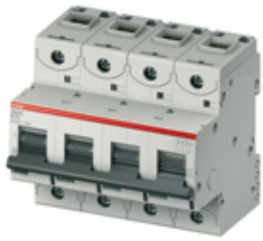
S800C-K

With interchangeable cage terminal









Number of poles	Rated current [A]	Cat. no.	Number of poles	Rated current [A]	Cat. no.
1	10	S801C-K10	3	10	S803C-K10
	13	S801C-K13		13	S803C-K13
	16	S801C-K16		16	S803C-K16
	20	S801C-K20		20	S803C-K20
	25	S801C-K25		25	S803C-K25
	32	S801C-K32		32	S803C-K32
	40	S801C-K40		40	S803C-K40
	50	S801C-K50		50	S803C-K50
	63	S801C-K63		63	S803C-K63
2	10	S802C-K10	4	10	S804C-K10
	13	S802C-K13		13	S804C-K13
	16	S802C-K16		16	S804C-K16
	20	S802C-K20		20	S804C-K20
	25	S802C-K25		25	S804C-K25
	32	S802C-K32		32	S804C-K32
	40	S802C-K40		40	S804C-K40
	50	S802C-K50		50	S804C-K50
	63	S802C-K63		63	S804C-K63

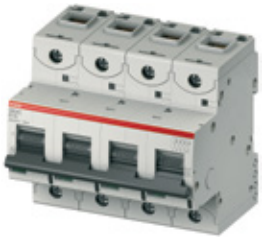
S800S-B

With interchangeable cage terminal









Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.5	S801S-B0.5	3	0.5	S803S-B0.5
	1	S801S-B1		1	S803S-B1
	1.6	S801S-B1.6		1.6	S803S-B1.6
	2	S801S-B2		2	S803S-B2
	2.5	S801S-B2.5		2.5	S803S-B2.5
	3	S801S-B3		3	S803S-B3
	4	S801S-B4		4	S803S-B4
	5	S801S-B5		5	S803S-B5
	6	S801S-B6		6	S803S-B6
	8	S801S-B8		8	S803S-B8
	10	S801S-B10		10	S803S-B10
	13	S801S-B13		13	S803S-B13
	16	S801S-B16		16	S803S-B16
	20	S801S-B20		20	S803S-B20
	25	S801S-B25		25	S803S-B25
	32	S801S-B32		32	S803S-B32
	40	S801S-B40		40	S803S-B40
	50	S801S-B50		50	S803S-B50
	63	S801S-B63		63	S803S-B63
2	0.5	S802S-B0.5	4	0.5	S804S-B0.5
	1	S802S-B1		1	S804S-B1
	1.6	S802S-B1.6		1.6	S804S-B1.6
	2	S802S-B2		2	S804S-B2
	2.5	S802S-B2.5		2.5	S804S-B2.5
	3	S802S-B3		3	S804S-B3
	4	S802S-B4		4	S804S-B4
	5	S802S-B5		5	S804S-B5
	6	S802S-B6		6	S804S-B6
	8	S802S-B8		8	S804S-B8
	10	S802S-B10		10	S804S-B10
	13	S802S-B13		13	S804S-B13
	16	S802S-B16		16	S804S-B16
	20	S802S-B20		20	S804S-B20
	25	S802S-B25		25	S804S-B25
	32	S802S-B32		32	S804S-B32
	40	S802S-B40		40	S804S-B40
	50	S802S-B50		50	S804S-B50
	63	S802S-B63		63	S804S-B63

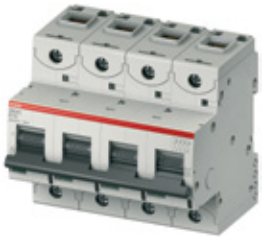
S800S-C

With interchangeable cage terminal









Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.5	S801S-C0.5	3	0.5	S803S-C0.5
	1	S801S-C1		1	S803S-C1
	1.6	S801S-C1.6		1.6	S803S-C1.6
	2	S801S-C2		2	S803S-C2
	2.5	S801S-C2.5		2.5	S803S-C2.5
	3	S801S-C3		3	S803S-C3
	4	S801S-C4		4	S803S-C4
	5	S801S-C5		5	S803S-C5
	6	S801S-C6		6	S803S-C6
	8	S801S-C8		8	S803S-C8
	10	S801S-C10		10	S803S-C10
	13	S801S-C13		13	S803S-C13
	16	S801S-C16		16	S803S-C16
	20	S801S-C20		20	S803S-C20
	25	S801S-C25		25	S803S-C25
	32	S801S-C32		32	S803S-C32
	40	S801S-C40		40	S803S-C40
	50	S801S-C50		50	S803S-C50
	63	S801S-C63		63	S803S-C63
2	0.5	S802S-C0.5	4	0.5	S804S-C0.5
	1	S802S-C1		1	S804S-C1
	1.6	S802S-C1.6		1.6	S804S-C1.6
	2	S802S-C2		2	S804S-C2
	2.5	S802S-C2.5		2.5	S804S-C2.5
	3	S802S-C3		3	S804S-C3
	4	S802S-C4		4	S804S-C4
	5	S802S-C5		5	S804S-C5
	6	S802S-C6		6	S804S-C6
	8	S802S-C8		8	S804S-C8
	10	S802S-C10		10	S804S-C10
	13	S802S-C13		13	S804S-C13
	16	S802S-C16		16	S804S-C16
	20	S802S-C20		20	S804S-C20
	25	S802S-C25		25	S804S-C25
	32	S802S-C32		32	S804S-C32
	40	S802S-C40		40	S804S-C40
	50	S802S-C50		50	S804S-C50
	63	S802S-C63		63	S804S-C63

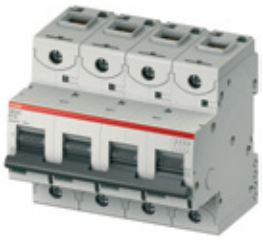
S800S-D

With interchangeable cage terminal









Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.5	S801S-D0.5	3	0.5	S803S-D0.5
	1	S801S-D1		1	S803S-D1
	1.6	S801S-D1.6		1.6	S803S-D1.6
	2	S801S-D2		2	S803S-D2
	2.5	S801S-D2.5		2.5	S803S-D2.5
	3	S801S-D3		3	S803S-D3
	4	S801S-D4		4	S803S-D4
	5	S801S-D5		5	S803S-D5
	6	S801S-D6		6	S803S-D6
	8	S801S-D8		8	S803S-D8
	10	S801S-D10		10	S803S-D10
	13	S801S-D13		13	S803S-D13
	16	S801S-D16		16	S803S-D16
	20	S801S-D20		20	S803S-D20
	25	S801S-D25		25	S803S-D25
	32	S801S-D32		32	S803S-D32
	40	S801S-D40		40	S803S-D40
	50	S801S-D50		50	S803S-D50
	63	S801S-D63		63	S803S-D63
2	0.5	S802S-D0.5	4	0.5	S804S-D0.5
	1	S802S-D1		1	S804S-D1
	1.6	S802S-D1.6		1.6	S804S-D1.6
	2	S802S-D2		2	S804S-D2
	2.5	S802S-D2.5		2.5	S804S-D2.5
	3	S802S-D3		3	S804S-D3
	4	S802S-D4		4	S804S-D4
	5	S802S-D5		5	S804S-D5
	6	S802S-D6		6	S804S-D6
	8	S802S-D8		8	S804S-D8
	10	S802S-D10		10	S804S-D10
	13	S802S-D13		13	S804S-D13
	16	S802S-D16		16	S804S-D16
	20	S802S-D20		20	S804S-D20
	25	S802S-D25		25	S804S-D25
	32	S802S-D32		32	S804S-D32
	40	S802S-D40		40	S804S-D40
	50	S802S-D50		50	S804S-D50
	63	S802S-D63		63	S804S-D63

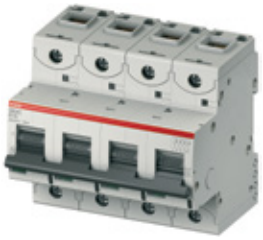
S800S-K

With interchangeable cage terminal









Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.5	S801S-K0.5	3	0.5	S803S-K0.5
	1	S801S-K1		1	S803S-K1
	1.6	S801S-K1.6		1.6	S803S-K1.6
	2	S801S-K2		2	S803S-K2
	2.5	S801S-K2.5		2.5	S803S-K2.5
	3	S801S-K3		3	S803S-K3
	4	S801S-K4		4	S803S-K4
	5	S801S-K5		5	S803S-K5
	6	S801S-K6		6	S803S-K6
	8	S801S-K8		8	S803S-K8
	10	S801S-K10		10	S803S-K10
	13	S801S-K13		13	S803S-K13
	16	S801S-K16		16	S803S-K16
	20	S801S-K20		20	S803S-K20
	25	S801S-K25		25	S803S-K25
	32	S801S-K32		32	S803S-K32
	40	S801S-K40		40	S803S-K40
	50	S801S-K50		50	S803S-K50
	63	S801S-K63		63	S803S-K63
2	0.5	S802S-K0.5	4	0.5	S804S-K0.5
	1	S802S-K1		1	S804S-K1
	1.6	S802S-K1.6		1.6	S804S-K1.6
	2	S802S-K2		2	S804S-K2
	2.5	S802S-K2.5		2.5	S804S-K2.5
	3	S802S-K3		3	S804S-K3
	4	S802S-K4		4	S804S-K4
	5	S802S-K5		5	S804S-K5
	6	S802S-K6		6	S804S-K6
	8	S802S-K8		8	S804S-K8
	10	S802S-K10		10	S804S-K10
	13	S802S-K13		13	S804S-K13
	16	S802S-K16		16	S804S-K16
	20	S802S-K20		20	S804S-K20
	25	S802S-K25		25	S804S-K25
	32	S802S-K32		32	S804S-K32
	40	S802S-K40		40	S804S-K40
	50	S802S-K50		50	S804S-K50
	63	S802S-K63		63	S804S-K63

S800P

With interchangeable cage terminal

S800P-B



Number of poles	Rated current I_n A	Cat no.	Number of poles	Rated current I_n A	Cat no.
1	80	S801P-B80	2	80	S802P-B80
	100	S801P-B100		100	S802P-B100
3	80	S803P-B80	4	80	S804P-B80
	100	S803P-B100		100	S804P-B100

S800P-C



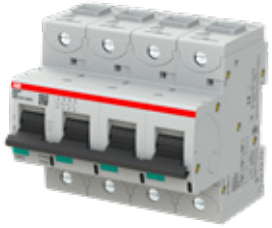
Number of poles	Rated current I_n A	Cat no.	Number of poles	Rated current I_n A	Cat no.
1	80	S801P-C80	2	80	S802P-C80
	100	S801P-C100		100	S802P-C100
3	80	S803P-C80	4	80	S804P-C80
	100	S803P-C100		100	S804P-C100

S800P-D



Number of poles	Rated current I_n A	Cat no.	Number of poles	Rated current I_n A	Cat no.
1	80	S801P-D80	2	80	S802P-D80
	100	S801P-D100		100	S802P-D100
3	80	S803P-D80	4	80	S804P-D80
	100	S803P-D100		100	S804P-D100

S800P-K



Number of poles	Rated current I_n A	Cat no.	Number of poles	Rated current I_n A	Cat no.
1	80	S801P-K80	2	80	S802P-K80
	100	S801P-K100		100	S802P-K100
3	80	S803P-K80	4	80	S804P-K80
	100	S803P-K100		100	S804P-K100

S300P-B

UL 1077, CSA 22.2 No. 235

S300P-B characteristics

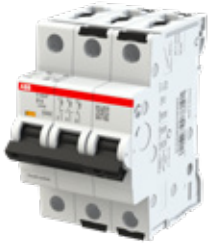
Function: Protection and control of circuits against overloads and short circuits; protection for people and long lengths of cables in TN and IT systems.

Standards: UL 1077, IEC/EN 60898-1, IEC/EN 60947-2

UL 1077 interrupt rating: 10 kA









Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	6	S301P-B6	3	6	S303P-B6
	8	S301P-B8		8	S303P-B8
	10	S301P-B10		10	S303P-B10
	13	S301P-B13		13	S303P-B13
	16	S301P-B16		16	S303P-B16
	20	S301P-B20		20	S303P-B20
	25	S301P-B25		25	S303P-B25
	32	S301P-B32		32	S303P-B32
	40	S301P-B40		40	S303P-B40
	50	S301P-B50		50	S303P-B50
	63	S301P-B63		63	S303P-B63
2	6	S302P-B6	4	6	S304P-B6
	8	S302P-B8		8	S304P-B8
	10	S302P-B10		10	S304P-B10
	13	S302P-B13		13	S304P-B13
	16	S302P-B16		16	S304P-B16
	20	S302P-B20		20	S304P-B20
	25	S302P-B25		25	S304P-B25
	32	S302P-B32		32	S304P-B32
	40	S302P-B40		40	S304P-B40
	50	S302P-B50		50	S304P-B50
	63	S302P-B63		63	S304P-B63

S300P-C

UL 1077, CSA 22.2 No. 235

S300P-C characteristics

Function: Protection and control of circuits against overloads and short circuits; protection for people and long lengths of cables in TN and IT systems.

Standards: UL 1077, IEC/EN 60898-1, IEC/EN 60947-2

UL 1077 interrupt rating: 10 kA









Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.5	S301P-C0,5	3	0.5	S303P-C0,5
	1	S301P-C1		1	S303P-C1
	1.6	S301P-C1,6		1.6	S303P-C1,6
	2	S301P-C2		2	S303P-C2
	3	S301P-C3		3	S303P-C3
	4	S301P-C4		4	S303P-C4
	6	S301P-C6		6	S303P-C6
	8	S301P-C8		8	S303P-C8
	10	S301P-C10		10	S303P-C10
	13	S301P-C13		13	S303P-C13
	16	S301P-C16		16	S303P-C16
	20	S301P-C20		20	S303P-C20
	25	S301P-C25		25	S303P-C25
	32	S301P-C32		32	S303P-C32
	40	S301P-C40		40	S303P-C40
	50	S301P-C50		50	S303P-C50
	63	S301P-C63		63	S303P-C63
2	0.5	S302P-C0,5	4	0.5	S304P-C0,5
	1	S302P-C1		1	S304P-C1
	1.6	S302P-C1,6		1.6	S304P-C1,6
	2	S302P-C2		2	S304P-C2
	3	S302P-C3		3	S304P-C3
	4	S302P-C4		4	S304P-C4
	6	S302P-C6		6	S304P-C6
	8	S302P-C8		8	S304P-C8
	10	S302P-C10		10	S304P-C10
	13	S302P-C13		13	S304P-C13
	16	S302P-C16		16	S304P-C16
	20	S302P-C20		20	S304P-C20
	25	S302P-C25		25	S304P-C25
	32	S302P-C32		32	S304P-C32
	40	S302P-C40		40	S304P-C40
	50	S302P-C50		50	S304P-C50
	63	S302P-C63		63	S304P-C63

S300P-D

UL 1077, CSA 22.2 No. 235

S300P-D characteristics

Function: Protection and control of circuits against overloads and short circuits; protection for people and long lengths of cables in TN and IT systems.

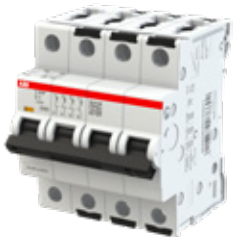
Standards: UL 1077, IEC/EN 60898-1, IEC/EN 60947-2

UL 1077 interrupt rating: 10 kA









Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.5	S301P-D0,5	3	0.5	S303P-D0,5
	1	S301P-D1		1	S303P-D1
	1.6	S301P-D1,6		1.6	S303P-D1,6
	2	S301P-D2		2	S303P-D2
	3	S301P-D3		3	S303P-D3
	4	S301P-D4		4	S303P-D4
	6	S301P-D6		6	S303P-D6
	8	S301P-D8		8	S303P-D8
	10	S301P-D10		10	S303P-D10
	13	S301P-D13		13	S303P-D13
	16	S301P-D16		16	S303P-D16
	20	S301P-D20		20	S303P-D20
	25	S301P-D25		25	S303P-D25
	32	S301P-D32		32	S303P-D32
	40	S301P-D40		40	S303P-D40
	50	S301P-D50		50	S303P-D50
	63	S301P-D63		63	S303P-D63
2	0.5	S302P-D0,5	4	0.5	S304P-D0,5
	1	S302P-D1		1	S304P-D1
	1.6	S302P-D1,6		1.6	S304P-D1,6
	2	S302P-D2		2	S304P-D2
	3	S302P-D3		3	S304P-D3
	4	S302P-D4		4	S304P-D4
	6	S302P-D6		6	S304P-D6
	8	S302P-D8		8	S304P-D8
	10	S302P-D10		10	S304P-D10
	13	S302P-D13		13	S304P-D13
	16	S302P-D16		16	S304P-D16
	20	S302P-D20		20	S304P-D20
	25	S302P-D25		25	S304P-D25
	32	S302P-D32		32	S304P-D32
	40	S302P-D40		40	S304P-D40
	50	S302P-D50		50	S304P-D50
	63	S302P-D63		63	S304P-D63

S300P-K

UL 1077, CSA 22.2 No. 235

S300P-K (power) characteristics

Function: Protection and control of circuits like motors, transformers and auxiliary circuits, against overloads and short circuits.
Advantages: No nuisance tripping in the case of functional peak currents up to 10xIn. Depending on the series; through its highly sensitive thermostatic bimetal trip, the K-type characteristic offers protection to damageable elements in the overcurrent range; it also provides the best protection to cables and lines.

UL 1077 interrupt rating: 10 kA









Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.2	S301P-K0.2	3	0.2	S303P-K0.2
	0.3	S301P-K0.3		0.3	S303P-K0.3
	0.5	S301P-K0,5		0.5	S303P-K0,5
	0.75	S301P-K0.75		0.75	S303P-K0.75
	1	S301P-K1		1	S303P-K1
	1.6	S301P-K1,6		1.6	S303P-K1,6
	2	S301P-K2		2	S303P-K2
	3	S301P-K3		3	S303P-K3
	4	S301P-K4		4	S303P-K4
	6	S301P-K6		6	S303P-K6
	8	S301P-K8		8	S303P-K8
	10	S301P-K10		10	S303P-K10
	13	S301P-K13		13	S303P-K13
	16	S301P-K16		16	S303P-K16
	20	S301P-K20		20	S303P-K20
	25	S301P-K25		25	S303P-K25
	32	S301P-K32		32	S303P-K32
	40	S301P-K40		40	S303P-K40
	50	S301P-K50		50	S303P-K50
	63	S301P-K63		63	S303P-K63
2	0.2	S302P-K0.2	4	0.2	S304P-K0.2
	0.3	S302P-K0.3		0.3	S304P-K0.3
	0.5	S302P-K0,5		0.5	S304P-K0,5
	0.75	S302P-K0.75		0.75	S304P-K0.75
	1	S302P-K1		1	S304P-K1
	1.6	S302P-K1,6		1.6	S304P-K1,6
	2	S302P-K2		2	S304P-K2
	3	S302P-K3		3	S304P-K3
	4	S302P-K4		4	S304P-K4
	6	S302P-K6		6	S304P-K6
	8	S302P-K8		8	S304P-K8
	10	S302P-K10		10	S304P-K10
	13	S302P-K13		13	S304P-K13
	16	S302P-K16		16	S304P-K16
	20	S302P-K20		20	S304P-K20
	25	S302P-K25		25	S304P-K25
	32	S302P-K32		32	S304P-K32
	40	S302P-K40		40	S304P-K40
	50	S302P-K50		50	S304P-K50
	63	S302P-K63		63	S304P-K63

S300P-Z

UL 1077, CSA 22.2 No. 235

S300P-Z characteristics

Function: Protection and control of electronic circuits against lower and long duration overloads and short circuits.

Standards: UL1077, IEC/EN 60947-2

UL 1077 interrupt rating: 10 kA









Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.5	S301P-Z0,5	3	0.5	S303P-Z0,5
	1	S301P-Z1		1	S303P-Z1
	1.6	S301P-Z1,6		1.6	S303P-Z1,6
	2	S301P-Z2		2	S303P-Z2
	3	S301P-Z3		3	S303P-Z3
	4	S301P-Z4		4	S303P-Z4
	6	S301P-Z6		6	S303P-Z6
	8	S301P-Z8		8	S303P-Z8
	10	S301P-Z10		10	S303P-Z10
	16	S301P-Z16		16	S303P-Z16
	20	S301P-Z20		20	S303P-Z20
	25	S301P-Z25		25	S303P-Z25
	32	S301P-Z32		32	S303P-Z32
	40	S301P-Z40		40	S303P-Z40
	50	S301P-Z50		50	S303P-Z50
	63	S301P-Z63		63	S303P-Z63
2	0.5	S302P-Z0,5	4	0.5	S304P-Z0,5
	1	S302P-Z1		1	S304P-Z1
	1.6	S302P-Z1,6		1.6	S304P-Z1,6
	2	S302P-Z2		2	S304P-Z2
	3	S302P-Z3		3	S304P-Z3
	4	S302P-Z4		4	S304P-Z4
	6	S302P-Z6		6	S304P-Z6
	8	S302P-Z8		8	S304P-Z8
	10	S302P-Z10		10	S304P-Z10
	16	S302P-Z16		16	S304P-Z16
	20	S302P-Z20		20	S304P-Z20
	25	S302P-Z25		25	S304P-Z25
	32	S302P-Z32		32	S304P-Z32
	40	S302P-Z40		40	S304P-Z40
	50	S302P-Z50		50	S304P-Z50
	63	S302P-Z63		63	S304P-Z63

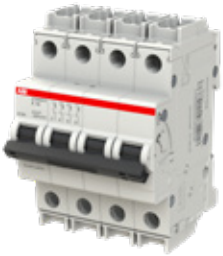
ST200MTR — ring tongue terminal

K characteristic









Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.5	ST201MTR-K0,5	3	0.5	ST203MTR-K0,5
	1	ST201MTR-K1		1	ST203MTR-K1
	1.6	ST201MTR-K1,6		1.6	ST203MTR-K1,6
	2	ST201MTR-K2		2	ST203MTR-K2
	3	ST201MTR-K3		3	ST203MTR-K3
	4	ST201MTR-K4		4	ST203MTR-K4
	5	ST201MTR-K5		5	ST203MTR-K5
	6	ST201MTR-K6		6	ST203MTR-K6
	8	ST201MTR-K8		8	ST203MTR-K8
	10	ST201MTR-K10		10	ST203MTR-K10
	13	ST201MTR-K13		13	ST203MTR-K13
	15	ST201MTR-K15		15	ST203MTR-K15
	16	ST201MTR-K16		16	ST203MTR-K16
	20	ST201MTR-K20		20	ST203MTR-K20
	25	ST201MTR-K25		25	ST203MTR-K25
	30	ST201MTR-K30		30	ST203MTR-K30
	32	ST201MTR-K32		32	ST203MTR-K32
	35	ST201MTR-K35		35	ST203MTR-K35
	40	ST201MTR-K40		40	ST203MTR-K40
	50	ST201MTR-K50		50	ST203MTR-K50
	60	ST201MTR-K60		60	ST203MTR-K60
	63	ST201MTR-K63		63	ST203MTR-K63
2	0.5	ST202MTR-K0,5	4	0.5	ST204MTR-K0,5
	1	ST202MTR-K1		1	ST204MTR-K1
	1.6	ST202MTR-K1,6		1.6	ST204MTR-K1,6
	2	ST202MTR-K2		2	ST204MTR-K2
	3	ST202MTR-K3		3	ST204MTR-K3
	4	ST202MTR-K4		4	ST204MTR-K4
	5	ST202MTR-K5		5	ST204MTR-K5
	6	ST202MTR-K6		6	ST204MTR-K6
	8	ST202MTR-K8		8	ST204MTR-K8
	10	ST202MTR-K10		10	ST204MTR-K10
	13	ST202MTR-K13		13	ST204MTR-K13
	15	ST202MTR-K15		15	ST204MTR-K15
	16	ST202MTR-K16		16	ST204MTR-K16
	20	ST202MTR-K20		20	ST204MTR-K20
	25	ST202MTR-K25		25	ST204MTR-K25
	30	ST202MTR-K30		30	ST204MTR-K30
	32	ST202MTR-K32		32	ST204MTR-K32
	35	ST202MTR-K35		40	ST204MTR-K35
	40	ST202MTR-K40		50	ST204MTR-K40
	50	ST202MTR-K50		60	ST204MTR-K50
	60	ST202MTR-K60		63	ST204MTR-K60
	63	ST202MTR-K63			

ST200MTR — ring tongue terminal

K characteristic — DC







Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.5	ST201MTR-K0,5 DC	4	0.5	ST204MTR-K0,5 DC
	1	ST201MTR-K1 DC		1	ST204MTR-K1 DC
	1.6	ST201MTR-K1,6 DC		1.6	ST204MTR-K1,6 DC
	2	ST201MTR-K2 DC		2	ST204MTR-K2 DC
	3	ST201MTR-K3 DC		3	ST204MTR-K3 DC
	4	ST201MTR-K4 DC		4	ST204MTR-K4 DC
	5	ST201MTR-K5 DC		5	ST204MTR-K5 DC
	6	ST201MTR-K6 DC		6	ST204MTR-K6 DC
	8	ST201MTR-K8 DC		8	ST204MTR-K8 DC
	10	ST201MTR-K10 DC		10	ST204MTR-K10 DC
	13	ST201MTR-K13 DC		13	ST204MTR-K13 DC
	15	ST201MTR-K15 DC		15	ST204MTR-K15 DC
	16	ST201MTR-K16 DC		16	ST204MTR-K16 DC
	20	ST201MTR-K20 DC		20	ST204MTR-K20 DC
	25	ST201MTR-K25 DC		25	ST204MTR-K25 DC
	30	ST201MTR-K30 DC		30	ST204MTR-K30 DC
	32	ST201MTR-K32 DC		32	ST204MTR-K32 DC
	35	ST201MTR-K35 DC		35	ST204MTR-K35 DC
	40	ST201MTR-K40 DC		40	ST204MTR-K40 DC
	50	ST201MTR-K50 DC		50	ST204MTR-K50 DC
	60	ST201MTR-K60 DC		60	ST204MTR-K60 DC
	63	ST201MTR-K63 DC		63	ST204MTR-K63 DC
2	0.5	ST202MTR-K0,5 DC			
	1	ST202MTR-K1 DC			
	1.6	ST202MTR-K1,6 DC			
	2	ST202MTR-K2 DC			
	3	ST202MTR-K3 DC			
	4	ST202MTR-K4 DC			
	5	ST202MTR-K5 DC			
	6	ST202MTR-K6 DC			
	8	ST202MTR-K8 DC			
	10	ST202MTR-K10 DC			
	13	ST202MTR-K13 DC			
	15	ST202MTR-K15 DC			
	16	ST202MTR-K16 DC			
	20	ST202MTR-K20 DC			
	25	ST202MTR-K25 DC			
	30	ST202MTR-K30 DC			
	32	ST202MTR-K32 DC			
	35	ST202MTR-K35 DC			
	40	ST202MTR-K40 DC			
	50	ST202MTR-K50 DC			
	60	ST202MTR-K60 DC			
	63	ST202MTR-K63 DC			

Please consider polarity as note above the codes.

ST200MTR — ring tongue terminal

Z characteristic









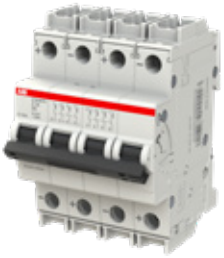
Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.5	ST201MTR-Z0,5	3	0.5	ST203MTR-Z0,5
	1	ST201MTR-Z1		1	ST203MTR-Z1
	1.6	ST201MTR-Z1,6		1.6	ST203MTR-Z1,6
	2	ST201MTR-Z2		2	ST203MTR-Z2
	3	ST201MTR-Z3		3	ST203MTR-Z3
	4	ST201MTR-Z4		4	ST203MTR-Z4
	5	ST201MTR-Z5		5	ST203MTR-Z5
	6	ST201MTR-Z6		6	ST203MTR-Z6
	8	ST201MTR-Z8		8	ST203MTR-Z8
	10	ST201MTR-Z10		10	ST203MTR-Z10
	15	ST201MTR-Z15		15	ST203MTR-Z15
	16	ST201MTR-Z16		16	ST203MTR-Z16
	20	ST201MTR-Z20		20	ST203MTR-Z20
	25	ST201MTR-Z25		25	ST203MTR-Z25
	30	ST201MTR-Z30		30	ST203MTR-Z30
	32	ST201MTR-Z32		32	ST203MTR-Z32
	35	ST201MTR-Z35		35	ST203MTR-Z35
	40	ST201MTR-Z40		40	ST203MTR-Z40
	50	ST201MTR-Z50		50	ST203MTR-Z50
	60	ST201MTR-Z60		60	ST203MTR-Z60
	63	ST201MTR-Z63		63	ST203MTR-Z63
2	0.5	ST202MTR-Z0,5	4	0.5	ST204MTR-Z0,5
	1	ST202MTR-Z1		1	ST204MTR-Z1
	1.6	ST202MTR-Z1,6		1.6	ST204MTR-Z1,6
	2	ST202MTR-Z2		2	ST204MTR-Z2
	3	ST202MTR-Z3		3	ST204MTR-Z3
	4	ST202MTR-Z4		4	ST204MTR-Z4
	5	ST202MTR-Z5		5	ST204MTR-Z5
	6	ST202MTR-Z6		6	ST204MTR-Z6
	8	ST202MTR-Z8		8	ST204MTR-Z8
	10	ST202MTR-Z10		10	ST204MTR-Z10
	15	ST202MTR-Z15		15	ST204MTR-Z15
	16	ST202MTR-Z16		16	ST204MTR-Z16
	20	ST202MTR-Z20		20	ST204MTR-Z20
	25	ST202MTR-Z25		25	ST204MTR-Z25
	30	ST202MTR-Z30		30	ST204MTR-Z30
	32	ST202MTR-Z32		32	ST204MTR-Z32
	35	ST202MTR-Z35		35	ST204MTR-Z35
	40	ST202MTR-Z40		40	ST204MTR-Z40
	50	ST202MTR-Z50		50	ST204MTR-Z50
	60	ST202MTR-Z60		60	ST204MTR-Z60
	63	ST202MTR-Z63		63	ST204MTR-Z63

ST200MTR — ring tongue terminal

Z characteristic — DC







Number of poles	Rated current I_n A	Cat. no.	Number of poles	Rated current I_n A	Cat. no.
1	0.5	ST201MTR-Z0,5 DC	4	0.5	ST204MTR-Z0,5 DC
	1	ST201MTR-Z1 DC		1	ST204MTR-Z1 DC
	1.6	ST201MTR-Z1,6 DC		1.6	ST204MTR-Z1,6 DC
	2	ST201MTR-Z2 DC		2	ST204MTR-Z2 DC
	3	ST201MTR-Z3 DC		3	ST204MTR-Z3 DC
	4	ST201MTR-Z4 DC		4	ST204MTR-Z4 DC
	5	ST201MTR-Z5 DC		5	ST204MTR-Z5 DC
	6	ST201MTR-Z6 DC		6	ST204MTR-Z6 DC
	8	ST201MTR-Z8 DC		8	ST204MTR-Z8 DC
	10	ST201MTR-Z10 DC		10	ST204MTR-Z10 DC
	15	ST201MTR-Z15 DC		15	ST204MTR-Z15 DC
	16	ST201MTR-Z16 DC		16	ST204MTR-Z16 DC
	20	ST201MTR-Z20 DC		20	ST204MTR-Z20 DC
	25	ST201MTR-Z25 DC		25	ST204MTR-Z25 DC
	30	ST201MTR-Z30 DC		30	ST204MTR-Z30 DC
	32	ST201MTR-Z32 DC		32	ST204MTR-Z32 DC
	35	ST201MTR-Z35 DC		35	ST204MTR-Z35 DC
	40	ST201MTR-Z40 DC		40	ST204MTR-Z40 DC
	50	ST201MTR-Z50 DC		50	ST204MTR-Z50 DC
	60	ST201MTR-Z60 DC		60	ST204MTR-Z60 DC
	63	ST201MTR-Z63 DC		63	ST204MTR-Z63 DC
2	0.5	ST202MTR-Z0,5 DC			
	1	ST202MTR-Z1 DC			
	1.6	ST202MTR-Z1,6 DC			
	2	ST202MTR-Z2 DC			
	3	ST202MTR-Z3 DC			
	4	ST202MTR-Z4 DC			
	5	ST202MTR-Z5 DC			
	6	ST202MTR-Z6 DC			
	8	ST202MTR-Z8 DC			
	10	ST202MTR-Z10 DC			
	15	ST202MTR-Z15 DC			
	16	ST202MTR-Z16 DC			
	20	ST202MTR-Z20 DC			
	25	ST202MTR-Z25 DC			
	30	ST202MTR-Z30 DC			
	32	ST202MTR-Z32 DC			
	35	ST202MTR-Z35 DC			
	40	ST202MTR-Z40 DC			
	50	ST202MTR-Z50 DC			
	60	ST202MTR-Z60 DC			
	63	ST202MTR-Z63 DC			

Accessories

ST200M, S200MUC and S300P — UL 1077, CSA 22.2 No. 235

Auxiliary contacts

The auxiliary contacts will signal whether the breaker is in the ON or OFF position.

	Description	Cat. no.
	For field mounting: right side	
S2C-H6... 	Auxiliary contact 1 CO	S2C-H6R
	Auxiliary contact 1 NO/1 NC	S2C-H6-11R
	Auxiliary contact 2 NO	S2C-H6-20R
	Auxiliary contact 2 NC	S2C-H6-02R

Bell alarm — signal contact

The bell alarm includes a set of contacts that will only signal when the breaker has tripped. Typically, the contacts would be connected to an alarm or bell to signal the operator that an over-current trip has occurred. The bell alarm also includes a test button for testing the alarm contacts without opening the breaker.

	Description	Cat. no.
	For field mounting: right side	S2C-S/H6R

Shunt trip

For remote tripping of breaker, a shunt trip device can be added to the MCB. The solenoid device opens the breaker after control voltage is applied.

	Description	Cat. no.
	For field mounting: right side	
S3C 	A1-12-110 V AC (12–110 V DC)	S3C-A1
	A2-110-415 V AC (110–250 V DC)	S3C-A2

LOCKING DEVICE

	Description	Cat. no.
	Locking device, 3 mm	SA1
	Padlock with two keys	SA2

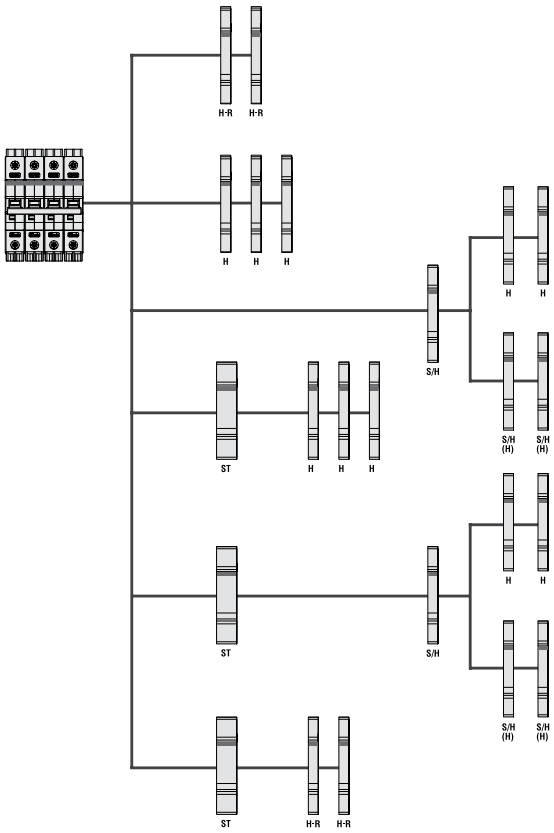
BOTTOM-FITTED AUXILIARY CONTACT

	Description	Cat. no.
	Auxiliary contact 1 NC	S2C-H01
	Auxiliary contact 1 NO	S2C-H10

Accessories

ST200M, S200MUC and S300P — UL 1077, CSA 22.2 No. 235

Accessory overview



H	Auxiliary contact S2C-H6R
H-R	Auxiliary contact S2C-H6-...R
S/H	Signal/auxiliary contact S2C-S/H6R
S/H (H)	Signal/auxiliary contact S2C-S/H6R used as auxiliary contact
ST	Shunt trip S3C A...

Busbars PS...CB and accessories according to UL 508

For MCBs ST200M and S300P



Busbars type PS...CB are used for quick and easy line side wiring of miniature circuit breakers according to UL 1077 as well as fuse disconnectors E90. The entire product line, including the accessories, is approved according to UL 508 (cULus) and can be used for applications in supplementary protection circuits in UL and CSA markets

Application and installation

- UL listing according to UL 508
- For UL and CSA applications
- For use with MCB types according UL 1077, rangesS200, S200M, S200P, S200MUC, S200MTUC, ST200M and fuse disconnectors E90
- Quick and easy installation
- Can be cut off to the required length
- Suitable for AC and DC applications
- Global use in UL, CSA and IEC markets

Product range

- 1-, 2-, 3-pole types
- 18 mm² and 25 mm² cross section
- For MCBs with or without auxiliary contact
- Touch-safe thanks to end caps and electric shock-protection caps installed over unused busbar pins
- Rated current max. 200 A
- Rated voltage according to UL
  - 1-phase: 1,000 V AC/DC
  - 2-/3-phase: 600 V AC/DC
- End caps, electric shock-protection caps and feeder terminals as accessories

Busbars PS...CB and accessories according to UL 508

Technical data

TECHNICAL DATA

			Busbars PS...CB		
	Standards		UL 508 IEC EN 60947-1		
Electrical data	Rated voltage U_e	V	**1-phase** 1,000 V AC/DC	**2- / 3-phase** UL: 600 V AC/DC IEC: 690 V AC/DC	
	Current carrying capacity / phase (35 °C ambient temperature)	A		**18 mm²**	**25 mm²**
			End feeding [1]	80 A	100 A
			Non-end feeding [1]	160 A	200 A
	Short-circuit rating	kA	10 kA 3 cycles @ 480 V / 100 kA fuse class J 175 A / 18 mm² - 200 A / 25 mm²		
Mechanical Data	Housing		Light gray, RAL 7035		
	Overvoltage category		III		
	Pollution degree		2		
Installation	Busbar cross section	mm²	18 mm² / 25 mm²		
	Mounting position		Optional		
	Supply		Feed to the device's terminal (supply side optional) or use feeder terminal AST 35/15-1 CB; AST 35/15-2 CB; AST 35/38-1 CB; AST 35/38-2 CB; SZ-ESK SP		
Accessories	Electric shock-protection caps		BSK CB		
	Feeder terminals		AST 35/15-1 CB; AST 35/15-2 CB AST 35/38-1 CB; AST 35/38-2 CB SZ-ESK SP		
	End caps		PS-END 1 CB PS-END 3 CB		
Approvals			UL 508: cULus listed		
			CE and RoHS compliant		
			In addition to the approval of the busbar, the approval of the switching device used must also be considered.		
Installation instructions			When cutting the busbar, ensure that the insulation profile protrudes beyond the end of the copper bar by approx. 10 mm at each end. Electric shock-protection only ensured with end caps mounted.		

[1] Irrespective of the current carrying capacity of the busbar, the max. rated current of the devices terminal must not be exceeded.

Busbars PS...CB and accessories according to UL 508

Ordering data

BUSBARS SUITABLE FOR CUTTING

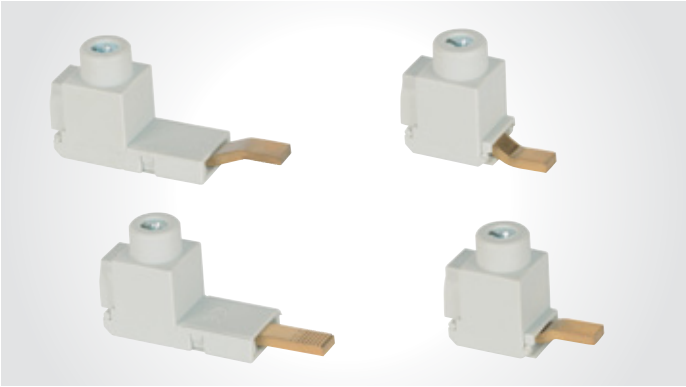
Phases	mm²	No. of pins	Weight 1 piece kg	Pack unit pc.	Cat. no.
1-phase busbars, pin distance 17.6 mm, end caps PS-END 1 CB					
1	18	57	0.289	10	PS1/57/18CB
1	25	57	0.360	10	PS1/57/25CB
1-phase busbars, connection of 1-pole devices with auxiliary, end caps PS-END 1 CB					
1	18	37	0.254	10	PS1/37/18HCB
1	25	37	0.310	10	PS1/37/25HCB
2-phase busbars, pin distance 17.6 mm, end caps PS-END 3 CB					
2	18	56	0.639	10	PS2/56/18CB
2	25	56	0.795	10	PS2/56/25CB
2-phase busbars, connection of 2-pole devices with auxiliary, end caps PS-END 3 CB					
2	18	46	0.672	10	PS2/46/18HCB
2	25	46	0.782	10	PS2/46/25HCB
3-phase busbars, pin distance 17.6 mm, end caps PS-END 3					
3	18	57	0.929	10	PS3/57/18CB
3	25	57	1.026	10	PS3/57/25CB
3-phase busbars, connection of 3-pole devices with auxiliary, end caps PS-END 3 CB					
3	18	48	0.788	10	PS3/48/18HCB
3	25	48	0.974	10	PS3/48/25HCB
3-phase busbars, connection of 1-pole devices with auxiliary, end caps PS-END 3 CB					
3	18	39	0.794	10	PS3/39/18HCB
3	25	39	0.974	10	PS3/39/25HCB

ACCESSORIES

	Weight 1 piece kg	Pack unit pc.	Cat. no.
Electric shock-protection cap			
	0.008	10	BSK CB
Feeder terminals with pin contact			
for use with MCB and 1-phase busbar	0.025	25	AST35/15-2CB
for use with MCB and 2-/3-phase busbar	0.032	10	AST35/38-2CB
for use with E90 and 2-/3-phase busbar	0.032	10	AST35/38-1CB
for use with E90 and 1-phase busbar	0.025	25	AST35/15-1CB
Single-pole terminal, can be mounted side by side, feed to the busbar pin			
	0.032	50	SZ ESK SP
End caps			
for use with PS 1...CB	0.001	50	PS-END 1 CB
for use with PS 2...CB and PS3...CB	0.002	50	PS-END 3 CB

Busbars PS...CB and accessories according to UL 508

Technical data feeder terminals



Feeder terminals AST..CB to connect copper wires up to a cross section of 50 mm² to DIN rail devices in pro M compact® system.

The terminals are cULus listed according to UL 508 and can be used for applications in supplementary protection circuits in combination with UL/CSA approved miniature circuit breakers and E90 fuse disconnectors.

TECHNICAL DATA

		Feeder terminal AST..CB
	Standards	UL 508 / UL 486A / CSA C22.2 / IEC 60999
Electrical data	Rated voltage U_e	UL: 1,000 V AC/DC IEC: 1,000 V AC / 1,500 V DC
	Rated current I_e	UL: 115 A IEC: 160 A
Mechanical data	Housing	PA66, gray RAL 7035
	Chassis	Brass
	Terminal screw	Steel, zinc-plated
	Protection degree	IP 20
Installation	Cross section	Solid / stranded: 6..50 mm²; 10 AWG..1/0 AWG Flexible with ferrules: 6..35 mm²; 10 AWG..2 AWG
	Tightening torque	6 mm² / 10 AWG: 4.0 Nm / 35 lbf-in 8 mm² / 8 AWG: 4.5 Nm / 40 lbf-in 10..16 mm² / 6..4 AWG: 5.1 Nm / 45 lbf-in 25..50 mm² / 3..1/0 AWG: 5.5 Nm / 50 lbf-in* * Tightening torque according to UL486A, Table 21, Clauses 9.1.9.4 and 9.1.9.6
	Stripping length	~ 14 mm; 9/16''
	Conductor material	Copper
Approvals		UL 508 CE, RoHS and REACH compliant In addition to the approval of the feeder terminal, the approval of the switching device used must also be considered.
Instruction of installation		The feeder terminals are single-phase. In case of a combination of multiple terminals with installation side by side, e.g. for multipole or DC applications, the required creepage and air leakage distances must be considered and observed. To ensure protection against electrical electric shock, the pin length of the feeder terminal must not exceed the depth of the contact area of the connected device. Irrespective of the current carrying capacity of the feeder terminal, the max. rated current of the devices terminal must not be exceeded.

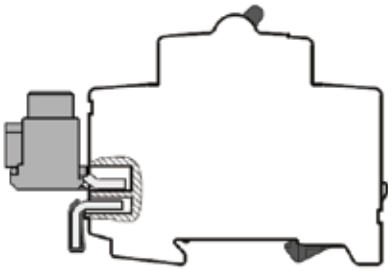
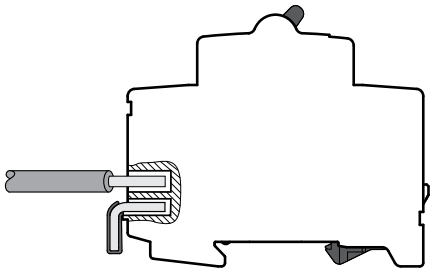
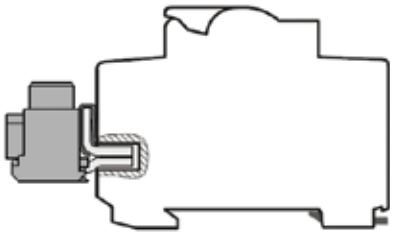
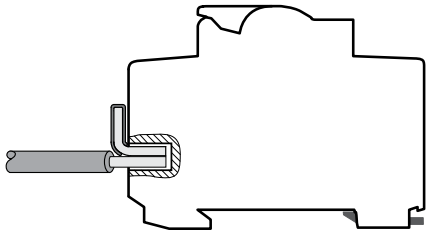
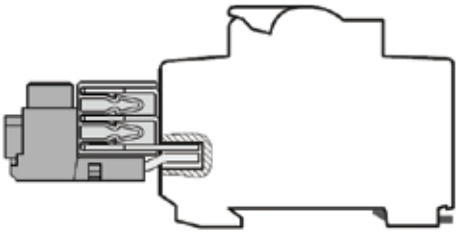
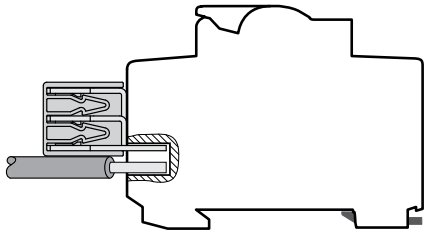
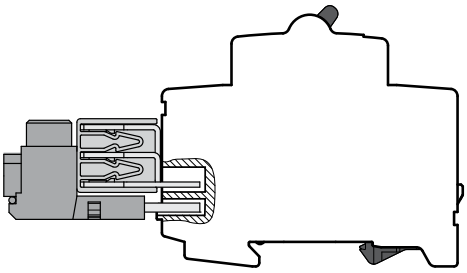
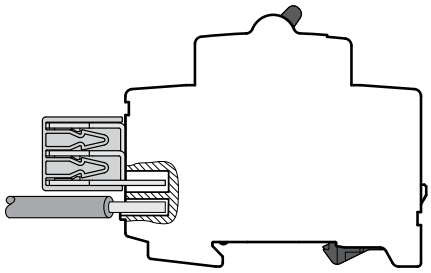
ORDER CODES

	Weight 1 piece	Pack unit	
Feeder terminals with pin contact	**kg**	**pc.**	**Cat. no.**
for use with MCB and 1-phase busbar	0.025	25	AST35/15-2CB
for use with MCB and 2-/3-phase busbar	0.032	10	AST35/38-2CB
for use with E90 and 2-/3-phase busbar	0.032	10	AST35/38-1CB
for use with E90 and 1-phase busbar	0.025	25	AST35/15-1CB

Busbars PS...CB and accessories according to UL 508

Installation of busbars and use of feeder terminals/cables for feed

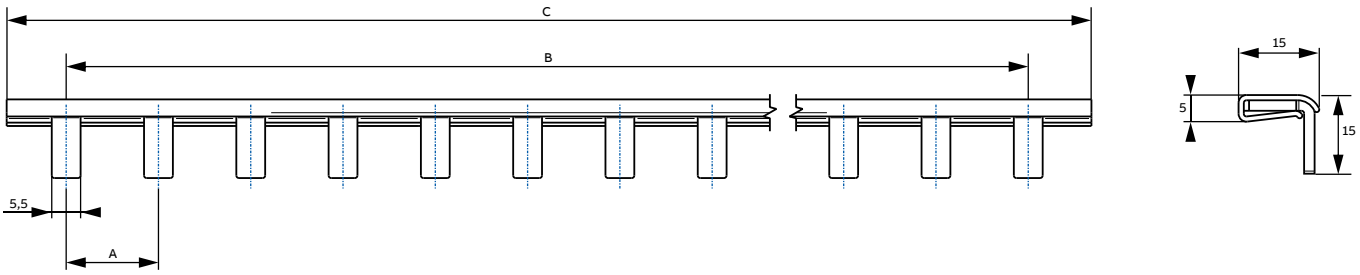
INSTALLATION OF BUSBARS AND USE OF FEEDER TERMINALS/CABLES FOR FEED

MCB with 1-phase busbar Feeder terminal AST 35/15-2 CB	**MCB with 1-phase busbar** Feed using cable
	
E90 with 1-phase busbar Feeder terminal AST 35/15-1 CB	**E90 with 1-phase busbar** Feed using cable
	
E90 with 2-/3-phase busbar Feeder terminal AST 35/38-1 CB	**E90 with 2-/3-phase busbar** Feed using cable
	
MCB with 2-/3-phase busbar Feeder terminal AST 35/38-2 CB	**MCB with 2-/3-phase busbar** Feed using cable
	

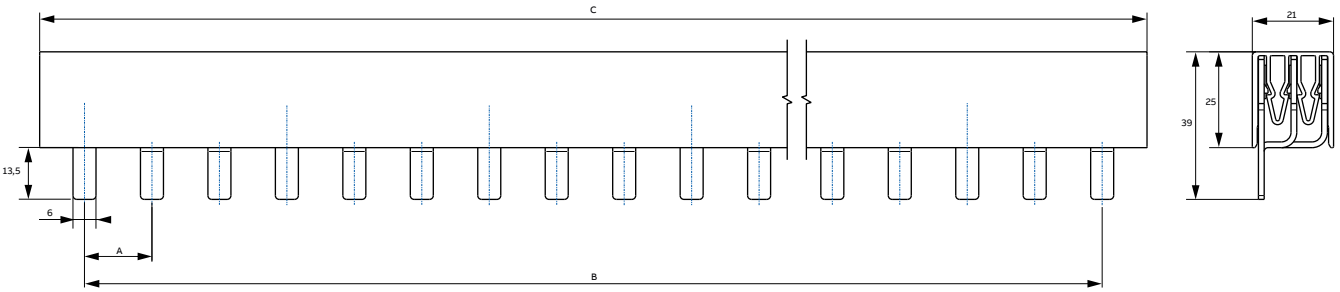
Busbars PS...CB and accessories according to UL 508

Overall dimensions

1-phase busbars



2-/3-phase busbars



OVERALL DIMENSIONS

Busbar	A mm	B mm	C mm
1-phase busbars			
PS1/57/18CB	17.6	986	1010
PS1/57/25CB	17.6	986	1010
PS1/37/18HCB	26.4	950	985
PS1/37/25HCB	26.4	950	985
2-phase busbars			
PS2/56/18CB	17.6	968	990
PS2/56/25CB	17.6	968	990
PS2/46/18HCB	17.6 / 26.4 *	968	1010
PS2/46/25HCB	17.6 / 26.4 *	968	990
3-phase busbars			
PS3/57/18CB	17.6	986	1010
PS3/57/25CB	17.6	986	1010
PS3/48/18HCB	17.6 / 26.4 *	924	982
PS3/48/25HCB	17.6 / 26.4 *	924	982
PS3/39/18HCB	26.4	1003	1040
PS3/39/25HCB	26.4	1003	1040

* pin gap for auxiliary

Accessories

S800S, S800C, S800P

See pages 20–26.

Technical specifications

ST200M, S200MUC — UL 1077, CSA 22.2 No. 235

TECHNICAL SPECIFICATIONS

	ST200M	S200MUC
Number of poles	1, 2, 3	1, 2, 3, 4
Trip curves	B, C, D, K, Z	C, K, Z
Rated current	0.5–63 A	0.2–63 A
Rated voltage	277/Y480 V AC	277/Y480 V AC
	60/125 V DC (1/2-pole)	250/500 V DC (1/2-pole)
Short circuit interrupt rating	10 kA at 480Y/277 V AC (up to 32 A)	10 kA (DC)
	5 kA at 480Y/277 V AC (35 to 63 A) 10 kA at 240 V AC, 60/125 V DC	6 kA (AC)
Calibration temperature	40 °C	25 °C
Protection degree	IP20	IP20
Mounting position	Any	Any
Mounting/installation	35 mm DIN rail	35 mm DIN rail
Terminal/cable size	18–4 AWG	18–4 AWG
Service life, mechanical	20,000 operations	20,000 operations
Ambient temperature	-40 °C to 70 °C	-40 °C to 70 °C
Shock resistance (IEC 60068-2-27)	25 g - 2 shocks - 13 ms	25 g - 2 shocks - 13 ms

NOTE: For the ambient temperature -40 °C up to +70 °C, average over a period of 24 hours shall not exceed +55 °C.

AUXILIARY CONTACT S2C-H6R AND SIGNAL CONTACT S2C-S6R

Rated current (A)	10
Rated voltage V AC/DC	24
Contact	1 pole, single throw
Connection capacity	18–14 AWG (0.75–2.5 mm^2)
Tightening torque	11 in. lbs (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

Technical specifications

ST200M, S200MUC — UL 1077, CSA 22.2 No. 235

SHUNT TRIP

	S3C-A1	S3C-A2
Rated voltage	12–110 V AC	110–415 V
	12–110 V DC	110–250 V
Maximum release duration	<10 ms @ rated voltage	<10 ms @ rated voltage
Minimum release voltage	8.4 V AC	77 V AC
	10 V DC	77 V DC
Coil resistance	4 V	210 V
Terminals	18–14 AWG/ 0.75–2.5 mm^2	18–14 AWG/ 0.75–2.5 mm^2
Tightening torque	7.1 in. lbs /0.8 Nm	7.1 in. lbs /0.8 Nm

UNDER-VOLTAGE RELEASE

		S2C-UA 12 DC	S2C-UA 24 AC	S2C-UA 24 DC	S2C-UA 48 AC	S2C-UA 48 DC	S2C-UA 110 AC	S2C-UA 110 DC	S2C-UA 230 AC	S2C-UA 230 DC	S2C-UA 400 AC
Standards											IEC/EN 60947-1110...415 V
Rated voltage	AC		24 V		48 V		110 V		230 AC		400 V
	DC	12 V		24 V		48 V		110 V		230 V	
Frequency											50 ... 60 HZ
Release trip											0.35 UnOVO 0.7 Un V
Terminals											2 x 16 AWG/2 x 1.5 mm^2
Consumption		0.2 VA	3.6 VA	2 VA	3.6 VA	2.1 VA	3.5 VA	2.2 VA	3.7 VA	2.3 VA	2.4 VA
Resistance to corrosion											Constant atmosphere: 23/83 – 40/93 – 55/20; variable atmosphere: 25/95 – 40/93 °C/RH
Protection degree											IPXXB / IP2X
Tightening torque											3.5 in. lbs/0.4 Nm

Technical specifications

ST200M — UL 1077, CSA 22.2 No. 235

Internal resistance and power loss per pole
Internal resistance per pole in mV, power loss per pole in W.

ST200M INTERNAL RESISTANCE AND POWER LOSS PER POLE

	B. C. K		D		Z	
Rated current	Internal resistance per pole	Power loss	Internal resistance per pole	Power loss	Internal resistance per pole	Power loss
I_n [A]	R_i [mOhm]	P_v [W]	R_i	P_v	R_i	P_v
0.5	5500	1.4	4300	1.1	8100	2.4
1	1440	1.4	1250	1.25	2100	2.3
1.6	645	1.8	600	1.5	1000	2.8
2	460	1.8	410	1.7	620	2.5
3	150	1.6	130	1.2	235	2.4
4	110	1.8	105	1.7	150	2.4
5	55	1.4	52	1.3	75	1.9
6	55	2.0	52	1.9	75	3.2
7	24	1.2	26	1.3	28	1.4
8	23	1.5	24	1.5	27	2.0
10	21	2.2	16	1.6	24	2.7
13	14	2.3	14	2.2	15	2.6
15	8.5	2	8.5	2	11	2.5
16	8.5	2.5	8.5	2.5	10.9	2.8
20	6.25	2.5	6.1	2.3	6.0	2.4
25	5.0	3.2	4.3	3.1	4.5	3.3
30	3.5	3.1	3.5	3.2	3.5	3.2
32	3.5	3.7	3.5	3.6	3.5	3.6
35	3.4	4.2	3.4	4.2	3.5	4.3
40	3.0	4.8	2.2	4.2	2.5	4.1
50	1.8	4.3	1.3	2.9	1.5	4.1
60	1.2	4.4	1.2	4.4	1.3	4.7
63	1.2	5.5	1.2	4.8	1.3	5.2

Technical specifications

ST200M — UL 1077, CSA 22.2 No. 235

Temperature derating

Max. operating current depending on the ambient temperature.

ST200M TEMPERATURE RATING

UL 1077	Ambient temperature (°C)											
I_n (A)	-40	-30	-20	-10	0	10	20	30	40	50	60	70
0.5	0.65	0.63	0.61	0.59	0.57	0.56	0.54	0.52	0.50	0.48	0.46	0.44
1	1.30	1.26	1.22	1.19	1.15	1.11	1.07	1.04	1.00	0.96	0.93	0.89
1.6	2.06	2.01	1.96	1.90	1.84	1.78	1.72	1.66	1.60	1.54	1.48	1.42
2	2.60	2.52	2.44	2.37	2.30	2.22	2.15	2.07	2.00	1.93	1.85	1.78
3	3.89	3.78	3.67	3.56	3.44	3.33	3.22	3.11	3.00	2.89	2.78	2.67
4	5.19	5.04	4.89	4.74	4.59	4.44	4.30	4.15	4.00	3.85	3.70	3.56
5	6.50	6.31	6.13	5.94	5.75	5.56	5.38	5.00	5.00	4.81	4.63	4.44
6	7.77	7.55	7.33	7.11	6.89	6.67	6.44	6.22	6.00	5.78	5.56	5.33
7	9.10	8.84	8.58	8.31	8.05	7.79	7.53	7.00	7.00	6.74	6.48	6.21
8	10.36	10.07	9.78	9.48	9.18	8.89	8.59	8.30	8.00	7.70	7.41	7.11
10	13.00	12.60	12.20	11.90	11.50	11.10	10.70	10.40	10.00	9.60	9.30	8.90
13	16.90	16.40	15.90	15.40	14.90	14.40	14.00	13.50	13.00	12.50	12.00	11.60
15	19.50	18.94	18.38	17.81	17.25	16.69	16.13	16.00	15.00	14.44	13.88	13.31
16	20.60	20.10	19.60	19.00	18.40	17.80	17.20	16.60	16.00	15.40	14.80	14.20
20	26.00	25.20	24.40	23.70	23.00	22.20	21.50	20.70	20.00	19.30	18.50	17.80
25	32.40	31.50	30.60	29.60	28.70	27.80	26.90	25.90	25.00	24.10	23.20	22.20
30	39.00	37.88	36.75	35.63	34.50	33.38	32.25	31.00	30.00	28.88	27.75	26.63
32	41.50	40.30	39.10	37.90	36.70	35.60	34.40	33.20	32.00	30.80	29.60	28.40
35	47.00	45.30	43.70	42.10	40.60	39.10	37.70	36.30	35.00	33.70	32.50	31.30
40	51.90	50.40	48.90	47.40	45.90	44.40	43.00	41.50	40.00	38.50	37.00	35.60
50	64.90	63.00	61.10	59.30	57.40	55.60	53.70	51.90	50.00	48.20	46.30	44.50
60	80.50	77.60	74.80	72.10	69.50	67.00	64.60	62.30	60.00	57.80	55.70	53.70
63	81.60	79.30	77.00	74.70	72.30	70.00	67.70	65.30	63.00	60.70	58.30	56.00

Miniature circuit breaker S200MUC

Use of MCBs in direct current circuits

S200MUC miniature circuit breakers can be used in the 1-pole version at 250 V DC, and in the 2-pole or 4-pole version with series connection of two poles up to 500 V DC.

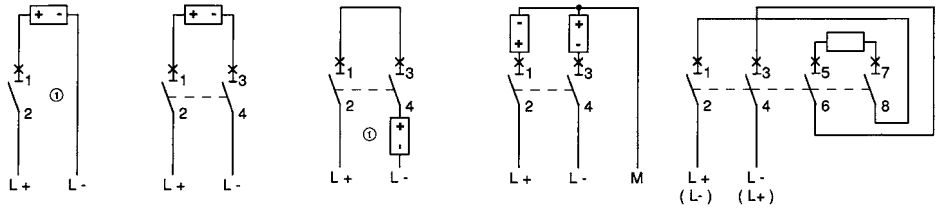
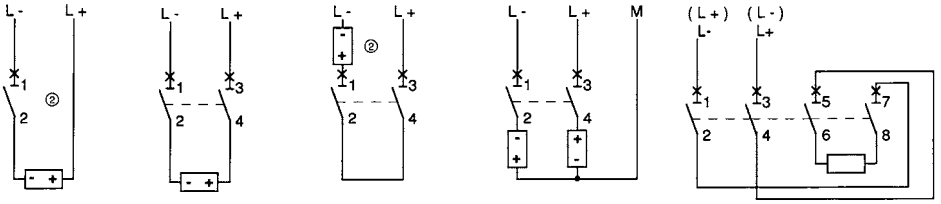
S200MUC differs from the standard S200 type. It is equipped with permanent magnets that assist in the forced extinguishing of the arc.

If voltages to ground exceeding 250 V DC occur, 2-pole S200MUC should be used for 1-pole disconnection and 4-pole S200MUC for all-pole disconnection.

For DC incoming supply from above

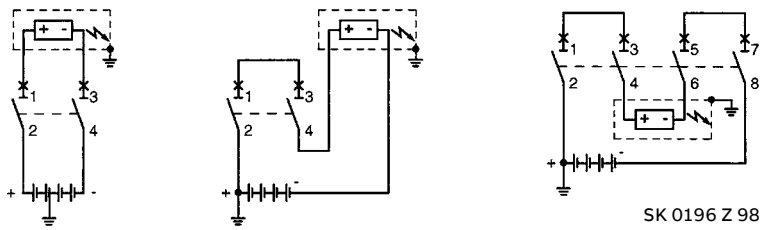
S200MUC MCBs have permanent magnets in the area of arc chutes. Therefore, it is necessary to take into account the polarity during the installation process. In the case of a short circuit, the magnetic field of the permanent magnets corresponds with the electromagnetic field of the short-circuit current, therefore, safely leading the short circuit into the arc chute. Incorrect polarities may cause damage to the MCB. As a result, for top-fed devices, terminal 1 must be connected to (-) and terminal 3 to (+).

EXAMPLES OF PERMISSIBLE VOLTAGES BETWEEN THE CONDUCTORS DEPENDING ON THE NUMBER OF POLES AND CIRCUIT LAYOUT:

Voltage between conductors	U_n	250 V DC	500 V DC	500 V DC	500 V DC	500 V DC
Voltage between conductor and ground	U_n	250 V DC	250 V DC	500 V DC	250 V DC	250 V DC
MCB		1-pole S201MUC	2-pole S202MUC	2-pole S202MUC	2-pole S202MUC	4-pole S204MUC
Supply from below						
						SK 0115 Z 94
Supply from above						
						SK 0114 Z 94

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

EXAMPLES OF PERMISSIBLE VOLTAGES BETWEEN THE CONDUCTORS DEPENDING ON THE NUMBER OF POLES AND CIRCUIT LAYOUT:

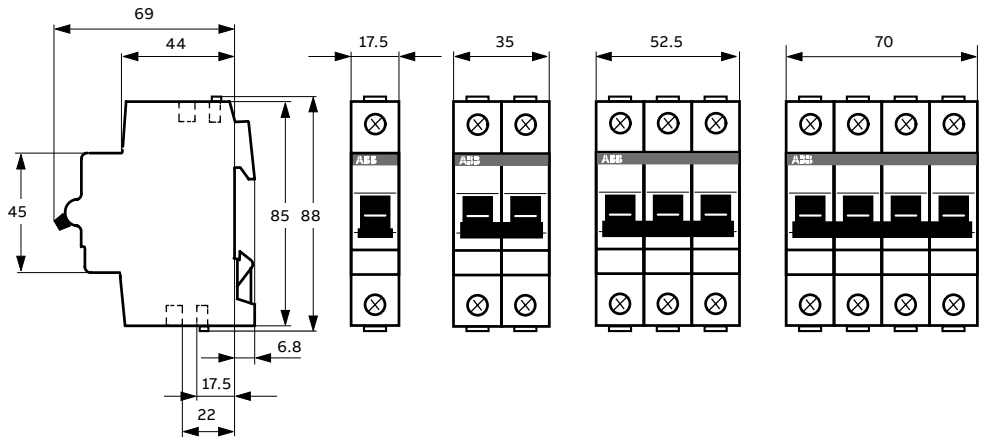
Voltage between conductors	U_n	500 V DC all-pole disconnection	500 V DC 1-pole disconnection	500 V DC all-pole disconnection
Voltage between conductor and ground	U_n	250 V DC circuit symmetrically grounded	250 V DC unsymmetrically grounded	250 V DC circuit ungrounded or unsymmetrically grounded
MCB		2-pole S202MUC	2-pole S202MUC	4-pole S204MUC
Supply from below				
				SK 0196 Z 98

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

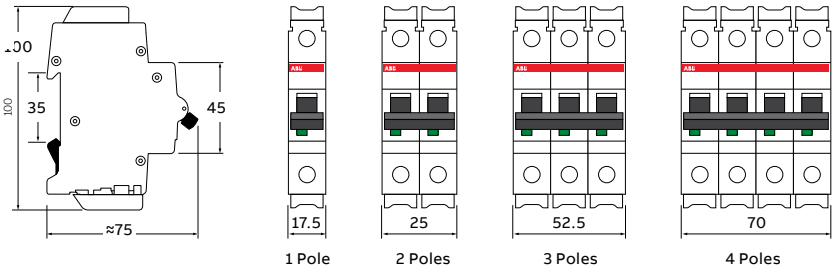
Approximate dimensions

ST200M, S200MUC and S300P — UL 1077, CSA 22.2 No. 235

ST200M, S300P



ST200MTR



Technical data
S800C

General data	
Tripping characteristic	B, C, D, K
Standard	IEC 60947-2, EN 60898-1, UL 1077
Poles	1–4
Rated frequency	50/60 Hz
Data acc. to UL1077	
Rated voltage U	240 V AC (1p, 3p) 277/480Y V AC (1p, 3p) 125 V DC (1p) 250 V DC (2p) 375 V DC (3p) 500 V DC (4p)
Rated current I	10–100 A
Short-circuit breaking capacity I_{cc}	20 kA (240 V AC) 10 kA (277/480Y V AC) 10 kA (500 V DC)
Rated insulation voltage U_i	500 V AC
Reference temperature for tripping characteristic	B, C, D: 30 °C, K: 40 °C
General data	
Electrical and mechanical endurance	Up to 100 A: 6000 electrical/4000 mechanical
Installation	
Terminal	Failsafe cage terminal
Connection (top/bottom) – Cu only	14–2 AWG (10–30 A, solid or stranded) 1–8 AWG (40–100 A, stranded) Single conductor per terminal, 60/75 °C wire (10–30 A), 60 °C wire (40–100 A)
Tightening torque	3.5 Nm/31 in. lb.
Mounting position	Any
Supply side	Any

Technical data

S800S

General data	
Tripping characteristic	B, C, D, K
Standard	IEC 60947-2, EN 60898-1, UL 1077
Poles	1–4
Rated frequency	50/60 Hz
Data acc. to UL1077	
Rated voltage U	600Y/347 V AC
Rated current I	6–63 A
Short-circuit breaking capacity I_{cc}	30 (240 V up to 63 A) 14 (277/480Y V up to 63 A) 6 (346/600Y V up to 40 A, 63 A)
Rated insulation voltage U_i	600 V AC
Reference temperature for tripping characteristic	B, C, D: 30 °C, K: 40 °C
General data	
Electrical and mechanical endurance	6000 electrical/4000 mechanical
Installation	
Terminal	Failsafe cage terminal
Connection (top/bottom) – Cu only	14–2 AWG (10–30 A, solid or stranded) 1–8 AWG (40–100 A, stranded) Single conductor per terminal, 60/75 °C wire (10–30 A), 60 °C wire (40–100 A)
Tightening torque	3.5 Nm/31 in. lb.
Mounting position	Any
Supply side	Any

Technical data

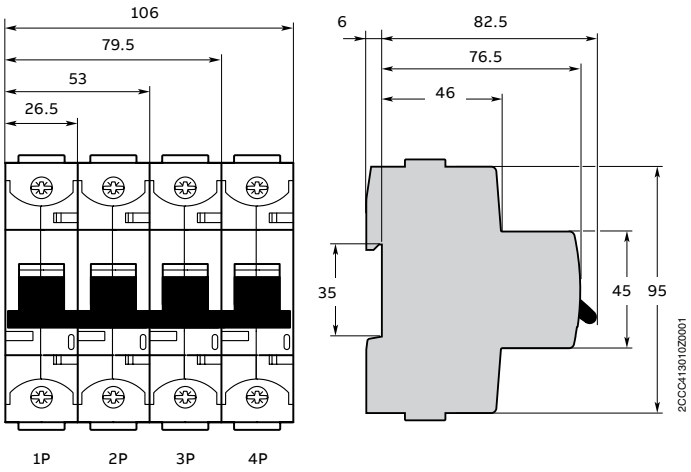
S800P

General data		
Tripping characteristics		B, C, D, K
Standards		IEC/EN 60947-2, UL 1077
Poles		1, 2, 3, 4
Rated current In		80 … 125 A
Rated frequency f		50/60 Hz
Data acc. to UL 1077/ C22.2 No 235, supplementary protector		
Alternating current: int. cap.		1P
	AC 240 = 20 kA	(80…100A)
	AC 277 = 10 kA	(80…100A)
		2P, 3P, 4P
	AC 240 V = 20 kA	(80…100A)
	AC 277 V = 10 kA	(80…100A)
Direct current: int. cap.	DC 125 V (1P) = 10 kA	(80…100A)
	DC 250 V (2P) = 10 kA	(80…100A)
	DC 375 V (3P) = 10 kA	(80…100A)
	DC 500 V (4P) = 10 kA	(80…100A)
Installation		
Terminal		Failsafe cage or ring lug terminal
Connections (top/bottom) – Cu only		1 … 50 flexible mm^2
		1 … 70 Solid (Rigid / Stranded) mm^2
Tightening torque		3.5 (Nm)
		31 (in-lbs)
Screwdriver		POZI 2
Mounting		EN 60715
Mounting position		Any
Supply		Any

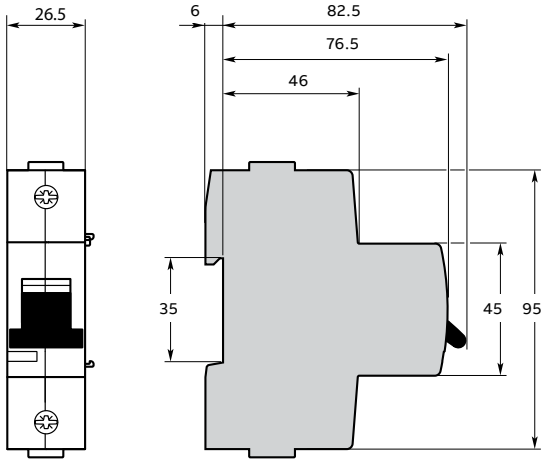
Approximate dimensions

S800C, S800S, S800P

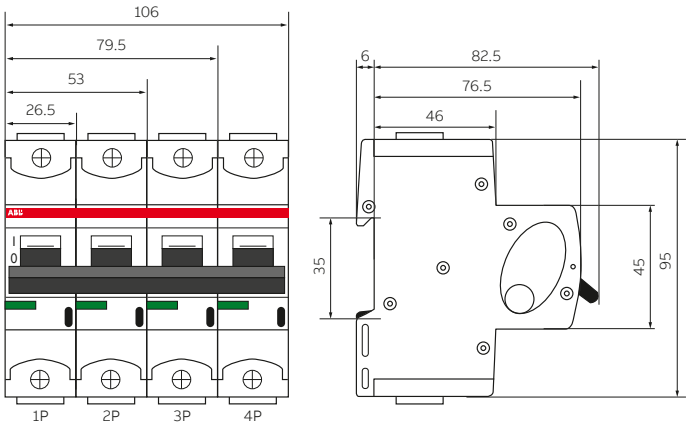
S800C, S800S



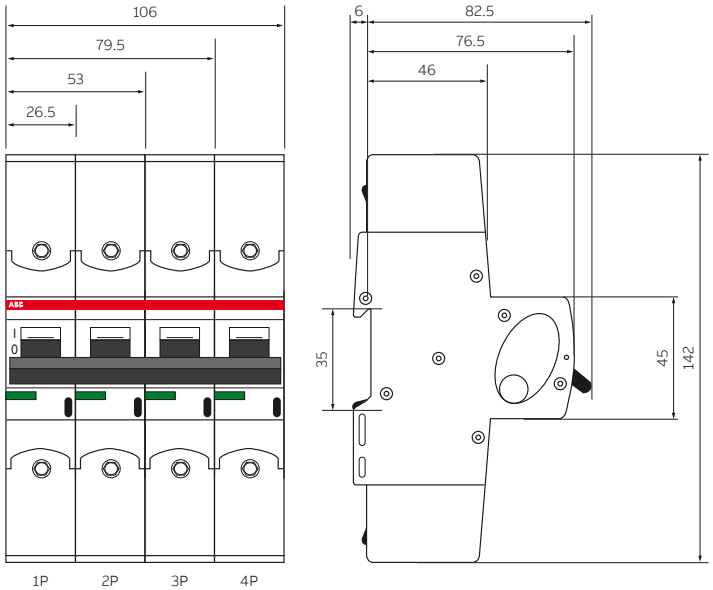
S800-SOR and S800-UVR



S800P with cage terminals



S800P with ring lug terminals



All dimensions shown are in mm.

Technical data

S300P

General data	
Tripping characteristics	B, C, D, K, Z
Rated voltage	1P: 277 V AC, 60 V DC 2...4P: 480Y/277 V AC, 125 V DC (2 poles in series)
Rated interrupting capacity	10 kA
Application suppl. prot., for general use.	TC2, OL0, SC:U1
Reference temperature for tripping characteristics	40 °C
Electrical endurance	6,000 ops., 1 cycle (1 s.-ON, 9 s.-OFF)
Mechanical data	
Housing	Insulation group I, RAL 7035
Toggle	Insulation group II, black, sealable
Contact position indication	Real CPI (green OFF / red ON)
Trip position indicator	TPI (gray NO TRIP / orange TRIP)
Protection degree acc. to DIN EN 60529	IP20, IP40 in enclosure with cover
Mechanical endurance	20,000 ops.
Shock resistance acc. to IEC/EN 60068-2-27	25 g - 3 shocks - 18 ms
Vibration resistance acc. to IEC/EN 60068-2-6	5 g - 20 cycles at 5 ... 150 ... 5 Hz at 0.8 In
Environmental conditions (damp heat cyclic) acc. to IEC/EN 60068-2-30	28 cycles with 55 °C/90–96 % and 25 °C/95–100 %
Ambient temperature	-40 ... +70 °C
Storage temperature	-50 ... +70 °C
Installation	
Terminal	Fail-safe bi-directional cylinder-lift terminal
Cross-section of conductors (top/bottom)	Solid, stranded: 35 mm² / 35 mm² flexible: 25 mm² / 25 mm² 14–4 AWG
Cross-section of busbars (top/bottom)	10 mm² / 10 mm² 14–8 AWG
Torque	2.8 Nm; 18 in-lbs.
Screw driver	No. 2 Pozidrive
Mounting	On 35 mm DIN rail, acc. to EN 60715 by dual DIN-rail release
Mounting position	Any
Supply	Any
Standards	
IEC/EN 60947-2	
IEC/EN 60898-1	
UL 1077	
CSA 22.2. No. 235	
GB/T 14048.2	
GB/T 10963.1	

Technical data

ST200MTR — ring tongue terminal / ST200MTR DC



Data acc. to UL1077 / CSA 22.2 No.235

	ST200MTR / ST200MTR DC
Standards	UL1077 / CSA 22.2 No.235
Poles	1P, 2P, 3P, 4P for AC 1P, 2P and 4P for DC
Tripping characteristics	K, Z rated tripping current 1.6 x In (see tripping curve)
Rated current I_n	0.5 ≤ In ≤ 63A
Rated frequency f	50/60 and DC (0 Hz)
Rated insulation voltage Ui	400 V DC (pollution degree 3) 500 V DC (pollution degree 2)
Overvoltage category	III
Rated voltage	480Y / 277 V AC 1P: 250 V DC and 2+4P: up to 500 V DC (pollution degree 2)
Rated interrupting capacity	6 kA AC 10 kA DC
Application	Suppl. prot. for general use. Application Codes: TC2, OL0, SC: U1
Reference temperature for tripping characteristics	25 °C

S804U-PVS5

The S804U-PVS5 is for GFDI (ground-fault detector interrupter) applications in photovoltaic systems. In case of a ground fault, the breaker will trip and the PV generator will not be damaged. The breaker is tested according to UL 489B for 1000 V DC.

TECHNICAL SPECIFICATIONS

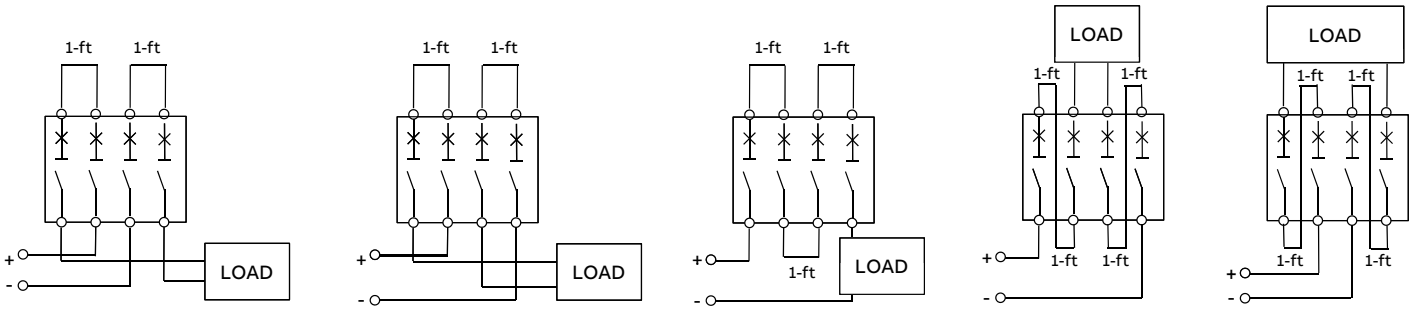
Standard	UL 489B
Characteristic	PV-S
Rated current I_e	5 A
Rated voltage U_e	1000 V DC
No. of poles	4
Short-circuit current rating acc. to UL 489B	3 kA
Connections 5 A	
Single conductor per terminal—copper only, 75C wire	14–2 AWG Cu, solid or stranded
Tightening torque	3.5 Nm (31 in.lb.)
Protection category	IP40 (actuating end only)
Mounting position	Any
Contacts	Cadmium-free
Reference temperature for tripping characteristic	50 °C
Ambient temperature	-25 °C to 60 °C
Storage temperature	-40 °C to 70 °C
Approval	cULus File #E351317

ORDERING INFORMATION

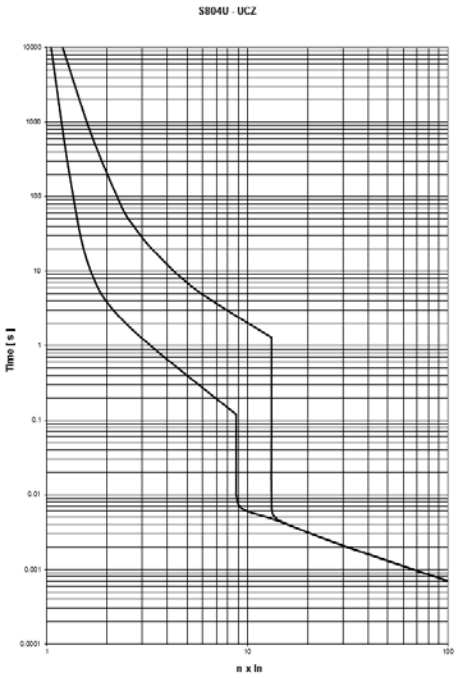
	Rated current (A)	Cat. no.
	5	S804U-PVS5

S804U-PVS5

Tested and listed wirings

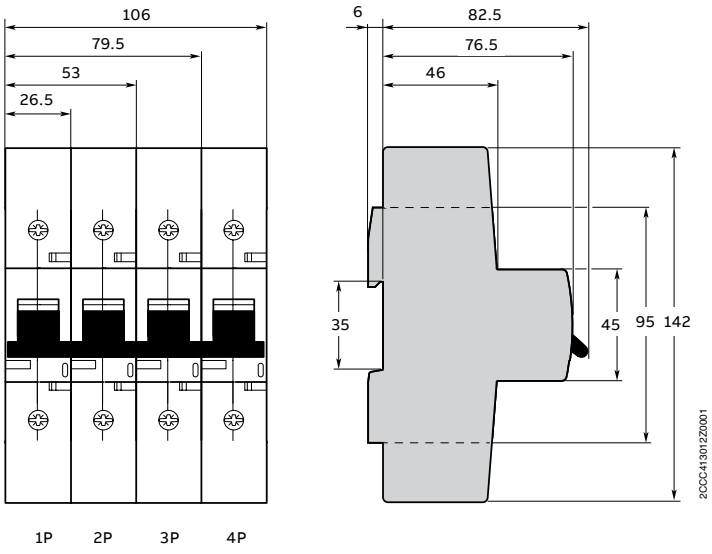


Trip curve for S804U-PVS5



Tripping behavior acc. to UL 489
Thermal release: 1.13–1.30 x In
Magnetic release: 6 x In

Dimension S804U-PVS5



All dimensions shown are in mm.

S803W-SCL-SR UL Short circuit current limiter, self-resetting

UL VERSION SHORT CIRCUIT CURRENT LIMITER, SELF-RESETTING, 3 POLE



Description	Cat. no.
32 A Self-resetting current limiter	S803W-SCL32-SR
63 A Self-resetting current limiter	S803W-SCL63-SR
100 A Self-resetting current limiter	S803W-SCL100-SR

TECHNICAL SPECIFICATIONS

Rated voltage	600 V AC per UL508
Short circuit current rating according to UL508, CSA 22.2	480 V AC 50/60 Hz, 65 kA
	600 V AC 50/60 Hz, 65 kA

APPROVED COMBINATIONS WITH MOTOR STARTER

Downstream devices			Upstream devices
Rated current I_e [A]	32	63	100
MS/MO325			
0.1-2.5	•	•	•
4	•	•	•
6.3	•	•	•
9	•	•	•
12.5	•	•	•
16	•	•	•
20		•	•
25		•	•

Downstream devices			Upstream devices
Rated current I_e [A]	32	63	100
MS/MO132			
0.1-2.5	•	•	
4	•	•	
6.3	•	•	•
10	•	•	•
16	•	•	•
20		•	•
25		•	•
32		•	•

-Combinations with S500-K and S500-KM on request.
•Applies for all voltages according to the table below

RATED ULTIMATE SHORT-CIRCUIT BREAKING CAPACITY

Short-circuit rating according to UL 508, CSA 22.2	kA
(AC) 50/60 Hz 480 V	65
(AC) 50/60 Hz 600 V	65
$I_{cu} = I_{cs}$ according to IEC 60947-2	
(AC) 50/60 Hz 240/415 V	100
(AC) 50/60 Hz 254/440 V	100
(AC) 50/60 Hz 277/480 V	65
(AC) 50/60 Hz 289/500 V	65
(AC) 50/60 Hz 346/600 V	65
(AC) 50/60 Hz 400/690 V	50

S803W-SCL-SR UL 508 Short circuit current limiter, self-resetting

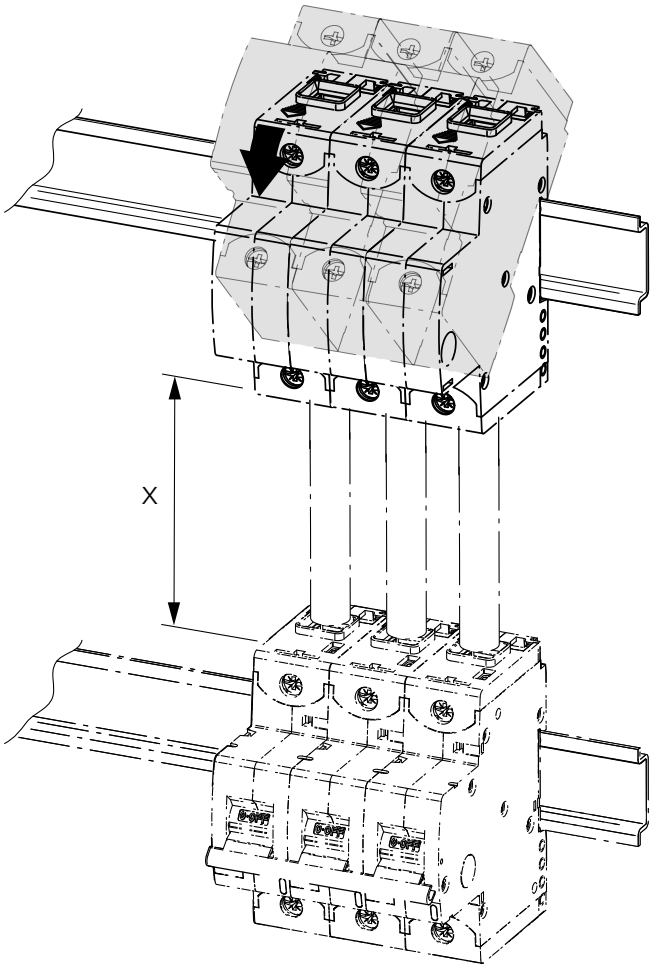
Approximate dimensions

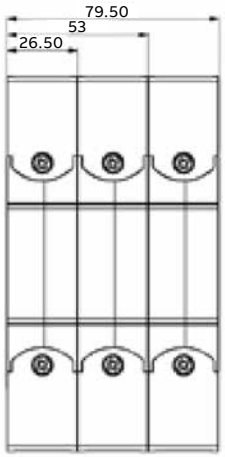
MINIMUM CABLE LENGTH BETWEEN S803W-SCL-SR AND DOWNSTREAM DEVICES
(Connection has to be short-circuit proofed acc. to IEC 61439-1)

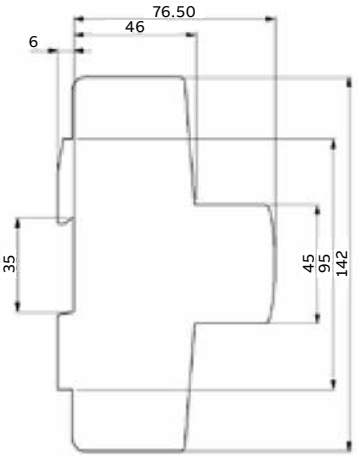
MS/M0325
MS/M0132
S800

S800-SCL-SR	Min. length X (mm)	Min. cross section (mm²)
32 A	80	6
63 A	80	16
100/125 A	250	35

Diagrams



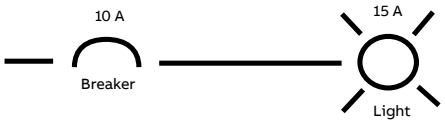




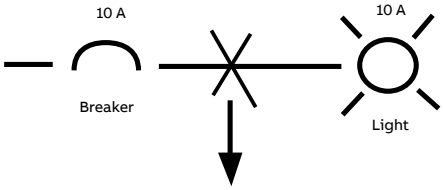
All dimensions shown are in mm.

APPLICATION GUIDE

Miniature circuit breaker



Thermal example:
The light draws more than 10 amps for an extended period of time, creating a thermal overload.



Magnetic example:
The wire connected between the light and breaker is cut and shorted to ground, creating a short circuit.

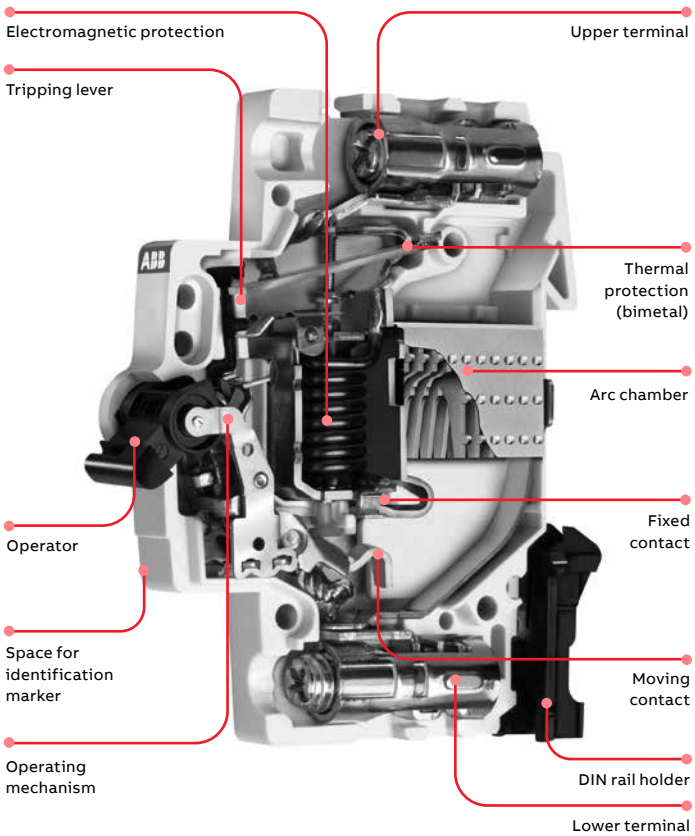


ABB current-limiting breaker

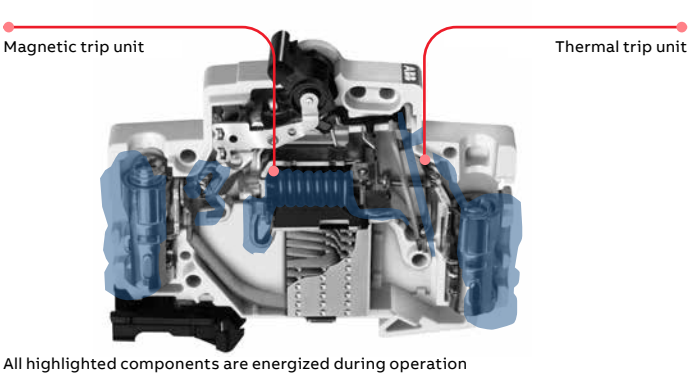
Introduction
The circuit breaker plays an important role in providing over-current protection and a disconnect means in electrical networks. Recent advancements in circuit breaker technology have increased breaker performance and protection.

Overload
An overload is a slow and small over-current situation that causes the ampacity and temperature of the circuit to gradually increase over time. This type of event is characterized by a slight increase in the load (ampacity) on the circuit and is interrupted by the thermal trip unit of the breaker.

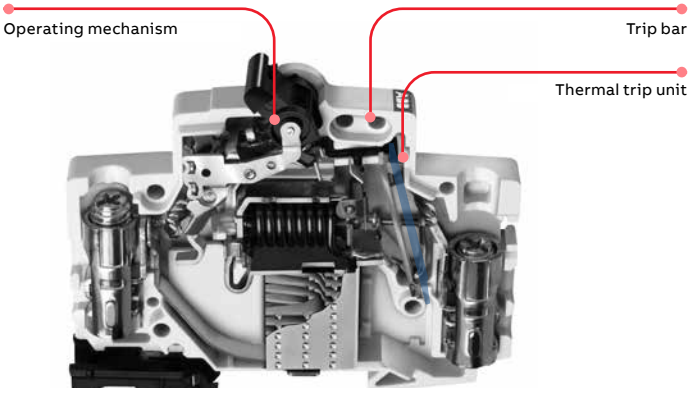
Short circuit
A short circuit is a rapid and intense overcurrent situation that causes the ampacity of the circuit to increase. This type of event is characterized by a dramatic increase in the load (ampacity) on the circuit and is interrupted by the magnetic trip unit of the breaker.

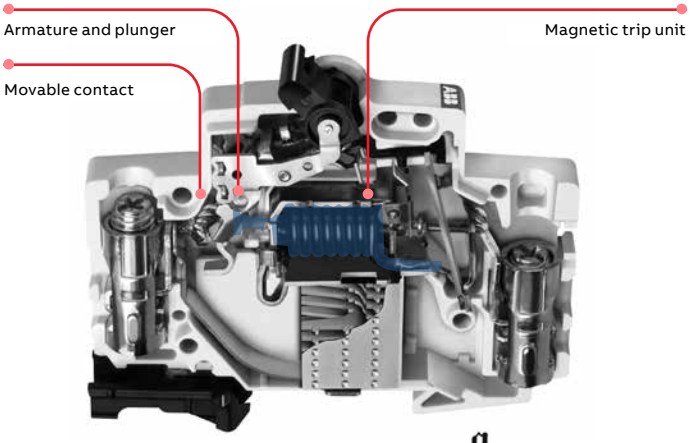
Breaker definition
A breaker is a device designed to isolate a circuit during an over-current event without the use of a fusible element. A breaker is a resettable protective device that protects against two types of over-current situations: overload and short circuit.

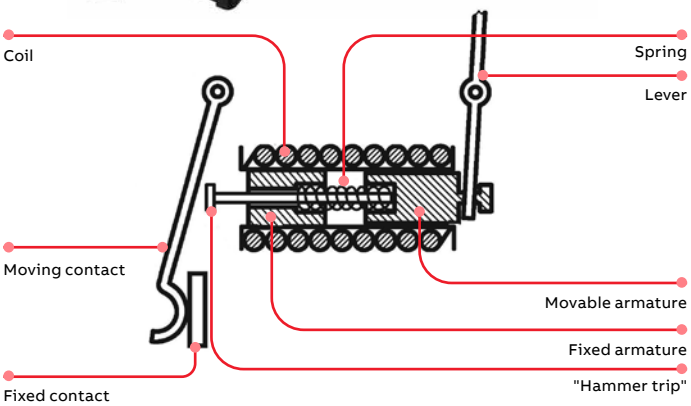
Circuit breaker construction



All highlighted components are energized during operation







Thermal/magnetic trip units definition
ABB current-limiting breakers use an electromechanical (thermal/magnetic) trip unit to open the breaker contacts during an over-current event. The thermal trip unit is temperature sensitive and the magnetic trip unit is current sensitive. Both units act independently and mechanically with the breaker's trip mechanism to open the breaker's contacts.

Current flow during operation
Overload protection
The thermal trip unit protects against a continuous overload. The thermal unit is comprised of a bimetal element located behind the circuit breaker trip bar and is part of the breaker's current carrying path. When there is an overload, the increased current flow heats the bimetal, causing it to bend. As the bimetal bends, it pulls the trip bar that opens the breaker's contacts.

The time required for the bimetal to bend and trip the breaker varies inversely with the current. Because of this, the tripping time becomes quicker as current increases in magnitude.

Overload protection is applicable to any installation, conductor or component that can be subjected to low-magnitude but long-time over-currents. Low-magnitude, long-time over-currents can be dangerous because they reduce the life of the electrical installation, conductor and components. If left unchecked, fire could result.

Magnetic trip units (short circuit protection)
The magnetic trip unit protects against a short circuit. The magnetic trip unit is comprised of an electromagnet and an armature.

Components of a magnetic trip unit
When there is a short circuit, a high magnitude of current passes through the coils, creating a magnetic field that attracts the movable armature towards the fixed armature. The hammer trip is pushed against the movable contact and the contacts are opened. The opening of the breaker's contacts during a short circuit is complete in 0.5 milliseconds.

Circuit breaker construction

Arc runners/arc chutes
The arc runner guides the electric arc away from the open contacts into the arc chute, where it is extinguished.

During an overload or short circuit event, the contacts of the breaker separate, and an electrical arc is formed between the contacts through air. The arc is moved into the arc chute by "running" the arc down the interior of the breaker along the arc runner. When the arc reaches the arc chute, it is broken into small segmented arcs. The segmented arcs split the overall energy level into segments less than 25 V. Each 25 V segment does not have a high enough energy level to maintain an arc and all energy is naturally dissipated.

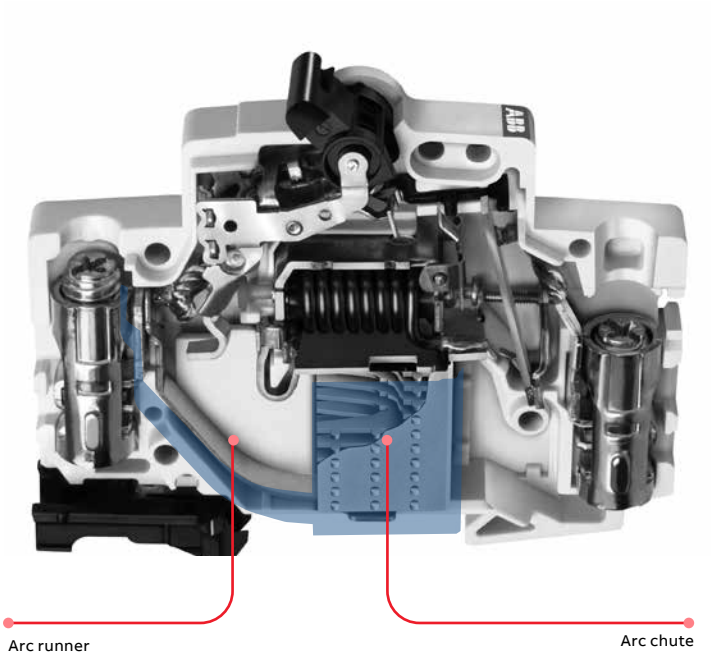
Breaker curves
Thermal trip unit (region one)
The first sloping region of the breaker curve is a graphical representation of the tripping characteristics of the thermal trip unit. This portion of the curve is sloped due to the nature of the thermal trip unit. The trip unit bends to trip the breaker's trip bar in conjunction with a rise in amperage (temperature) over time. As the current on the circuit increases, the temperature rises, and the faster the thermal element will trip.

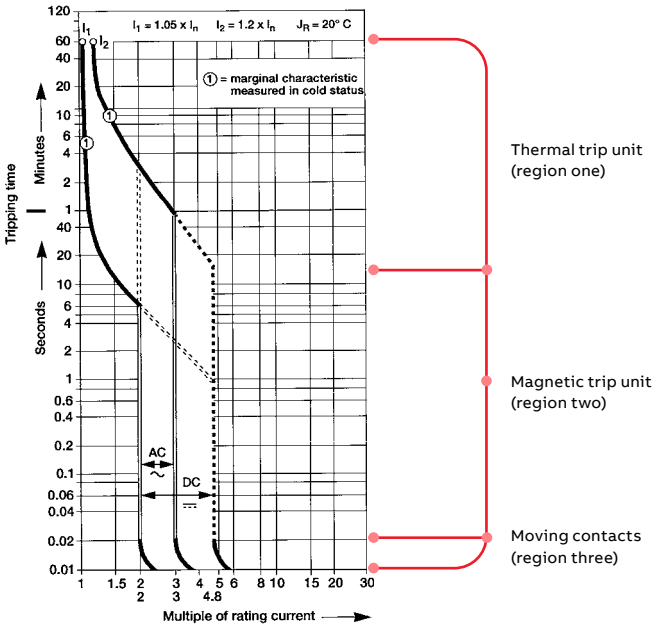
Example using the curve below: If you had a 10 amp breaker and the circuit was producing 30 amps of current, the breaker would trip between two seconds and one minute. In this example, you would find the circuit current on the bottom of the graph (multiples of rated current). The first line is 10 amps (10 amp breaker x a multiple of one), the second line is 20 amps (10 amp breaker x multiple of two), and the third line is 30 amps (10 amp breaker x multiple of three). Next, you would trace the vertical 30 A line up until it intersects the red portion of the breaker thermal curve. If you follow the horizontal lines on both sides of the red curve to the left, you will see that the breaker can trip as fast as two seconds and no slower than one minute.

Magnetic trip unit (region two)
This region of the breaker curve is the instantaneous trip unit. ABB's miniature circuit breaker's instantaneous trip unit interrupts a short circuit in 2.3 to 2.5 milliseconds. Because of this, the curve has no slope and is graphically represented as a vertical straight line.

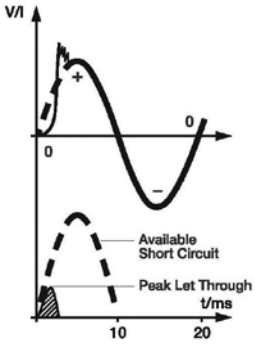
See curve example. If you had a 10 amp breaker, the magnetic trip element would interrupt a short circuit between 10 and 30 amps (10 amp breaker x multiple of two and three) in 2.3 to 2.5 milliseconds.

Breaker contacts (region three)
This region of the curve is the time required for the contacts of the breaker to begin to separate. The contacts will open in less than 0.5 milliseconds and is graphically represented by the bottom vertical portion of the curve.

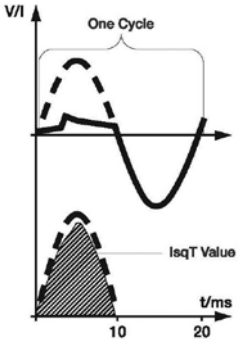




Circuit breaker current limitation



Current limiting



Zero point extinguishing

Current-limiting definitions
All ABB miniature circuit breakers are UL tested and certified as current-limiting protective devices. Current-limiting circuit breakers provide a higher level of circuit protection than typical zero point external breakers.

UL AC 60 Hz cycle
UL defines an AC cycle as the potential energy of the wave form traveling from zero-to-positive amplitude, positive-to-zero amplitude, zero-to-negative amplitude, negative-to-zero amplitude 60 times in one second. One cycle is completed every 16.6 milliseconds.

UL breaker current limiting
UL defines breaker current limitation as a breaker that interrupts and isolates a fault in less than ½ of an AC cycle. ½ a cycle is completed in 8.3 milliseconds.

NEC 240.2 current-limiting
A device that, when interrupting current in its current-limiting range, reduces the current flowing in the faulted circuit to a magnitude substantially less than that obtainable in the same circuit if the device were replaced with a solid conductor having comparable impedance.

IEC 60947-2 current-limiting circuit breaker
A circuit breaker with sufficiently short trip time to prevent the short-circuit current from reaching the peak value which would otherwise be reached.

ABB current-limiting breakers
ABB current-limiting breakers can interrupt and isolate a fault in ⅛ of an AC cycle. The breaker fault interruption is completed in 2.3 to 2.5 milliseconds.

Zero point extinguishing breakers
A typical zero point extinguishing breaker interrupts a fault and does not isolate the energy. The breaker allows an arc to be present between the open contacts until the AC wave form crosses zero. When the wave form crosses zero, the potential energy is zero and the arc (fault) naturally extinguishes. The arc could be present for up to 8.3 milliseconds.

Current-limiting breakers and electrical networks
Current limitation
When a short-circuit condition occurs, the “ideal” current-limiting circuit breaker opens before the current waveform can reach its full potential magnitude, which occurs at ¼ cycle (4.17 ms). ABB’s current-limiting breakers can interrupt a fault in about ½ cycle or 2.3 ms to 2.5 ms. ABB’s current-limiting breakers interrupt a short circuit in less than ⅛ cycle and limit the amount of current that can reach a circuit. Limiting the available current on the circuit provides additional protection against network, breaker or bus damage and prevents the tripping of upstream breakers (selective coordination).

I^2t
The true destructive nature of a short circuit is measured by the time it is available combined with the peak value of the short circuit. The IsqT (amps squared over time) value represents the amount of energy available on a network during a short circuit and is represented by the shaded area on the graphs at left.

During a short circuit, both magnetic forces and thermal energy combine to damage devices on the electrical network. The level of thermal energy and magnetic forces are directly proportional to the square of the current. The magnetic forces vary as a square of the peak current available and the thermal energy varies as a square of the RMS (root mean square) current available.

ABB’s current-limiting breakers will limit the let-through energy to a fraction (1/100) of the value that is available from the network. By comparison, a zero crossing breaker would let through approximately 100 times as much destructive energy as the current-limiting circuit breaker [(100,000 A / 10,000 A) squared – 100X]. ABB’s current-limiting breakers limit the short circuit current to a relatively small magnitude in an extremely short time, which dramatically limits a short circuit’s destructive energy.

Circuit breaker current limitation

Current-limiting and zero crossing breakers
During the initial stages of a short circuit, a breaker's contacts open to interrupt the circuit. After the contacts open, an arc forms in the air between the contacts on both the current-limiting and zero crossing breaker contacts. What distinguishes a current-limiting breaker from a zero crossing breaker is what each breaker does after an arc is formed between the open contacts.

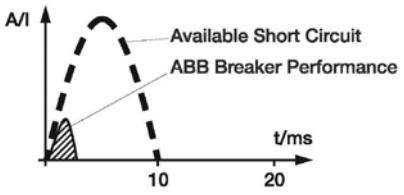
A current-limiting breaker "runs" the arc down the breaker arc runner into an arc chute that extinguishes the arc.

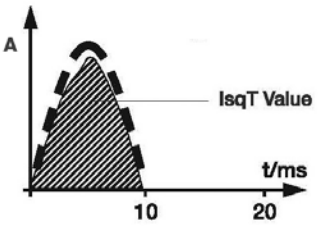
A zero crossing breaker does not attempt to extinguish the arc. The breaker is designed to withstand the energy of the arc long enough for the waveform to cross zero. When the wave form crosses zero, the potential energy is zero and the arc naturally extinguishes itself.

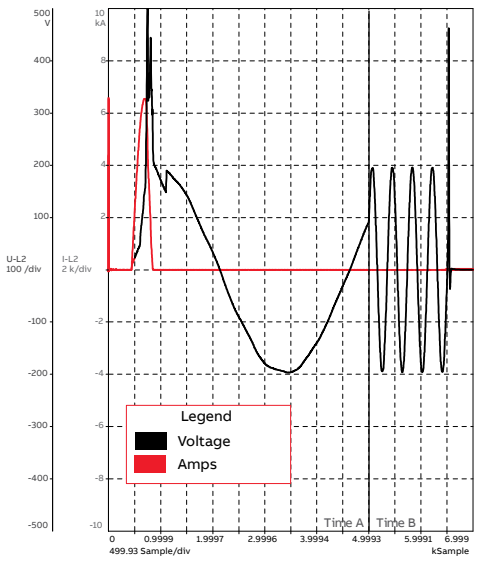
ABB's current-limiting breakers interrupt the arc energy in 2.3 ms to 2.5 ms (⅛ cycle), and a zero crossing breaker allows the arc to be present for up to 8.3 ms (½ cycle). A zero crossing breaker will let through 100 times as much energy as an ABB current-limiting breaker.

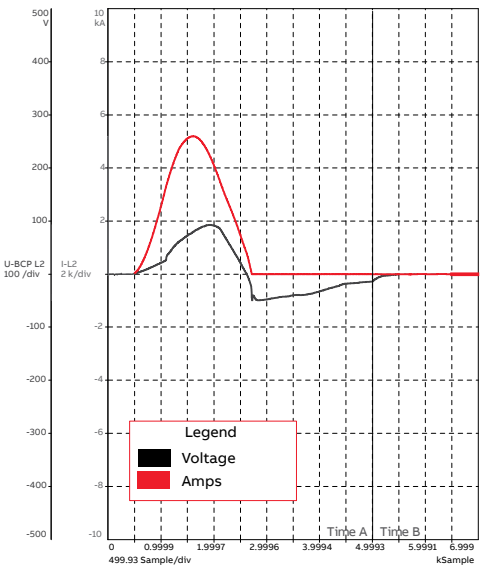
Current limiting example
The lab test report below details a 20 A S200 series current-limiting breaker interrupting a 28 kA fault in 1.7 milliseconds. The total "I Square T" value is 32.0 kA.

Zero crossing example
The test report below details a 20 A zero point extinguishing breaker interrupting a 9 kA fault in 9 milliseconds. The total "I Square T" value is 104.0 kA.







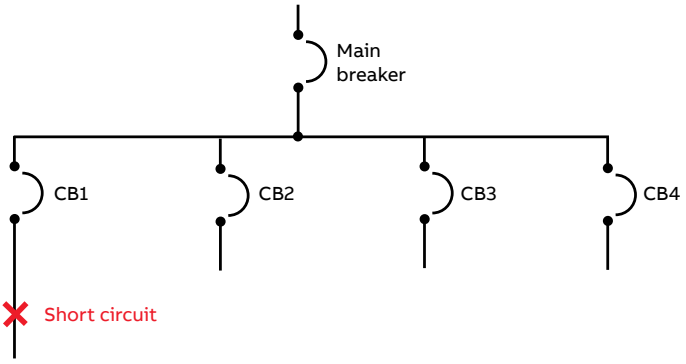


Selective coordination and series ratings

Definition of selective coordination
Coordination between the operating characteristics of two or more over-current protection devices, so that when an over-current within established limits occurs, the device designated to operate within those limits trips, whereas the other devices does not trip.

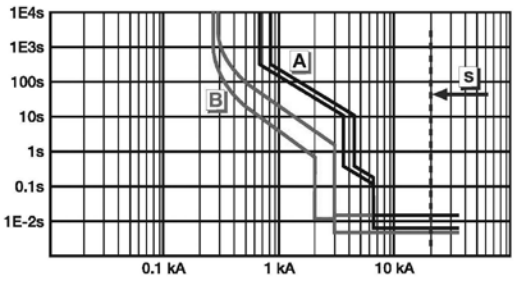
Example of breaker coordination
When an over-current event occurs at the branch breaker level (CB1), and the event is within the operating characteristics of the breaker, then the branch breaker should interrupt the circuit (open) and the main breaker should remain closed and energized. The chart below gives a graphical representation of a downstream branch breaker (B curve) and a main breaker (A curve) with coordination. The separation between the curves allows the branch breaker to react to the fault while the main breaker remains closed and energized.

Example of no breaker coordination
Selective breaker coordination is not achieved when there is an overload event at the branch breaker level (MCB1) and both the branch breaker and main breaker interrupt the circuit (open). When there is no breaker coordination, several circuits lose power that should remain operational during and after the overload event. The chart below gives a graphical representation of a downstream branch breaker (B curve) and a main breaker (A curve) without coordination. There is no separation between the curves. The branch breaker will react to a fault and the main breaker will open and de-energize all circuits down stream. Problems in coordination occur when the branch breaker allows the “I Square T” value of the short circuit to rise to a level that is in the operating range of the upstream main breaker. Proper breaker coordination is easier to achieve with the use of current-limiting breakers at the branch level.

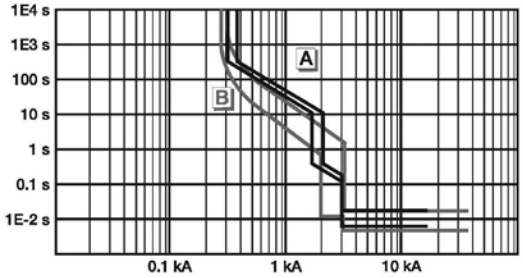


Selective coordination and current-limiting breakers
Recent improvements in ABB circuit breaker technology has pushed the performance of breakers to the same level as fuses. The reaction time and tripping characteristics of current-limiting breakers are now on par with fuses. This allows ABB to provide a high level of coordination between branch breakers and the main. A current-limiting branch breaker will limit the “I Square T” value well below the level of the operating range of the upstream main breaker. ABB’s current-limiting branch breakers can coordinate between the main breaker up to 35 kA.

Selective coordination and zero crossing breakers
Zero crossing breakers do not limit the “I Square T” value. They wait for the wave form to cross zero and allow a high level of let-through energy to pass through the system. The “I Square T” value of a zero crossing breaker is high enough that the main breaker will likely trip during a short circuit. With zero crossing breakers, it is extremely difficult to coordinate between branch and main breakers. A typical zero crossing breaker’s coordination level is below 10 kA. There are a few manufacturers that have achieved coordination between a branch zero crossing breaker and the main by slowing the performance (protection) of the main breaker.

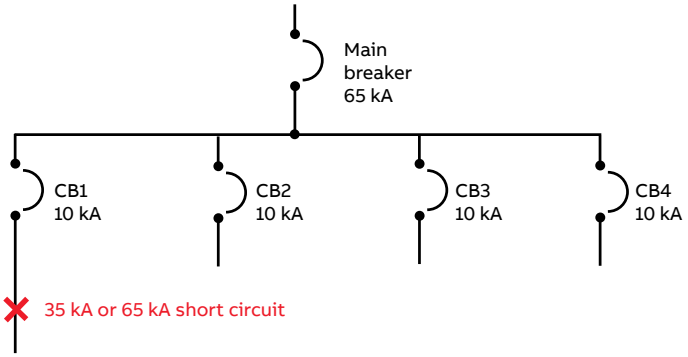


Coordination



No coordination

Selective coordination and series ratings



Selective coordination
Selective coordination is achieved when there is a short circuit on a branch circuit breaker, the branch breaker opens and isolates the fault, and the main breaker remains closed. The rating is usually a value above the “stand alone” interrupting rating of the branch breaker and the “stand alone” rating of the main breaker.

Example:
65 kA rated main breaker
10 kA rated branch breaker
Coordination between the two breakers up to 35 kA

There can be a short circuit on the branch breaker up to 35 kA where the branch will open (CB1) and the main breaker will remain closed. Although the branch has a 10 kA “stand alone” rating, both the breakers work together to limit the available short circuit to allow the branch (CB1) to isolate the fault.

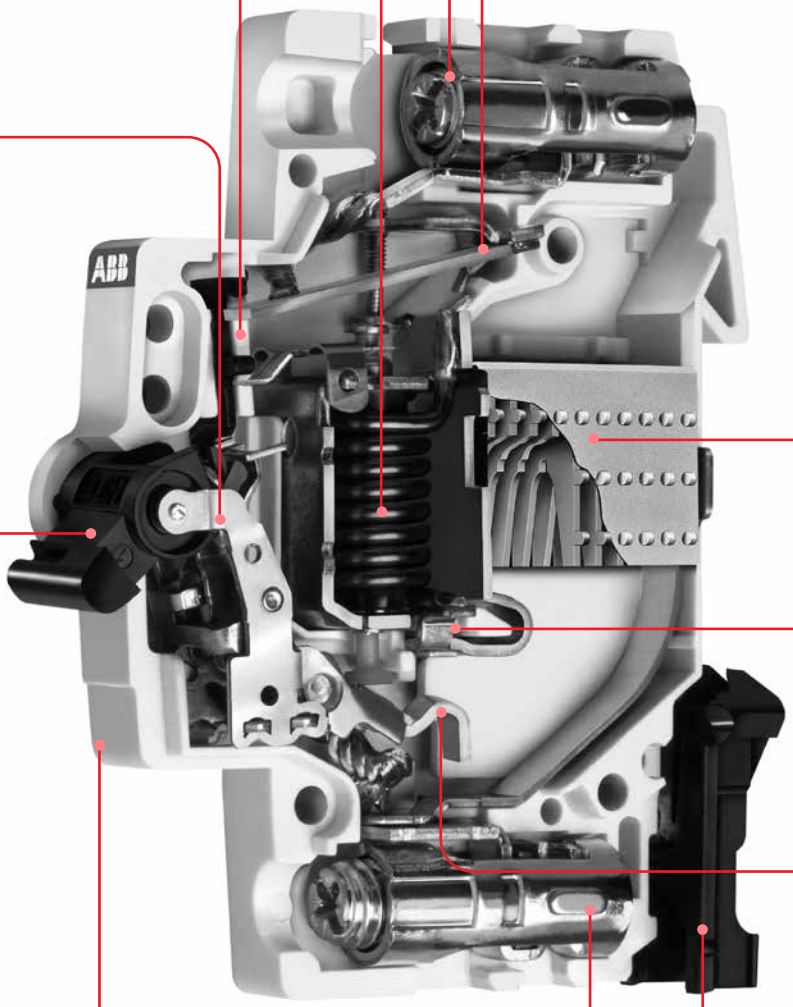
Series ratings
Series ratings are different from coordination ratings. Unlike coordination ratings where the branch opens and the main remains closed, a series-rated combination is one where both the branch and main breakers open and work together to isolate the fault.

The series-rating combination of two breakers is equal to the “stand alone” interrupting value of the main breaker. This is a result of the main breaker let-through value being lower than the “stand alone” interrupting value of the branch breaker. During a short circuit, the main breaker will limit the energy to a level that is below the “stand alone” value of the branch breaker.

Example:
65 kA rated main breaker
10 kA rated branch breaker
Series-combination rating between the two breakers up to 65 kA

There can be a short circuit on the branch breaker up to 65 kA where the branch will open and the main breaker will open. Although the branch breaker (CB1) has a 10 kA “stand alone” rating, the main breaker has a let-through value below 10 kA. If there is a fault up to 65 kA on the network, the main breaker will limit the energy to a value less than the rating of the branch breaker (CB1). Both breakers will trip (no coordination), but the network can safely withstand a fault of 65 kA.

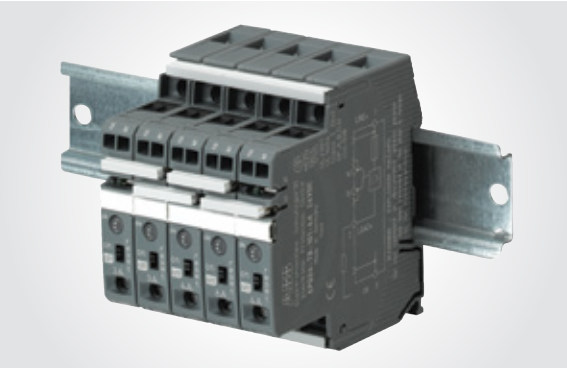
Miniature circuit breaker cutaway



ELECTRONIC PROTECTION DEVICE EPD24-TB-101

For use on the load side of 24 V DC switch mode power supplies





Description

The protection devices EPD24 extend the ABB product range of modular DIN rail components by electronic over-current protection modules for selective protection of 24 V DC load circuits. This protection is achieved by a combination of active electronic current limitation in the case of a short circuit and an overload deactivation from 1.1 x IN upwards.

If a fault occurs in a load circuit, the protection device EPD24 will detect this rapidly and reliably, disable the power output transistor and hence interrupt the current flow in the defective circuit. The maximum possible over-current is always limited to 1.3 to 1.8 times the selected rated current. An activation of capacitive loads up to 20,000 µF is possible, deactivation only occurring in the case of overloads or short circuits. Selective deactivation of the defective current circuit means undefined error states and a complete system stop are prevented.

Features

- Selective load protection, one electronic tripping characteristic
- Active current limitation for safe connection of capacitive loads up to 20,000 µF and on overload/short circuit
- Current ratings 0.5 A to 12 A
- Reliable overload disconnection with 1.1 x IN plus
- Manual ON/OFF button
- Clear status and failure indication through LED and integrated auxiliary contact
- Integral fail-safe element adjusted to current rating
- Width per unit only 12.5 mm
- Rail mounting
- Easy wiring through busbar LINE+ and 0 V as well as signal bars
- UL and CSA approvals allow international use of the devices

APPROVALS

Authority	Voltage rating	Current ratings
UL 2367	24 V DC	0.5–12 A
UL 1604 (class I, div. 2, groups A, B, C, D)	24 V DC	0.5–12 A
UL 508	24 V DC	0.5–12 A
CSA C22.2 No. 213 (class I, division 2)	24 V DC	0.5–12 A
CSA C22.2 No. 142	24 V DC	0.5–12 A
CSA C22.2 No. 14	24 V DC	0.5–12 A

EPD24
Ordering information

ELECTRONIC PROTECTION DEVICES

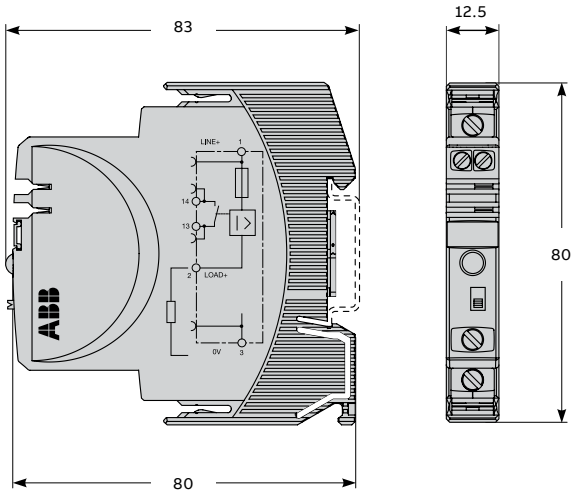
Rated current I_N A	Weight 1 piece in kg	Packing unit	Cat. no.
0.5	0.065	4	EPD24-TB-101-0.5A
1	0.065	4	EPD24-TB-101-1A
2	0.065	4	EPD24-TB-101-2A
3	0.065	4	EPD24-TB-101-3A
4	0.065	4	EPD24-TB-101-4A
6	0.065	4	EPD24-TB-101-6A
8	0.065	4	EPD24-TB-101-8A
10	0.065	4	EPD24-TB-101-10A
12	0.065	4	EPD24-TB-101-12A

ACCESSORIES

	Cat. no.	Weight 1 piece in kg	Packing unit
Busbars for LINE+ and 0 V, gray insulation, length 500 mm[1)]	EPD-BB500	0.20	10
Signal bars for auxiliary contacts, gray insulation, length 21 mm	EPD-SB21	0.04	10

1) Ampacity at one line entry Imax = 50 A (Recommendation: mid line entry)
Ampacity at two line entries Imax = 63 A

Diagram



All dimensions shown are in mm.

GROUND-FAULT PROTECTIVE DEVICES (GFEP)

F200 series



F200 series GFEPs (ground-fault equipment protectors) are approved according to UL 1053 and IEC 61008.

F200 series GFEPs can be used in branch circuits, together with a corresponding UL 489 circuit breaker, like our SU200M, or in connection with UL 1077 supplementary protectors, like our ST200M wherever branch circuit protection is already provided or not required.

F200 series GFEPs come in versions with 10, 30, 100, 300, and 500 mA ground-fault sensitivity.

F200 GFEPs are also available in short-term delayed versions (AP-R types) as well as selective versions (S types).

F200 GFEPs are A-type GFEPs and can detect AC as well as pulsed DC fault currents.

AC-type devices detect AC fault currents only and are available upon request.

RCCBs

F200 technical features



	Standards		
Electrical features	Type (wave form of the earth leakage sensed)		
	Poles		
	Rated current In		A
	Rated sensitivity IΔn		A
	Rated voltage Ue	IEC	V
		UL/CSA	V
	Insulation voltage Ui		V
	Operating voltage range	IEC	V
		UL/CSA	V
	Rated frequency		Hz
	Rated conditional short-circuit current Inc=IΔ③	SCPD - fuse gG 100 A	kA
	Rated residual breaking capacity IΔm=Im		kA
	Rated impulse withstand voltage (1.2/50) Uimp		kV
	Dielectric test voltage at ind. freq. for 1 min.		kV
	Overvoltage category		
	Surge current resistance (wave 8/20)		A
Mechanical features	Toggle		
	Contact position indicator (CPI)		
	Electrical life		
	Mechanical life		
	Protection degree	housing	
		terminals	
	Environmental conditions (damp heat) acc. to	IEC/EN 60068-2-30	°C/RH
	Ambient temperature (with daily average ≤ +35 °C)	IEC	°C
	Storage temperature		°C
Installation	Terminal type		
	Terminal size top/bottom for cable	IEC	mm^2
		UL/CSA	AWG
	Terminal size top/bottom for busbar	IEC	mm^2
		UL/CSA	AWG
	Tightening torque	IEC	Nm
		UL/CSA	in-lbs.
	Tool		
	Mounting		
	Mounting position		
	Connection		
	Withdrawal from busbar		
Dimensions and weight	Dimensions (H x D x W)	2P	mm
		4P	mm
	Weight	2P	g
		4P	g
Combination with auxiliary elements ⑦	Combinable with:	auxiliary contact	
		signal contact/auxiliary switch	
		shunt trip	
		undervoltage release	

① Ground-fault sensing and relaying equipment-component (up to 63 A)
② prior to connection of aluminum conductors (≥ 4 mm^2) ensure that their contact points are cleaned, brushed and coated with grease
③ for S700-E/K 100A, S750-E 63A, S750DR-E/K 63A and other SCPD coordination values see Chapter 3 of Solutions for electrical distribution in buildings - technical details
④ F200 left neutral has not the UL certification and the UL mark
⑤ Only for versions with marking according to EN 61008-1; EN 61008-2-1
⑥ Neutral conductor can be wired anywhere for 2P devices
⑦ UL 1077 accessories are compatible with UL 1053 F200 RCCBs

RCCBs

F200 technical features

F200 AC	F200 A	F200 A AP-R	F200 A S	F200 A 110V
IEC/EN 61008-1; IEC/EN 61008-2-1, UL 1053 ①				IEC 61008-1; IEC 61008-2-1; UL 1053
AC	A	A	A	A
2P ⑥, 4P				2P, 4P
16, 25, 40, 63, 80, 100		25, 40, 63, 80, 100	40, 63, 80, 100	25, 40, 63, 80, 100
0.01-0.03-0.1-0.3-0.5		0.03	0.1-0.3-0.5-1	0.03
230/400 - 240/415				
480Y/277 (up to 100 A)				
500				
In ≤ 100; Right neutral: 110 (170 for 30mA) - 254 ⑤; Left neutral: 195 (250 for 30 mA) - 440 ⑤				110-254
In ≤ 100 110-277 2P RCD 110-480 4P RCD (170 V for 30 mA F200 AC and F200 A)				
50…60				
10				
1				
4				
2.5				
III, disconnector abilities				
NA		3000	5000	NA
blue sealable in ON-OFF position				
yes				
10000				10000
20000				20000
IP4X				
IP2X				
28 cycles with 55°C/90-96% and 25°C/95-100%				
-25…+55				-25…+55
-40…+70				
failsafe bi-directional cylinder-lift terminal at top and bottom (shock protected) (cage for In > 63 A) ②				
25/25 (35/35 single slot terminal for In > 63 A)				
18-4 (up to 63 A)				-
10/10 (not for In = 80-100 A)				
18-8 (up to 63 A)				-
2.8				2.8
25 (up to 63 A)				-
Nr. 2 Pozidriv				
on DIN rail EN 60715 (35 mm) by means of fast clip device				
Any				
from top and bottom				
it is possible without using any tools only from the bottom (not for 125 A)				
85 x 69 x 35				
85 x 69 x 70				
200				
350 (380 for In = 80 and 100 A				
yes				
yes				
yes				
yes				

RCCBs

F 200 series A type, 30 mA sensitivity



F202 110V

Number of poles	Rated residual current IΔn mA	Rated current In A	Order details Type code	Weight 1 piece kg	Pack unit pc.
2	30	25	F202 A-25/0.03 110V	0.225	1/6
		40	F202 A-40/0.03 110V	0.225	1/6
		63	F202 A-63/0.03 110V	0.225	1/6
		80	F202 A-80/0.03 110V	0.225	1/6
		100	F202 A-100/0.03 110V	0.225	1/6



F204 110V

Number of poles	Rated residual current IΔn mA	Rated current In A	Order details Type code	Weight 1 piece kg	Pack unit pc.
4	30	25	F204 A-25/0.03 110V	0.375	1/3
		40	F204 A-40/0.03 110V	0.375	1/3
		63	F204 A-63/0.03 110V	0.375	1/3
		80	F204 A-80/0.03 110V	0.405	1/3
		100	F204 A-100/0.03 110V	0.405	1/3

RCCBs

F 200 series A type



F202

F 200 A TYPE

Number of poles	Rated residual current IΔn mA	Rated current In A	Order details Type code	Weight 1 piece kg	Pack unit pc.
2	10	16	F202 A-16/0.01	0.225	1/6
	100	25	F202 A-25/0.1	0.225	1/6
		40	F202 A-40/0.1	0.225	1/6
		63	F202 A-63/0.1	0.225	1/6
		80	F202 A-80/0.1	0.225	1/6
		100	F202 A-100/0.1	0.225	1/6
	300	25	F202 A-25/0.3	0.225	1/6
		40	F202 A-40/0.3	0.225	1/6
		63	F202 A-63/0.3	0.225	1/6
		80	F202 A-80/0.3	0.225	1/6
		100	F202 A-100/0.3	0.225	1/6
	500	25	F202 A-25/0.5	0.225	1/6
		40	F202 A-40/0.5	0.225	1/6
		63	F202 A-63/0.5	0.225	1/6
		80	F202 A-80/0.5	0.225	1/6
		100	F202 A-100/0.5	0.225	1/6

RCCBs

F 200 series A type



F204



F204 100 A

Number of poles	Rated residual current IΔn mA	Rated current In A	Order details Type code	Weight 1 piece kg	Pack unit pc.
4	100	25	F204 A-25/0.1	0.375	1/3
		40	F204 A-40/0.1	0.375	1/3
		63	F204 A-63/0.1	0.375	1/3
		80	F204 A-80/0.1	0.405	1/3
		100	F204 A-100/0.1	0.405	1/3
	300	25	F204 A-25/0.3	0.375	1/3
		40	F204 A-40/0.3	0.375	1/3
		63	F204 A-63/0.3	0.375	1/3
		80	F204 A-80/0.3	0.405	1/3
		100	F204 A-100/0.3	0.405	1/3
	500	25	F204 A-25/0.5	0.375	1/3
		40	F204 A-40/0.5	0.375	1/3
		63	F204 A-63/0.5	0.375	1/3
		80	F204 A-80/0.5	0.405	1/3
		100	F204 A-100/0.5	0.405	1/3

RCCBs

F 200 series A type, AP-R



F202

F 200 AP-R, A TYPE

Short-term delayed tripping. Pulse-current resistant up to 3000 A. Short-term delay 10 ms.

Number of poles	Rated residual current IΔn mA	Rated current In A	Order details Type code	Weight 1 piece kg	Pack unit pc.
2	30	25	F202 A-25/0.03 AP-R	0.225	1/6
		40	F202 A-40/0.03 AP-R	0.225	1/6
		63	F202 A-63/0.03 AP-R	0.225	1/6
		80	F202 A-80/0.03 AP-R	0.225	1/6
		100	F202 A-100/0.03 AP-R	0.225	1/6



F204

Number of poles	Rated residual current IΔn mA	Rated current In A	Order details Type code	Weight 1 piece kg	Pack unit pc.
4	30	25	F204 A-25/0.03 AP-R	0.375	1/3
		40	F204 A-40/0.03 AP-R	0.375	1/3
		63	F204 A-63/0.03 AP-R	0.375	1/3
		80	F204 A-80/0.03 AP-R	0.405	1/3
		100	F204 A-100/0.03 AP-R	0.405	1/3

RCCBs

F 200 series A type, selective



F202



F204

F 200 A SELECTIVE TYPE

Number of poles	Rated residual current IΔn mA	Rated current In A	Order details Type code	Weight 1 piece kg	Pack unit pc.
2	100	40	F202 A S-40/0.1	0.225	1/6
		63	F202 A S-63/0.1	0.225	1/6
		100	F202 A S-100/0.1	0.225	1/6
	300	40	F202 A S-40/0.3	0.225	1/6
		63	F202 A S-63/0.3	0.225	1/6
		100	F202 A S-100/0.3	0.225	1/6
	500	40	F202 A S-40/0.5	0.225	1/6
		63	F202 A S-63/0.5	0.225	1/6
		100	F202 A S-100/0.5	0.225	1/6

Number of poles	Rated residual current IΔn mA	Rated current In A	Order details Type code	Weight 1 piece kg	Pack unit pc.
4	100	40	F204 A S-40/0.1	0.375	1/3
		63	F204 A S-63/0.1	0.375	1/3
		100	F204 A S-100/0.1	0.405	1/3
	300	40	F204 A S-40/0.3	0.375	1/3
		63	F204 A S-63/0.3	0.375	1/3
		100	F204 A S-100/0.3	0.405	1/3
	500	40	F204 A S-40/0.5	0.375	1/3
		63	F204 A S-63/0.5	0.375	1/3
		100	F204 A S-100/0.5	0.405	1/3

DS201

UL and CSA approved RCBO (UL 1053/1077)

Product description
DS201 UL (1P+N) is a combination of a 30 mA RCD and an MCB with trip curves B, C and K. This product is part of theF200 RCCB series family and replaces the DS951 UL product line. These are available in B and C characteristics from 6 A to 40 A and in K characteristics from 10 A to 20 A.

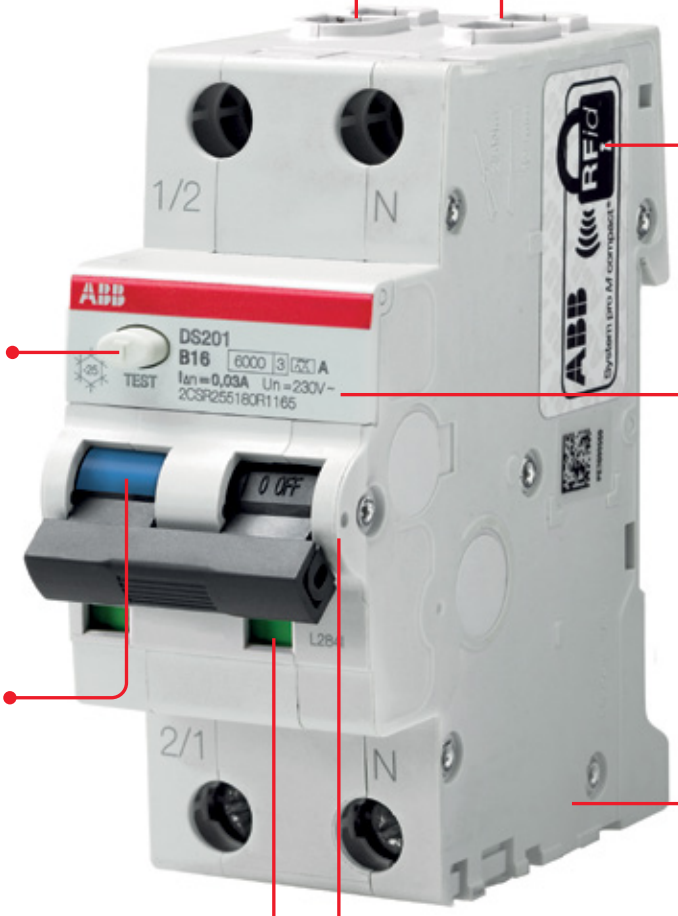
Application
Protection of supplementary circuits against overload, short circuit and ground fault.

Easy to install
Bi-directional cylindrical terminals make connections easier and safer

Test pushbutton
Test pushbutton to verify correct functioning of the device.

Ground fault indicator
Blue flag on the toggle to identify ground fault trips. I 0N – 0 0FF indication molded on the toggle.

Contact position indicator (CPI)
Indicates status of contacts independently from the toggle position: green (open), red (closed).



Anti-counterfeiting
DS201 is equipped with an RFID tag to authenticate the product.

Laser-printed information
Information is laser printed onto the device to ensure readability over time.

Optional accessories
Improved compatibility with System pro M compact™ accessories, including bottom-mount auxiliary contact and motor operating device.

Dedicated space for label
Optionally insert a label to clearly identify the protected lines.

RCBOs

DS201 UL

					DS201 UL
	Standards				UL 1053, UL 1077, IEC 61009-1, IEC 61009-2-1
Electrical features	Type (wave form of the earth leakage sensed)				A
	Number of poles				1P + N
	Rated current In			A	6 ≤ In ≤ 40
	Rated sensitivity IΔn			A	0.03
	Rated voltage Ue			V	230-240
	Insulation voltage Ui			V	500 V AC
	Overvoltage category				III
	Pollution degree				2
	Operating voltage of circuit test Ut			V	110 – 277
	Rated frequency			Hz	50/60
	Rated breaking capacity acc. to To UL 1053, IEC 61009-1, IEC 61009-2-1	Icn		A	6 000
	Rated breaking capacity acc. to IEC 60947-2	ultimate Icu		kA	10
		service Ics		kA	7.5
	Rated residual breaking capacity IΔm according to IEC 61009-1	IΔm		A	6 000
	Rated impulse withstand voltage (1.2/50) Uimp			kV	4 kV
	Dielectric test voltage at ind. freq. for 1 min.			kV	2 kV (50 / 60Hz, 1 min.)
	Thermomagnetic release - characteristic	B: 3 In ≤ In ≤ 5 In			■
		C: 5 In ≤ In ≤ 10 In			■
		K: 10 In < = In >= 14 In			■
	Rated residual breaking capacity IΔm			A	6 000
	Surge current resistance (wave 8/20 µs)				NA
Mechanical features	Housing				Insulation group I - II, RAL 7035
	Toggle				Insulation group II, Black RAL 9005, sealable in ON-OFF positions
	Contact position indication				Green/Red Window
	Earth fault trip indication				Blue flag on toggle
	Electrical life			operations	10000
	Mechanical life			operations	20000
	Protection degree acc. to EN 60529	housing			IP4X
		terminals			IP2X
	Shock resistance acc. to IEC/EN 60068-2-27				25g - 2 shocks - 13ms
	Vibration resistance acc. to IEC/EN 60068-2-6				0.1 mm or 1 g - 20 cycles at 5…150…5 Hz
	Environmental conditions (damp heat) acc. to IEC/EN 60068-2-30			°C / RH	28 cycles with 55°C/90-96% and 25°C/95-100%
	Reference temperature for setting of thermal element			°C / °F	30 / 86
	Ambient temperature (with daily average ≤ +35 °C)			°C / °F	-25…+55 / -13…+131
	Storage temperature			°C / °F	-40…+70 / -40…+158
Installation	Terminal type	top / bottom			Failsafe bi-directional cylinder-lift terminal (shock protected)
	Terminal size for solid cables	top / bottom		mm^2 / AWG	25/25 / 10/10
	Terminal size for stranded cables	top / bottom		mm^2 / AWG	16/16 / 6/6
	These terminals are not suitable for copper compact stranded conductors				
	Terminal size for busbars	top / bottom		mm^2 / AWG	10/8
	Tightening torque	top / bottom		Nm / in.lb	2.8 / 24.5
	Stripping length of the cable			mm / in	12 / 0.5
	Mounting				on DIN rail EN 60715 (35mm) by means of mounting clip
	Mounting position				Any
	Supply from				Top/Bottom terminals
Dimensions and weight	Dimensions (H x D x W)			mm / in	85 x 69 x 35 / 3.34 x 2.71 x 1.37
	Weight			g / lb	200 / 0.44
Combination with auxiliary elements	Combinable with accessories and auxiliaries	Auxiliary contact			yes
		Signal contact / auxiliary contact			yes
		Shunt trip			yes
		Auxiliary contact for bottom fitting			yes
		Undervoltage release			yes
		Overvoltage release			yes
		Motor operating device			yes

N.B The combination is mechanically compatible with but no UL approved.

RCBOs

DS201 UL technical features



DS201 UL

DS201 UL 6000 A type, B characteristic
Function: protection of end user single-phase circuits against overload and short-circuit currents; protection against the effects of sinusoidal alternating and direct pulsating earth fault currents; protection against indirect contact and additional protection against direct contact (IΔn=30 mA).

This particular series of devices is UL and CSA approved and is a supplementary protector.

Application: residential, commercial, industrial.
Standard: UL 1053 and 1077, CSA C22.2 No. 144, CSA C22.2 No. 235

No. of poles	Rated residual current IΔn mA	Rated current In A	Bbn 8012542 EAN	Order details Type code	Order details Order code	Weight 1 piece kg	Pack unit pc.
1+N	30	6	577614	DS201-B6A30UL	2CSR255187R1065	0.2	1
		10	565819	DS201-B10A30UL	2CSR255187R1105	0.2	1
		13	590712	DS201-B13A30UL	2CSR255187R1135	0.2	1
		16	578918	DS201-B16A30UL	2CSR255187R1165	0.2	1
		20	567170	DS201-B20A30UL	2CSR255187R1205	0.2	1
		30	576617	DS201-B30A30UL	2CSR255187R1305	0.2	1
		32	564812	DS201-B32A30UL	2CSR255187R1325	0.2	1
		35	588313	DS201-B35A30UL	2CSR255187R1355	0.2	1
		40	576518	DS201-B40A30UL	2CSR255187R1405	0.2	1



DS201 UL

DS201 UL 6000 A type, C characteristic
Function: protection of end user single-phase circuits against overload and short-circuit currents; protection against the effects of sinusoidal alternating and direct pulsating earth fault currents; protection against indirect contact and additional protection against direct contact (IΔn=30 mA).

This particular series of devices is UL and CSA approved and is a supplementary protector.

Application: residential, commercial, industrial.
Standard: UL 1053 and 1077, CSA C22.2 No. 144, CSA C22.2 No. 235

No. of poles	Rated residual current IΔn mA	Rated current In A	Bbn 8012542 EAN	Order details Type code	Order details Order code	Weight 1 piece kg	Pack unit pc.
1+N	30	6	588511	DS201-C6A30UL	2CSR255187R1064	0.2	1
		10	576716	DS201-C10A30UL	2CSR255187R1104	0.2	1
		13	564911	DS201-C13A30UL	2CSR255187R1134	0.2	1
		16	589518	DS201-C16A30UL	2CSR255187R1164	0.2	1
		20	577713	DS201-C20A30UL	2CSR255187R1204	0.2	1
		30	590811	DS201-C30A30UL	2CSR255187R1304	0.2	1
		32	579014	DS201-C32A30UL	2CSR255187R1324	0.2	1
		35	567219	DS201-C35A30UL	2CSR255187R1354	0.2	1
		40	589419	DS201-C40A30UL	2CSR255187R1404	0.2	1

RCBOs

DS201 UL technical features

DS201 UL 6000 **A** **type, K characteristic**
Function: protection of end user single-phase circuits against overload and short-circuit currents; protection against the effects of sinusoidal alternating and direct pulsating earth fault currents; protection against indirect contact and additional protection against direct contact (IΔn=30 mA).

This particular series of devices is UL and CSA approved and is a supplementary protector.

Application: residential, commercial, industrial.
Standard: UL 1053 and 1077, CSA C22.2 No. 144, CSA C22.2 No. 235



DS201 UL

No. of poles	Rated residual current IΔn mA	Rated current In A	Bbn 8012542 EAN	Order details Type code	Order details Order code	Weight 1 piece kg	Pack unit pc.
1+N	30	10	564713	DS201-K10A30UL	2CSR255187R1107	0.2	1
		13	589310	DS201-K13A30UL	2CSR255187R1137	0.2	1
		16	577515	DS201-K16A30UL	2CSR255187R1167	0.2	1
		20	565710	DS201-k20A30UL	2CSR255187R1207	0.2	1

E 90. UNCOMPROMISING PERFORMANCE

A safe and smart range designed for quick, flexible and error-proof installation

Compactness
The compact dimensions enable to close the switchboard door even when the fuse holder is open, thus ensuring total safety during maintenance.

Reliability
Venting grooves and cooling chambers improve heat dissipation even in multiple-pole configurations.



Completeness
The fuse tripping can be easily displayed, thanks to the special blown fuse indicator light.

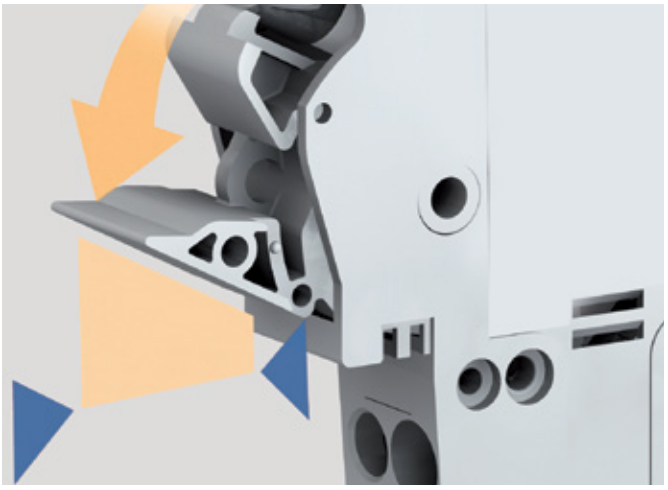
Universal use
Screw holes have increased diameter to accommodate insulated screwdrivers and electric screwdrivers.

E 90. Uncompromising performance

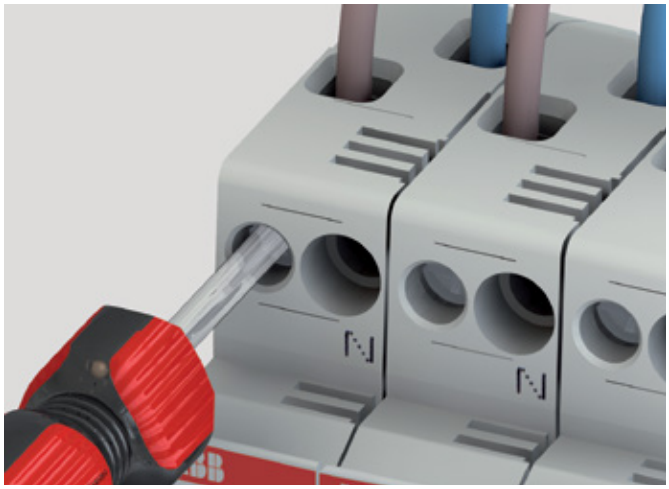
A safe and smart range designed for quick, flexible and error-proof installation



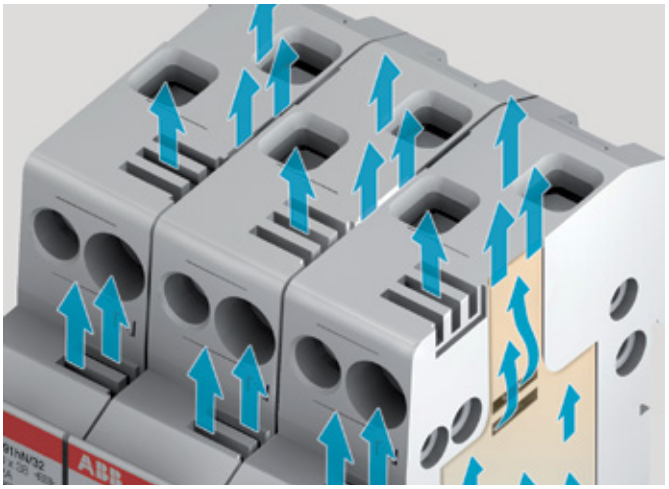
Fuseholder profile has been designed for maximum ease of use: the 90° flip hinge with ergonomic knob, makes the replacement of fuses easier even in small spaces or when wearing protective gloves.



The compact dimensions enable to close the switchboard door even when the fuseholder is open, thus ensuring total safety during maintenance.



With the Prozidriv PZ2 screws tightening can be performed by exerting less torque than conventional screws, and the same electric screwdriver can be used for all terminals.
Moreover, the PS connection busbars facilitate the connecting operations, making the wiring both simple and safe and providing complete integration with S 200 and SN 201 System pro M compact® circuit-breakers.



Venting grooves and cooling chambers improve heat dissipation even in multiple-pole configurations.
The reduced operating temperature inside fuseholders ensures durability and reliability of the devices over time.

TECHNICAL DATA

E 90 series — data according to UL

Type		**E 90/32**	**E 90/32 PV 1000 V**	**E 90/32 PV 1500 V**
Rated current	[A]	32	32	30
Rated voltage	[V]	690	1000	1500 V DC
Type of current		AC/DC	DC	DC
Fuse		10.3 x 38	10.3 x 38	10x30
Rated frequency	[Hz]	50 - 60	–	6
Tightening torque	[Nm]	PZ2 2 - 2.5	PZ2 2 - 2.5	PZ2 18-22 lb-in
Protection degree		IP20	IP20	IP20
Terminals section	[mm^2]	25	25	–
Cross section rigid copper conductors	[AWG]	16÷10	not forseen	1 wire: 16-10 AWG
Cross section stranded copper conductors	[AWG]	16÷3	8÷3	1 wire: 0.75 -25 (18-4 AWG) 2 wires: 18-6 AWG
Cable temperature	[°C]		[°C] CU 60, 75, 90	max 90 (acc. UL)
Padlockable (when open)		•	•	
Sealable (when closed)		•	•	

Reference Standard	**E 90/32**	**E 90/32 PV 1000 V**	**E 90/32 PV 1500 V**
UL 4248-1	•		
UL 4248-4			
UL 4248-8			
UL 4248-18		•	•

Approvals	**E 90/32**	**E 90/32 PV 1000 V**	**E 90/32 PV 1500 V**
cULus			
UL		•	•
cURus	•		
CSA			

**** IP20 also as standalone device installed on DIN rail, with respect to cables with a cross-section area ≥ 10 mm^2

E 90/50	E 90/125	E 90/30 CC	E 90/30 J	E 90/60 J
50	125	30	30	360
800	800	600	600	600
AC/DC	AC/DC	AC/DC	AC/DC	AC/DC
14 x 51	22 x 58	Class CC 10.4 x 38	Class J 21 x 57	Class J 27 x 60
50 - 60	50 - 60	60	60	60
PZ2 3 - 3.5	PZ2 3.5 - 4	PZ2 2 - 2.5	PZ2 3.5 - 4	PZ2 3.5 - 4
IP20 ****	IP20 ****	IP20	n.a.	n.a.
35	50	25	50	50
14÷10	14÷10	16÷10	14÷10	14÷10
14÷2	14÷1	16÷3	14÷1	14÷1
•	•	•	•	•
•	•	•	•	•

E 90/50	E 90/125	E 90/30 CC	E 90/30 J	E 90/60 J
•	•	•	•	•
		•		
			•	•

E 90/50	E 90/125	E 90/30 CC	E 90/30 J	E 90/60 J
		•	•	•
•	•			
		•	•	•

Protection and safety
E 90 fuse holders



E 92

E 90 fuse holders
E 90 series fuse holders are designed for providing protection against short circuits and overloads. The housing is made of self-extinguishing thermoplastic material resistant to high temperatures (all materials are UL listed) while the contact clips are in silver plated copper.

E 90 fuse holders can be sealed or padlocked to ensure operator safety during maintenance. Versions with blown fuse indicator allow to check whether the fuse is still working correctly or not. For easy and quick installation E 90 range is totally compatible with our UL 508 busbars.

Thanks to cURus approval, they can be installed in UL certified machines.



E 94

E 90 FUSE SWITCH DISCONNECTORS FOR 10.3 X 38 MM FUSES (AC-22B)

Poles	Rated current	Modules	Bbn 8012542	Order details	Price 1 piece	Weight 1 piece	Pack unit
	In		EAN	Type code		kg	pc.
1	32	1	009238	E 91/32		0.061	6
1	32	1	024835	E 91/32s		0.062	6
1+N	32	2	008934	E 91N/32		0.130	3
1+N	32	2	515036	E 91N/32s		0.132	3
2	32	2	008835	E 92/32		0.122	3
2	32	2	514930	E 92/32s		0.132	3
3	32	3	047537	E 93/32		0.183	2
3	32	3	020639	E 93/32s		0.184	2
3+N	32	4	047339	E 93N/32		0.252	1
3+N	32	4	514831	E 93N/32s		0.255	1
4	32	4	047230	E 94/32		0.244	1
4	32	4	020530	E 94/32s		0.248	1

s: version with blown fuse indicator light

Protection and safety

E 90 PV 1000 V fuse holders



E 90 PV

E 90 PV fuse holders

E 90 PV series fuse holders, designed for operating voltages of 1000 V DC with utilization category DC-20B, are particularly suited for protection against overcurrents of photovoltaic systems. The single-pole or two-pole E 90 PV disconnectors for 10.3 x 38 mm cylindrical fuse links offer a reliable, compact and affordable solution for photovoltaic installations. Versions with blown fuse indicator allow to check whether the fuse is still working correctly or not.

E 90 PV FUSE DISCONNECTORS FOR 10.3 X 38 MM FUSES (DC-20B)

Poles	Rated current	Modules	Bbn 8012542	Order details	Price 1 piece	Weight 1 piece	Pack unit
	In		EAN	Type code		kg	pc.
1	32	1	047131	E 91/32 PV		0.061	6
1	32	1	046936	E 91/32s PV		0.062	6
2	32	2	047032	E 92/32 PV		0.122	3
2	32	2	569138	E 92/32s PV		0.233	3

s: version with blown fuse indicator light

Protection and safety

E 90 PV 1500 fuse holder



E 90 PV 1500

E 90 PV fuse holder

The E 90 PV 1500 series of fuse holders has been designed for applications up 1500 V DC. Thanks to their rated voltage up to 1500 V DC they are the ideal solution for protecting cells and inverters. In case of maintenance, they ensure isolation of circuits and strings up to 1500 V in direct current, in total safety. The main features of E 90 PV 1500 fuse holders include venting grooves and cooling chambers which improved heat dissipation.

E 90 PV FUSE HOLDER FOR 10 × 85 MM AND 10/14 × 85 MM FUSES

Poles	Rated current	Width	Bbn 8012542	Order details	Price 1 piece	Weight 1 piece	Pack unit
	In		EAN	Type code		kg	pc.
1	32	22.5	020417	E91/32 PV1500e		0.080	5
1	32	22.5	743613	E91/32 PV1500e		0.080	60

Protection and safety
E 90 50/125 fuse holders



E 90 50/125

90 50/125 fuse holders

The E 90 50/125 fuse holders range is specifically intended for industrial circuit protection when currents are from 50 A to 125 A. They can, respectively, carry any type of cylindrical fuses 14x51 and 22x58 mm. The E 90 50/125 fuse holders can be sealed or padlocked in open position to ensure operator safety during maintenance operations. Versions with blown fuse indicator (LED) allow checking whether the fuse is still working correctly or not.

E 90/50 FUSE HOLDERS FOR 14 X 51 MM FUSES (AC-20B)

Poles	Rated current In	Modules	Bbn 8012542 EAN	Order details Type code	Price 1 piece	Weight 1 piece kg	Pack unit pc.
1	50	1.5	790228	E 91/50		0.095	4
1	50	1.5	372028	E 91/50s		0.095	4
1+N	50	3	779827	E 91N/50		0.19	2
1+N	50	3	023920	E 91N/50s		0.19	2
2	50	3	779728	E 92/50		0.19	2
2	50	3	070320	E 92/50s		0.19	2
3	50	4.5	779629	E 93/50		0.285	1
3	50	4.5	574828	E 93/50s		0.285	1
3+N	50	6	779520	E 93N/50		0.38	1
3+N	50	6	563020	E 93N/50s		0.38	1

E 90/125 FUSE HOLDERS FOR 22 X 58 MM FUSES (AC-20B)

Poles	Rated current In	Modules	Bbn 8012542 EAN	Order details Type code	Price 1 piece	Weight 1 piece kg	Pack unit pc.
1	100	2	775720	E 91/125		0.135	4
1	100	2	896326	E 91/125s		0.135	4
1+N	100	4	773528	E 91N/125		0.27	2
1+N	100	4	049425	E 91N/125s		0.27	2
2	100	4	771326	E 92/125		0.27	2
2	100	4	049326	E 92/125s		0.27	2
3	100	6	775027	E 93/125		0.405	1
3	100	6	049227	E 93/125s		0.405	1
3+N	100	8	965329	E 93N/125		0.54	1
3+N	100	8	049128	E 93N/125s		0.54	1

s: version with blown fuse indicator light

Protection and safety
E 90 CC fuse holders



E 91



E 93

TECHNICAL FEATURES

Type			E 90/30 CC
Rated voltage		[V]	600
Rated current		[A]	30
Type of current			AC/DC
Rated frequency		[Hz]	60
Fuse			class CC
Tightening torque		[Nm]	PZ2 2-2.5*
		[lb-in]	PZ2 18-22**
Terminals cross-section		[mm²]	25
Cross-section rigid copper conductors	1 wire		1.5-25 mm² (16-10 AWG)
	2 wires		5 mm² (10 AWG)
Cross-section stranded copper conductors	1 wire		1.5-16 mm² (16-3 AWG)
	2 wires		2-5 mm² (14-10 AWG)
Voltage range for LED indicator light (only s version)		[V]	24 - 1000 AC/DC
Can be sealed closed			■
Can be padlocked open			■

* PZ2 2.8 Nm in case of rigid copper conductors, 2 wires
** PZ2 24,5 lb-in in case of rigid copper conductors, 2 wires

The E 90 fuse holders for Class CC cylindrical fuse links are specifically designed for the North American market in compliance with the UL standards. In accordance with the reference standards UL 4248-1 and UL 4248-4, they come in voltage and current ratings up to 600V and 30A. They are available in 1P, 1P+N, 2P, 3P, 3P+N and 4P versions. They can be padlocked open and sealed closed.
The E 90 fuse holders are the ideal solution for process control and industrial systems, automation systems, industrial installations and control circuits. The versions with blown fuse indicator light provide a visual signal of the fuse break condition

E 90 FOR CLASS CC CARTRIDGE FUSES

Poles	Rated current	Modules	Bbn 8012542	Order details	Price 1 piece	Weight 1 piece	Pack unit
	In		EAN	Type code		kg	pc.
1	30	1	998723	E 91/30 CC		0.061	6
1	30	1	998822	E 91/30s CC		0.062	6
1+N	30	2	998921	E 91N/30 CC		0.13	3
1+N	30	2	999027	E 91N/30s CC		0.13	3
2	30	2	999126	E 92/30 CC		0.122	3
2	30	2	999225	E 92/30s CC		0.122	3
3	30	3	999324	E 93/30 CC		0.183	2
3	30	3	999423	E 93/30s CC		0.183	2
3+N	30	4	999522	E 93N/30 CC		0.252	1
3+N	30	4	999621	E 93N/30s CC		0.252	1
4	30	4	999720	E 94/30 CC		0.244	1
4	30	4	999829	E 94/30s CC		0.244	1

s: version with blown fuse indicator light

Protection and safety
E 90 J fuse holders



E 90 Class J

TECHNICAL FEATURES

Type		E 90/30 J	E 90/60 J
Rated current	[A]	30	60
Rated voltage	[V]		600
Type of current			AC/DC
Fuse		Class J 1-30A	Class J 31-60A
Rated frequency	[Hz]		60
Tightening torque	[Nm]		PZ2 3.5-4
Terminals cross-section	[mm²]		50
Cross-section rigid copper conductors	[AWG]		14-10
Cross-section stranded copper conductors	[AWG]		14-8
Can be sealed closed			■
Can be padlocked open			■

E 90 Class J

The E 90 Class J fuse holders are the ideal solution for industrial systems, industrial installations and control circuits. They are specifically designed for the North American market in compliance with the UL standards. In accordance with the reference standard UL 4248-8, they come in voltage and current ratings up to 600V and 30/60A. They are available in 1P, 2P and 3P versions. The versions with blown fuse indicator light provide a visual signal of the fuse break condition. They can be padlocked open and sealed closed to ensure operator safety during maintenance operations.

E 90/30 FUSE HOLDERS FOR CLASS J FUSES

Poles	Rated current	Modules	Bbn 8012542	Order details	Price 1 piece	Weight 1 piece	Pack unit
	In		EAN	Type code		kg	pc.
1	30	2	048220	E 91/30 J		0.135	4
2	30	4	048121	E 92/30 J		0.27	2
3	30	6	048022	E 93/30 J		0.405	1
1	30	2	047926	E 91/30s J		0.135	4
2	30	4	047827	E 92/30s J		0.27	2
3	30	6	047728	E 93/30s J		0.405	1

E 90/60 FUSE HOLDERS FOR CLASS J FUSES

Poles	Rated current	Modules	Bbn 8012542	Order details	Price 1 piece	Weight 1 piece	Pack unit
	In		EAN	Type code		kg	pc.
1	60	2.5	047629	E 91/60 J		0.175	3
2	60	5	049821	E 92/60 J		0.35	1
3	60	7.5	049722	E 93/60 J		0.525	1
1	60	2.5	049623	E 91/60s J		0.175	3
2	60	5	049524	E 92/60s J		0.35	1
3	60	7.5	738824	E 93/60s J		0.525	1

s: version with blown fuse indicator light

Protection and safety

Cylindrical fuses E 9F gPV



E 9F PV

Type		E9F PV	E9F PV 1500
Reference standards	-	IEC 60269-6; ROHS 2002/98/CE, UL	IEC 60269-6; ROHS 2002/98/CE, UL
Rated current	[A]	1...30	4...32
Rated operational voltage	[V]	1000 DC	1500 DC
Breaking capacity	[kA]	10	50
Overall dimensions	[mm]	10.3 x 38	10 x 85

E 9F PV cylindrical fuses for photovoltaic applications

The E9F PV series of cylindrical fuses has been specifically designed for protecting direct current circuits up to 1500 V DC. Those fuses are the best way to protect the strings, inverters and surge arresters in photovoltaic installations.

The range of E9F PV fuses is available in the 10.3 x 38 mm size for up to 30 A rated current values at a nominal voltage of 1000 V DC or in the 10x85 mm size up to 32 A rated current at a nominal voltage of 1500 V DC.

E 9F PV CYLINDRICAL FUSES 10.3 X 38 MM

Rated current	Bbn 8012542	Order details	Price 1 piece	Weight 1 piece	Pack unit
In	EAN	Type code		kg	pc.
1 A	134568	E 9F1 PV		0.007	10
2 A	134667	E 9F2 PV		0.007	10
3 A	134766	E 9F3 PV		0.007	10
4 A	134865	E 9F4 PV		0.007	10
5 A	134964	E 9F5 PV		0.007	10
6 A	135060	E 9F6 PV		0.007	10
7 A	135169	E 9F7 PV		0.007	10
8 A	135268	E 9F8 PV		0.007	10
10 A	135367	E 9F10 PV		0.007	10
12 A	135466	E 9F12 PV		0.007	10
15 A	135565	E 9F15 PV		0.007	10
20 A	135664	E 9F20 PV		0.007	10
25 A	135763	E 9F25 PV		0.007	10
30 A	135862	E 9F30 PV		0.007	10

E9F PV CYLINDRICAL FUSES 10 X 85 MM

Rated current	Bbn 8012542	Order details	Price 1 piece	Weight 1 piece	Pack unit
In	EAN	Type code		kg	pc.
4 A	339410	E9F4 PV1500		0.010	5
5 A	052852	E9F5 PV1500		0.010	5
6 A	052951	E9F6 PV1500		0.010	5
7 A	053057	E9F7 PV1500		0.010	5
8 A	053156	E9F8 PV1500		0.010	5
10 A	053255	E9F10 PV1500		0.010	5
12 A	053354	E9F12 PV1500		0.010	5
15 A	053453	E9F15 PV1500		0.010	5
20 A	068754	E9F20 PV1500		0.010	5
25 A	068952	E9F25 PV1500		0.010	5
30 A	069058	E9F30 PV1500		0.010	5
32 A	069256	E9F32 PV1500		0.010	5

SURGE PROTECTIVE DEVICES

UL 1449 5th edition

The Underwriters Laboratories (UL) standard for surge protective devices (SPDs) has been the primary safety standard for surge protection since the first edition was published in 1985. The fifth edition became mandatory for AC SPDs in March 2016.

The objective of UL 1449 has always been to increase safety in terms of surge protection.

Change in the standard's name: From TVSS to SPDs
Prior to UL 1449 3rd Edition taking effect, the devices this standard covers were known as transient voltage surge suppressors (TVSS), operating on power circuits not exceeding 600 V. With the inception of the 3rd and 5th Edition, these devices are now known as surge protective devices (SPDs), and may operate on power circuits not exceeding 1500 V DC.

This new designation moves the UL standard closer to the international designation and to IEC standards.

The different Type designations of surge protective devices
The UL 1449 placed SPDs into five different Type categories based on installation location within an electrical system.
While Type 1, Type 2 and Type 3 categories refer to different types of SPDs that can be installed at specific locations, Type 4 and Type 5 categories refer to components used in an SPD's configuration.

Type 1 – "Permanently connected SPDs intended for installation between the secondary of the service transformer and the line side of the service equipment overcurrent device."
Type 2 – "Permanently connected SPDs intended for installation on the load side of the service equipment overcurrent device."
Type 3 – "Point of utilization SPDs, installed at a minimum conductor length of 10 meters (30 feet) from the electrical service panel."
Type 4 – Component assemblies – "Component assembly consisting of one or more Type 5 components together with a disconnect (integral or external) or a means of complying with the limited current tests."
Type 1, 2, 3 – Component assemblies – "Consists of a Type 4 component assembly with internal or external short circuit protection."
Type 5 – "Discrete component surge suppressors, such as MOVs that may be mounted on a PWB, connected by its leads or provided within an enclosure with mounting means and wiring terminations."



The closer an SPD is installed to the equipment, the better the protection is. This is a push in the direction of providing stepped protection including external and internal surge protection.

The measured voltage protection level
The measured limiting voltage (MLV) is the maximum magnitude of voltage measured at the application of a specific impulse wave shape.

When applying a certain surge current on the SPD, the measured voltage at the device terminals is the so called "let-through voltage."

In UL 1449 2nd Edition, the let-through voltage was referred to as suppressed voltage rating (SVR) and was calculated with a 0.5 kA surge wave form at 6 kV. The new designation is voltage protection rating (VPR) and is calculated with a 3 kA surge wave form at 6 kV.

All products you will find in this chapter have been certified according to the UL 1449 5th Edition.

The MLV will allow comparison of different types of SPDs with regards to the let-through voltage. However, it is important to note that the surge current used to measure the let-through voltage is six times higher in the 3rd and 5th Edition than in the 2nd Edition. This means that comparing the obsolete SVR designation with the new VPR ratings will not be valid, because VPR ratings will of course be higher than SVR ratings.

Surge protective devices

OVRT2 series – Selection guide

Complete facility protection
Installing surge protection at the main distribution panel is only the beginning of protecting the entire operation. As most transient surges are created internally, it is necessary to install surge protection at sub-distribution panels (equipment protection) to be fully protected. Stepping down the Imax level from the service entrance panel toward equipment to be protected is recommended.

For example, if a 40 kA Imax SPD is installed in the main distribution panel, then 15 kA Imax SPDs should be installed in sub-distribution panels for equipment protection.

Coordination
It may be necessary to add a second surge protector, wired to the incoming unit, to achieve the required voltage protection and/or surge capacity. For Type 2 or 4 SPDs, installing this second unit a minimum of 1 m from the first unit will allow the two to work together, achieving the required protection.

Wiring rules
The impedance of the cables increases the voltage across the connected equipment. Therefore, the length of the cable between the surge protector and the equipment should be minimized.

The surge protective device should be installed as close to the equipment to be protected as possible. If this is not possible (the equipment is over 30 m from the panel), then a second surge protector must be installed.

Choosing the correct model

1) Determine the service voltage
Consult qualified personnel if the facility or operation service voltage is unknown.

2) Select the SPD maximum continuous operating voltage (MCOV, Uc)
The MCOV should correspond to the service voltage. Example: If the service voltage is 480 V Delta, an SPD with 550 V or 660 V MCOV will be required. Surge protection devices must also provide a level of protection compatible with the withstand voltage of the equipment. This withstand voltage depends on the type of equipment and its sensitivity. The incoming surge protector may not provide adequate protection by itself, as certain electrical phenomena may greatly increase its residual voltage if cable lengths exceed 10 m. A second SPD may be necessary.

3) Select the SPD surge capacity (Imax)
Surge capacity is the amount of energy the SPD can withstand from a single surge event. The higher the surge capacity, the longer the device will protect the system. A second surge protector may be required if the surge capacity of the first is not capable of diverting all surge current to ground. See coordination below.

4) Remote monitoring (optional)
Integrated auxiliary contact for remote monitoring available on models with "TS" designation.

Consult "Selection tables" on next page for help in the selection of SPDs.

OVR DIN rail SPD – Product type description

		Phases Without = 1P 2L = 2P 3L = 3P 1N = 1P+N 2N = 2P+N 3N = 3P+N		**Max voltage (Uc)** 150 V (175 V) 320 V 440 V 550 V 660 V			**UL 1449** **5th edition**	
ABB SPD								
OVR	T2	3N	40	320	P	TS	U	
Designation Type 2 apps			**Surge capacity (Imax)** 15 kA 40 kA		**Pluggable**		**Auxiliary contact** (optional)	

OVRT series

Product range overview



Name	OVRT2	OVRT2 1N	OVRT2 2L	OVRT2 2N	OVRT2 3L	OVRT2 3N
Number of poles	1p units	1p+N+Gnd	2p+Gnd	2p+N+Gnd	3p+Gnd	3p+N+Gnd
Network type	All networks	Single-phase 2w+Gnd	Split-phase 2w+Gnd	Split-phase 3w+Gnd	Three-phase 3w+Gnd	Three-phase 4w+Gnd
SPD type	Type 4 for Type 2	Type 4 for Type 2	Type 4 for Type 2	Type 4 for Type 2	Type 4 for Type 2	Type 4 for Type 2
Certifications	UL 1449 CSA C22.2 No. 269.4-14	UL 1449 CSA C22.2 No. 269.4-14	UL 1449 CSA C22.2 No. 269.4-14	UL 1449 CSA C22.2 No. 269.4-14	UL 1449 CSA C22.2 No. 269.4-14	UL 1449 CSA C22.2 No. 269.4-14
Marking	cURus, CE	cURus, CE	cURus, CE	cURus, CE	cURus, CE	cURus, CE
Surge ratings	15 kA 40 kA	15 kA 40 kA	15 kA 40 kA	15 kA 40 kA	15 kA 40 kA	15 kA 40 kA
Voltage	Up to 600 V AC	Up to 347 V AC	120/240 V AC	120/240 V AC	Up to 480 V AC	Up to 347/600 V AC
End-of-life signal contact	Only on 40 kA units	Only on 40 kA units	Only on 40 kA units	Only on 40 kA units	Only on 40 kA units	Only on 40 kA units
Replaceable cartridge	Yes	Yes	Yes	Yes	Yes	Yes
SPD technology	MOV	MOV	MOV	MOV	MOV	MOV
Thermally protected	No (upstream protection needed)	No (upstream protection needed)	No (upstream protection needed)	No (upstream protection needed)	No (upstream protection needed)	No (upstream protection needed)

OVRT2 series

OVRT2 single-pole



Product features

- Type 4 SPD, UL 1449 5th Edition for Type 2 applications
- Metal oxide varistor (MOV) technology
- Single-pole design
- Replaceable and pluggable cartridges
- DIN rail-mounted SPD
- State indication flag standard on all units
- End-of-life signal standard on 40 kA units

Network type	Voltage	MCOV	VPR	Max. disch.	Nominal disch.	Part number	Repl. cartridge
Pole to be connected between L-N, L-G or L-L	120 V AC	150 V AC	0.6 kV	15 kA	5 kA	OVRT215150PU	OVRT215150CU
				40 kA	20 kA	OVRT240150PU	OVRT240150CU
						OVRT240150PTSU	OVRT240150CU
	240...277 V AC	320 V AC	1.0 kV	15 kA	5 kA	OVRT215320PU	OVRT215320CU
				40 kA	20 kA	OVRT240320PTSU	OVRT240320CU
	347 V AC	440 V AC	1.3 kV	40 kA	20 kA	OVRT240440PTSU	OVRT240440CU
	480 V AC	550 V AC	1.7 kV	40 kA	20 kA	OVRT240550PTSU	OVRT240550CU
	600 V AC	660 V AC	1.9 kV	40 kA	20 kA	OVRT240660PTSU	OVRT240660CU
Neutral pole to be connected between N-G	230 V AC	255 V AC	1.2 kV	70 kA	20 kA	OVRT270NPU	OVRT270NCU

Electrical characteristics	
Operating frequency	(AC) 47–63 Hz
Modes of protection	L-N, L-G, N-G or L-L
Fault rating (SCCR)	200 kAIC – Upstream protection required (breaker / fuse)
Response time	< 25 nanoseconds
Standard monitoring	Cartridge state indicator flag
Mechanical characteristics	
Weight	0.25 lbs. (120 g)
Housing material	Thermoplastic, gray RAL 7035 / V0
Installation location	Type 1, indoor
Mounting method	DIN rail
Operating temperature	-40 °to 80 °C (-40 °to 175 °F)
Wire range (stranded / solid)	#6–14 AWG / #4–14 AWG
Product design	MOV technology

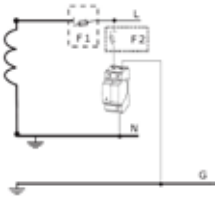
OVRT2 series

OVRT2 1N



Product features

- Type 4 SPD, UL 1449 5th Edition for Type 2 applications
- Metal oxide varistor (MOV) technology
- 1p+N+Gnd complete design
- Replaceable and pluggable cartridges
- DIN rail-mounted SPD
- State indication flag standard on all units
- End-of-life signal standard on 40 kA units

Network type	Voltage	MCOV	VPR	Max. disch.	Nominal disch.	Part number	Repl. cartridge
Single-phase 2w+Gnd 	120 V AC	175 V AC	1.2 kV	15 kA	5 kA	OVRT21N15150PU	OVRT215150CU
				40 kA	20 kA	OVRT21N40150PU	OVRT240150CU
						OVRT21N40150PTSU	OVRT240150CU
	240–277 V AC	320 V AC	1.2 kV	15 kA	5 kA	OVRT21N15320PU	OVRT215320CU
				40 kA	20 kA	OVRT21N40320PTSU	OVRT240320CU
	347 V AC	440 V AC	1.2 kV	40 kA	10 kA	OVRT21N40440PTSU	OVRT240440CU
	480 V AC	550 V AC	1.2 kV	40 kA	10 kA	OVRT21N40550PTSU	OVRT240550CU
	600 V AC	660 V AC	1.2 kV	40 kA	10 kA	OVRT21N40660PTSU	OVRT240660CU
Neutral pole	230 V AC	255 V AC	1.2 kV	70 kA	20 kA	-	OVRT270NCU

Electrical characteristics	
Operating frequency	50–60 Hz
Modes of protection	L-N and N-G
Fault rating (SCCR)	200 kAIC – Upstream protection required (breaker / fuse)
Response time	< 25 nanoseconds
Standard monitoring	Cartridge state indicator flag
Mechanical characteristics	
Weight	0.53 lbs. (240 g)
Housing material	Thermoplastic, gray RAL 7035 / V0
Installation location	Type 1, indoor
Mounting method	DIN rail
Operating temperature	-40 °to 80 °C (-40 °to 175 °F)
Wire range (stranded / solid)	#6–14 AWG / #4–14 AWG
Product design	MOV technology

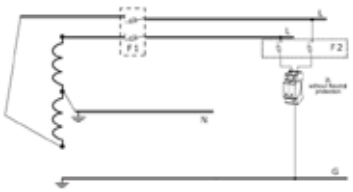
OVRT2 series

OVRT2 2L



Product features

- Type 4 SPD, UL 1449 5th Edition for Type 2 applications
- Metal oxide varistor (MOV) technology
- 2p+Gnd complete design
- Replaceable and pluggable cartridges
- DIN rail-mounted SPD
- State indication flag standard on all units
- End-of-life signal standard on 40 kA units

Network type	Voltage	MCOV	VPR	Max. disch.	Nominal disch.	Part number	Repl. cartridge
Split phase 2w+Gnd 	120 V AC	175 V AC	0.6 kV	15 kA	5 kA	OVRT22L15150PU	OVRT215150CU
				40 kA	20 kA	OVRT2240150PTSU	OVRT240150CU
	277 V AC	320 V AC	1.0 kV	15 kA	5 kA	OVRT22L15320PU	OVRT215320CU
				40 kA	20 kA	OVRT22L40320PTSU	OVRT240320CU

Electrical characteristics	
Operating frequency	50–60 Hz
Modes of protection	L-L and L-G
Fault rating (SCCR)	200 kAIC – Upstream protection required (breaker / fuse)
Response time	< 25 nanoseconds
Standard monitoring	Cartridge state indicator flag
Mechanical characteristics	
Weight	0.53 lbs. (240 g)
Housing material	Thermoplastic, gray RAL 7035 / V0
Installation location	Type 1, indoor
Mounting method	DIN rail
Operating temperature	-40 °to 80 °C (-40 °to 175 °F)
Wire range (stranded / solid)	#6–14 AWG / #4–14 AWG
Product design	MOV technology

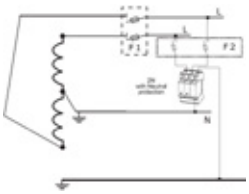
OVRT2 series

OVRT2 2N



Product features

- Type 4 SPD, UL 1449 5th Edition for Type 2 applications
- Metal oxide varistor (MOV) technology
- 2p+N+Gnd complete design
- Replaceable and pluggable cartridges
- DIN rail-mounted SPD
- State indication flag standard on all units
- End-of-life signal standard on 40 kA units

Network type	Voltage	MCOV	VPR	Max. disch.	Nominal disch.	Part number	Repl. cartridge
Split phase 2w+N+Gnd 	120 V AC	175 V AC	0.7 kV	15 kA	5 kA	OVRT22N15150PU	OVRT215150CU
			0.6 kV	40 kA	20 kA	OVRT22N40150PTSU	OVRT240150CU
	277 V AC	320 V AC	0.7 kV	15 kA	5 kA	OVRT22N15320PU	OVRT215320CU
			1.1 kV	40 kA	20 kA	OVRT22N40320PTSU	OVRT240320CU
	347 V AC	440 V AC	1.4 kV	40 kA	10 kA	OVRT22N40440PTSU	OVRT240440CU
	480 V AC	550 V AC	1.8 kV	40 kA	10 kA	OVRT22N40550PTSU	OVRT240550CU
	600 V AC	660 V AC	2.0 kV	40 kA	10 kA	OVRT22N40660PTSU	OVRT240660CU
Neutral pole	230 V AC	255 V AC	1.2 kV	70 kA	20 kA	-	OVRT270NCU

Electrical characteristics	
Operating frequency	50–60 Hz
Modes of protection	L-L, L-N , N-G and L-G
Fault rating (SCCR)	200 kAIC – Upstream protection required (breaker / fuse)
Response time	< 25 nanoseconds
Standard monitoring	Cartridge state indicator flag
Mechanical characteristics	
Weight	0.80 lbs. (360 g)
Housing material	Thermoplastic, gray RAL 7035 / V0
Installation location	Type 1, indoor
Mounting method	DIN rail
Operating temperature	-40 °to 80 °C (-40 °to 175 °F)
Wire range (stranded / solid)	#6–14 AWG / #4–14 AWG
Product design	MOV technology

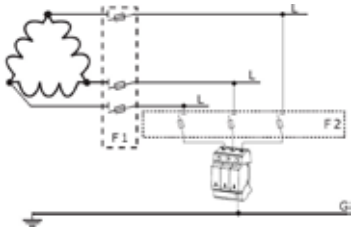
OVRT2 series

OVRT2 3L



Product features

- Type 4 SPD, UL 1449 5th Edition for Type 2 applications
- Metal oxide varistor (MOV) technology
- 3p+Gnd complete design
- Replaceable and pluggable cartridges
- DIN rail-mounted SPD
- State indication flag standard on all units
- End-of-life signal standard on 40 kA units

Network type	Voltage	MCOV	VPR	Max. disch.	Nominal disch.	Part number	Repl. cartridge
	120 V AC	175 V AC	0.6 kV	15 kA	5 kA	OVRT23L15150PU	OVRT215150CU
				40 kA	20 kA	OVRT23L40150PTSU	OVRT240150CU
	277 V AC	320 V AC	1.0 kV	15 kA	5 kA	OVRT23L15320PU	OVRT215320CU
				40 kA	20 kA	OVRT23L40320PTSU	OVRT240320CU
	347 V AC	440 V AC	1.3 kV	40 kA	10 kA	OVRT23L40440PTSU	OVRT240320CU
	480 V AC	550 V AC	1.7 kV	40 kA	10 kA	OVRT23L40550PTSU	OVRT240550CU

Electrical characteristics	
Operating frequency	50–60 Hz
Modes of protection	L-L and L-G
Fault rating (SCCR)	200 kAIC – Upstream protection required (breaker / fuse)
Response time	< 25 nanoseconds
Standard monitoring	Cartridge state indicator flag
Mechanical characteristics	
Weight	0.80 lbs. (360 g)
Housing material	Thermoplastic, gray RAL 7035 / V0
Installation location	Type 1, indoor
Mounting method	DIN rail
Operating temperature	-40 °to 80 °C (-40 °to 175 °F)
Wire range (stranded / solid)	#6–14 AWG / #4–14 AWG
Product design	MOV technology

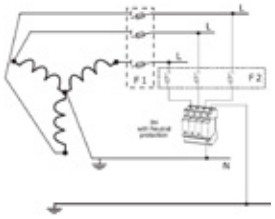
OVRT2 series

OVRT2 3N



Product features

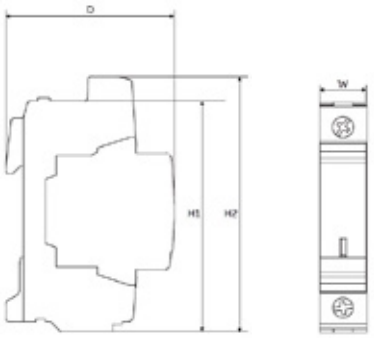
- Type 4 SPD, UL 1449 5th Edition for Type 2 applications
- Metal oxide varistor (MOV) technology
- 3p+N+Gnd complete design
- Replaceable and pluggable cartridges
- DIN rail-mounted SPD
- State indication flag standard on all units
- End-of-life signal standard on 40 kA units

Network type	Voltage	MCOV	VPR	Max. disch.	Nominal disch.	Part number	Repl. cartridge
Three phase 4w+Gnd 	120 V AC	175 V AC	0.6 kV	15 kA	5 kA	OVRT23NN15150PU	OVRT215150CU
			1.2 kV	40 kA	20 kA	OVRT23N40150PTSU	OVRT240150CU
	277 V AC	320 V AC	1.2 kV	15 kA	5 kA	OVRT23N15320PU	OVRT215320CU
				40 kA	20 kA	OVRT23N40320PTSU	OVRT240320CU
	347 V AC	440 V AC	1.2 kV	40 kA	10 kA	OVRT23N40440PTSU	OVRT240440CU
	480 V AC	550 V AC	1.2 kV	40 kA	10 kA	OVRT23N40550PTSU	OVRT240550CU
	600 V AC	660 V AC	1.2 kV	40 kA	10 kA	OVRT23N40660PTSU	OVRT240660CU
Neutral pole	230 V AC	255 V AC	1.2 kV	70 kA	20 kA	-	OVRT270NCU

Electrical characteristics	
Operating frequency	50–60 Hz
Modes of protection	L-L and L-G
Fault rating (SCCR)	200 kAIC – Upstream protection required (breaker / fuse)
Response time	< 25 nanoseconds
Standard monitoring	Cartridge state indicator flag
Mechanical characteristics	
Weight	1.05 lbs. (480 g)
Housing material	Thermoplastic, gray RAL 7035 / V0
Installation location	Type 1, indoor
Mounting method	DIN rail
Operating temperature	-40 °to 80 °C (-40 °to 175 °F)
Wire range (stranded / solid)	#6–14 AWG / #4–14 AWG
Product design	MOV technology

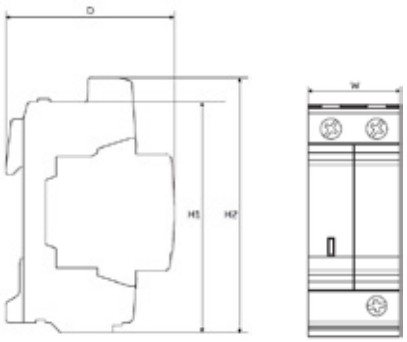
OVRT2 series
Dimensions

Dimensions OVRT2



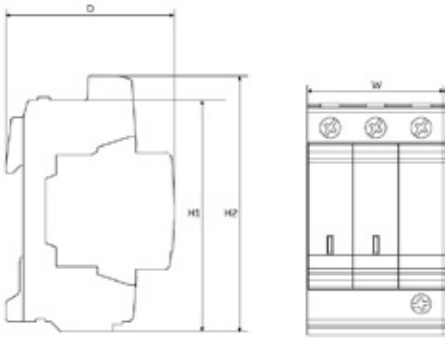
Value	Inches / millimeters
W	0.70 / 17.8
D	2.55 / 64.8
H1 (without TS option)	3.35 / 85.0
H2 (with TS option)	3.88 / 98.5

Dimensions OVRT2 1N, OVRT2 2L



Value	Inches / millimeters
W	1.40 / 35.6
D	2.55 / 64.8
H1 (without TS option)	3.35 / 85.0
H2 (with TS option)	3.88 / 98.5

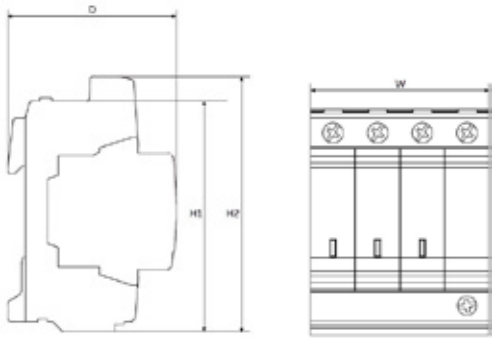
Dimensions OVRT2 2N, OVRT2 3L



Value	Inches / millimeters
W	2.10 / 53.4
D	2.55 / 64.8
H1 (without TS option)	3.35 / 85.0
H2 (with TS option)	3.88 / 98.5

OVRT2 series
Dimensions

Dimensions OVRT2 3N



Value	Inches / millimeters
W	2.80 / 71.2
D	2.55 / 64.8
H1 (without TS option)	3.35 / 85.0
H2 (with TS option)	3.88 / 98.5

OVR PV Type 2 series

OVR PV surge protective devices Photovoltaic networks

Specifically designed for photovoltaic DC installations, the OVR PV family provide a safe and reliable surge and lightning protection of solar panels and converters.



Product features

- Protection mode: DC+ to DC- / DC+ to G / DC- to G
- Protected lines: 2
- Technology: Thermally protected varistor
- Bi-color end of life indicator (green= functional / Red = replace
- Compact and lightweight design
- Auxiliary contact options
- Pluggable cartridge
- Bottom wiring

TECHNICAL FEATURES

Types			**OVR PV T2 40-1000 P**	**OVR PV T2 40-1500 P**
with auxiliary contact (TS)			**OVR PV T2 40-1000 P TS**	**OVR PV T2 40-1500 P TS**
Technology			Varistor	Varistor
Electrical features				
Standard			IEC 61643-31 UL 1449 5th Ed	IEC 61643-31 UL 1449 5th Ed
Type/test class			T2/II (EN) & Type 1 CA (UL)	T2/II (EN) & Type 1 CA (UL)
Protected lines			2	2
Types of networks			Photovoltaic	Photovoltaic
Type of current			DC	DC
Nominal voltage Un (L-N/L-L)		[V]	1000	1500
Max. cont. operating voltage Ucpv		[V]	1000	1500
Max. cont. operating voltage according Ⓤ (MCOV)		[V]	1000	1500
Maximum discharge current Imax (8/20)		[kA]	40	40
Nominal discharge current In (8/20)		[kA]	20	15
Voltage protection level Up at In (L-L/L-PE)		[kV]	4	5
Voltage protection rating according Ⓤ (VPR (L+/G, L-/G, L+/L-))		[kV]	3	4
Response time		[ns]	≤ 25	≤ 25
Residual current IPE		[µA]	≤1000	≤1000
Short-circuit DC current Iscpv		[A]	10,000	10,000
Short circuit withstand according Ⓤ (S_{CCR})		kAIC	10	10
Disconnector	Fuse		no need up to 10 kA	no need up to 10 kA
	Circuit breaker		no need up to 10 kA	no need up to 10 kA
Pluggable cartridge			Yes	Yes
Integrated specific thermal disconnector			Yes	Yes
State indicator			Yes	Yes
Safety reserve			No	No
Auxiliary contact			Yes (TS option)	Yes (TS option)

Installation					
Wire range (L, N, PE)	Solid wire	AWG	4 - 2	4 - 2
	Stranded wire	AWG	4 - 2	4 - 2
Stripping length (L, N, PE)		[inches]	0.47	0.47
Tightening torque (L, N, PE)		lbs	35.4	35.4
Auxiliary contact (TS)				
Contact complement			1 NO - 1 NC	1 NO - 1 NC
Minimum load			12 V DC - 10 mA	12 DC - 10 mA
Maximum load			250 V AC - 1 A	250 V AC - 1A
Connection cross-section		AWG	16	16
Miscellaneous characteristics				
Stocking and operating temperature		Fahrenheit	-40 to +176	-40 to +176
Maximal Altitude		ft	6561	6561
Humidity Rate HR			95% (non condensing)	95% (non condensing)
Degree of protection			IP20	IP 20
Fire resistance according to UL 94			V0	V0
Dimensions	height x width x depth	[inches]	3.5 x 2.12 x 2.87	3.5 x 2.12 x 2.87
With auxiliary contacts (TS)	height x width x depth	[inches]	3.89 x 2.12 x 2.87	3.89 x 2.12 x 2.87
Replacement Cartridges				
Phase Product ID			OVR PV T2 40-1000 C 2CTB802402R1000	OVR PV T2 40-1500 C 2CTB802402R1500

T2 PV SERIES

Protected lines	Impulse current Iimp 10/350	Total disch. current total 10/350	Max. dischar. current Imax 8/20	Nominal current In	Voltage protection level Up	Max. cont. operating voltage Ucpv	Bbn 4053546	Order details		Weight 1 piece
	kA	kA	kA	kA	kV	V	EAN	Type code	Order code	lbs
1+1 DC	-	-	40	15	5/5	1500	050240	OVR PV T2 40-1500 P	2CTB802400R1500	0.72
1+1 DC	-	-	40	15	5/5	1500	050288	OVR PV T2 40-1500 P TS	2CTB802401R1500	0.72
1+1 DC	-	-	40	20	4/4	1000	050110	OVR PV T2 40-1000 P	2CTB802400R1000	.66
1+1 DC	-	-	40	20	4/4	1000	050165	OVR PV T2 40-1000 P TS	2CTB802401R1000	.66



OVR PV T2 40-1500 P



OVR PV T2 40-1500 P TS



OVR PV T2 40-1000 P



OVR PV T2 40-1000 P TS

ABB Inc.
305 Gregson Dr.
Cary, NC 27511
United States

Customer Service: 800-816-7809
7:00 a.m. - 5:30 p.m., CST, Monday-Friday
elec_custserv@us.abb.com

Technical Support: 888-385-1221, Option 1
7:00 a.m. - 5:00 p.m., CST, Monday-Friday
lvps.support@us.abb.com

electrification.us.abb.com

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