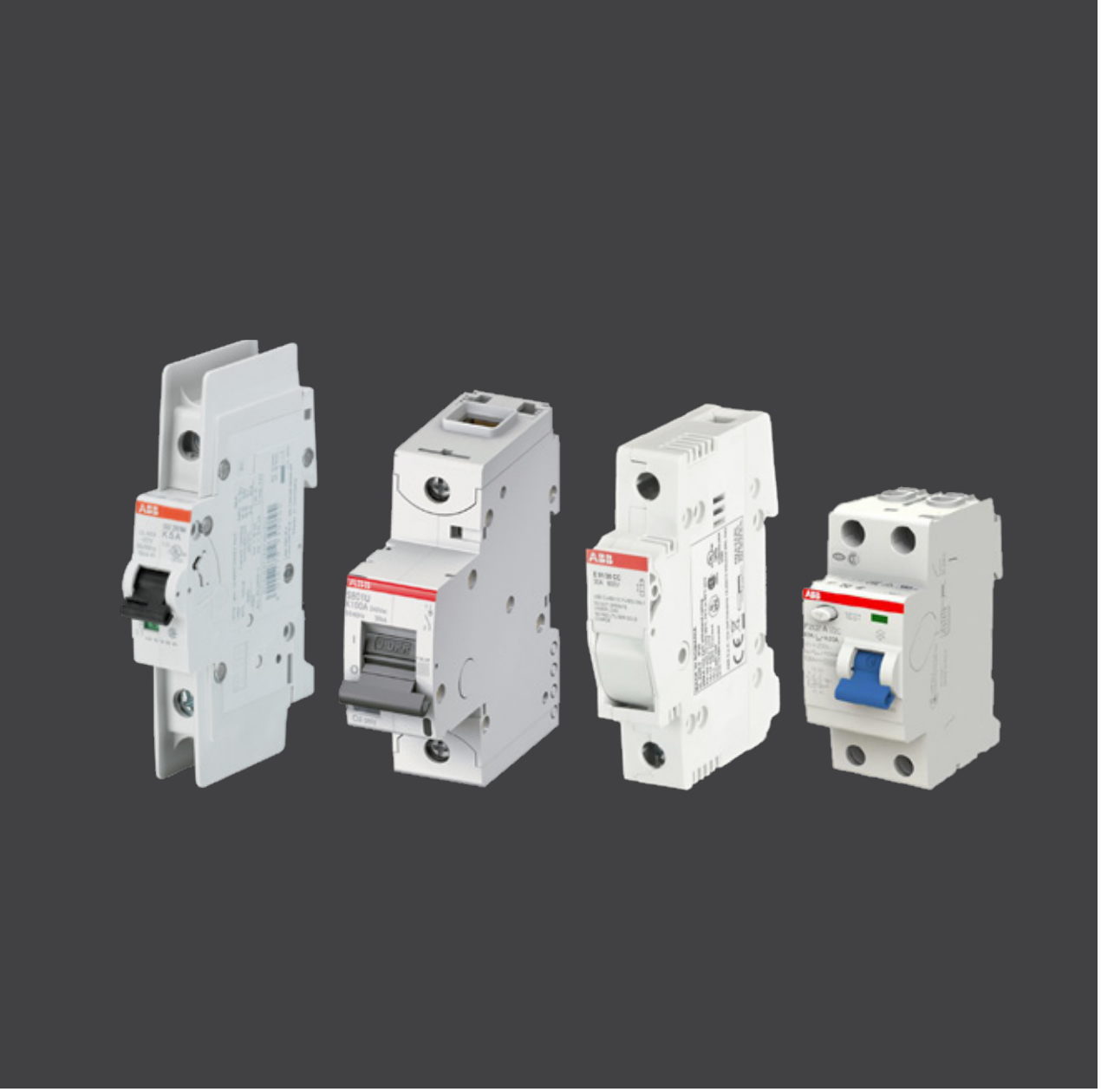


US CATALOG

# 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

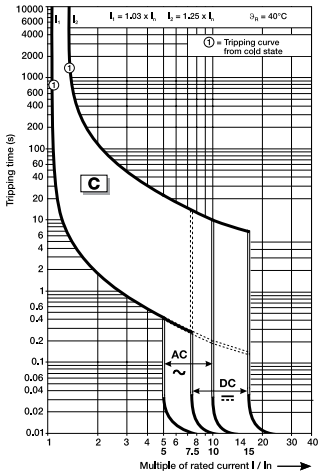








**Diagram**




| 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

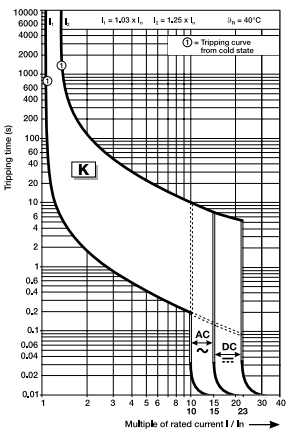








**Diagram**




| 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



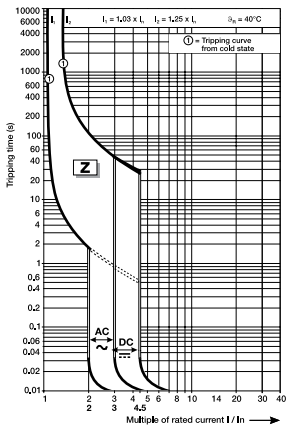






| Number of poles | Rated current $I_n$ A | Cat. no. | Number of poles | Rated current $I_n$ A | Cat. no. |
|---|---|---|---|---|---|
| 1 | 0.5 | SU201M-Z0.5 | 3 | 0.5 | SU203M-Z0.5 |
| | 1 | SU201M-Z1 | | 1 | SU203M-Z1 |
| | 1.6 | SU201M-Z1.6 | | 1.6 | SU203M-Z1.6 |
| | 2 | SU201M-Z2 | | 2 | SU203M-Z2 |
| | 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



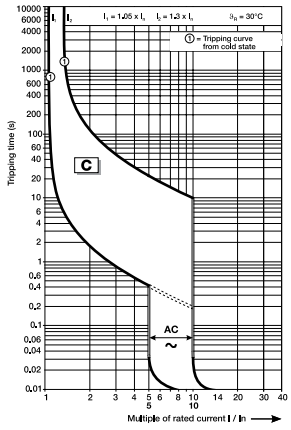






| Number of poles | Rated current $I_n$ A | Cat. no. | Number of poles | Rated current $I_n$ A | Cat. no. |
|---|---|---|---|---|---|
| 1 | 0.5 | SU201ML-C0,5 | 3 | 0.5 | SU203ML-C0,5 |
| | 1 | SU201ML-C1 | | 1 | SU203ML-C1 |
| | 1.6 | SU201ML-C1,6 | | 1.6 | SU203ML-C1,6 |
| | 2 | SU201ML-C2 | | 2 | 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



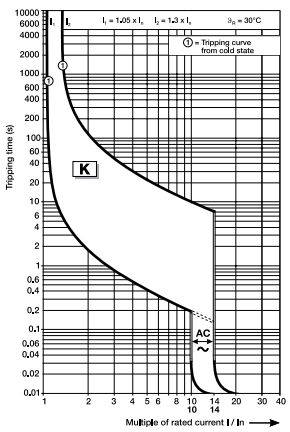






| Number of poles | Rated current $I_n$ A | Cat. no. | Number of poles | Rated current $I_n$ A | Cat. no. |
|---|---|---|---|---|---|
| 1 | 0.2 | SU201ML-K0,2 | 3 | 0.2 | SU203ML-K0,2 |
| | 0.3 | SU201ML-K0,3 | | 0.3 | SU203ML-K0,3 |
| | 0.5 | SU201ML-K0,5 | | 0.5 | SU203ML-K0,5 |
| | 0.75 | SU201ML-K0,75 | | 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



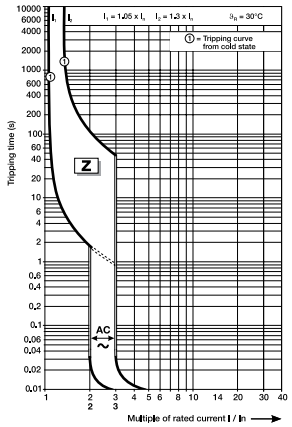






| Number of poles | Rated current $I_n$ A | Cat. no. | Number of poles | Rated current $I_n$ A | Cat. no. |
|---|---|---|---|---|---|
| 1 | 0.5 | SU201ML-Z0,5 | 3 | 0.5 | SU203ML-Z0,5 |
| | 1 | SU201ML-Z1 | | 1 | SU203ML-Z1 |
| | 1.6 | SU201ML-Z1,6 | | 1.0 | SU203ML-Z1,6 |
| | 2 | SU201ML-Z2 | | 2 | 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

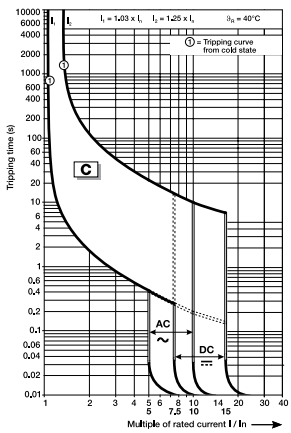






| Number of poles | Rated current $I_n$ A | Cat. no. | Number of poles | Rated current $I_n$ A | Cat. no. |
|---|---|---|---|---|---|
| 1 | 1 | SUP201M-C1 | 3 | 1 | SUP203M-C1 |
| | 1.6 | SUP201M-C1.6 | | 1.6 | SUP203M-C1.6 |
| | 2 | SUP201M-C2 | | 2 | SUP203M-C2 |
| | 3 | SUP201M-C3 | | 3 | SUP203M-C3 |
| | 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**

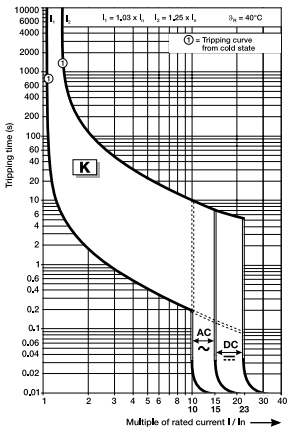


## SUP200M-K

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

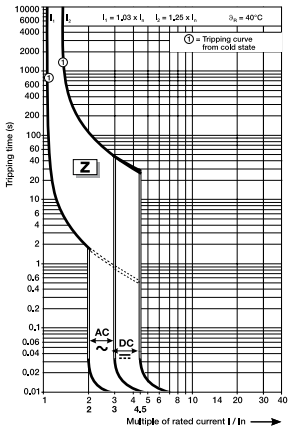






| Number of poles | Rated current $I_n$ A | Cat. no. |
|---|---|---|
| 1 | 1 | SUP201M-Z1 |
| | 1.6 | SUP201M-Z1.6 |
| | 2 | SUP201M-Z2 |
| | 3 | SUP201M-Z3 |
| | 4 | SUP201M-Z4 |
| | 5 | SUP201M-Z5 |
| | 6 | SUP201M-Z6 |
| | 7 | SUP201M-Z7 |
| | 8 | SUP201M-Z8 |
| | 10 | SUP201M-Z10 |
| | 15 | SUP201M-Z15 |
| | 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

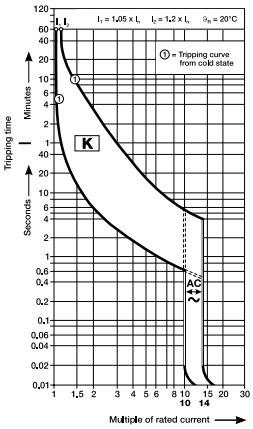








**Diagram**




| 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 |

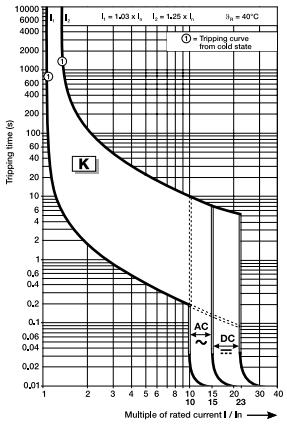
# SU200DC-K

## 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

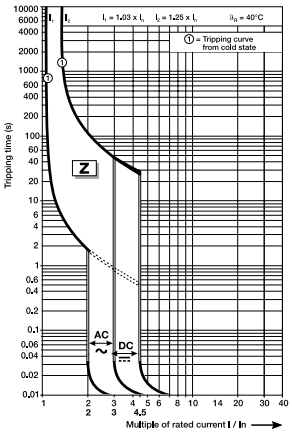
Branch circuit protection — UL 489, CSA 22.2 No. 5





| 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).

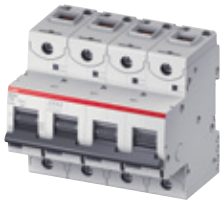
# S800U-K, 240 V AC

## Branch circuit protection — UL 489



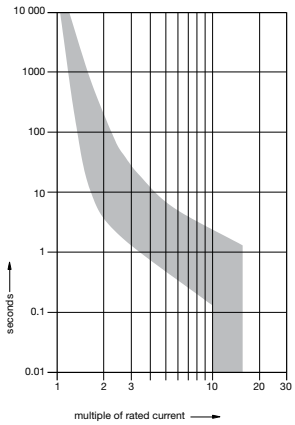






| Number of poles | Rated current $I_n$ A | Cat. no. | Number of poles | Rated current $I_n$ A | Cat. no. |
|---|---|---|---|---|---|
| 1 | 10 | S801U-K10 | 3 | 10 | S803U-K10 |
| | 15 | S801U-K15 | | 15 | S803U-K15 |
| | 20 | S801U-K20 | | 20 | S803U-K20 |
| | 25 | S801U-K25 | | 25 | S803U-K25 |
| | 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.

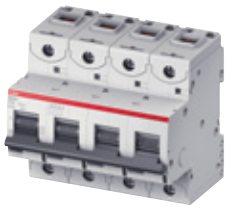
## S800U-Z, 240 V AC

Branch circuit protection — UL 489



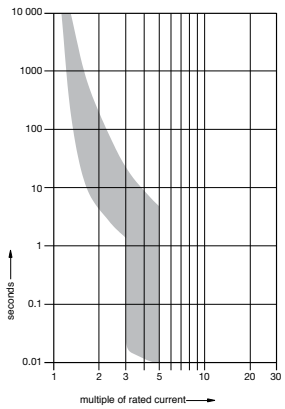






| Number of poles | Rated current $I_n$ A | Cat. no. | Number of poles | Rated current $I_n$ A | Cat. no. |
|---|---|---|---|---|---|
| 1 | 10 | S801U-Z10 | 3 | 10 | S803U-Z10 |
| | 15 | S801U-Z15 | | 15 | S803U-Z15 |
| | 20 | S801U-Z20 | | 20 | S803U-Z20 |
| | 25 | S801U-Z25 | | 25 | S803U-Z25 |
| | 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<br>12...110 V AC/DC | S2C-A1U |
| | For field mounting: right side<br>110...415 V AC<br>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 |

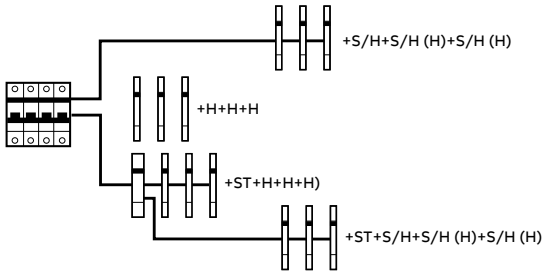
### Possible mounting arrangements of MCB accessories

**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**



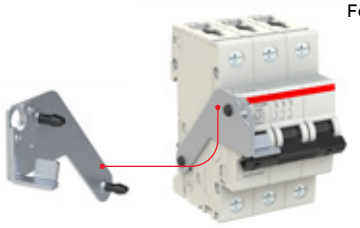
# Accessories

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

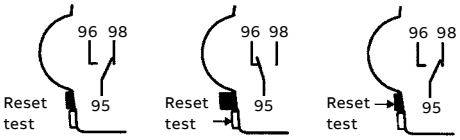
| | Product description | Cat. no. |
|---|---|---|
|  | For single-pole MCBs | S2C-LOTO-S |
| | For multi-pole MCBs | S2C-LOTO-M |
|  | For all MCBs | S2C-LOTO-L |

# Accessories

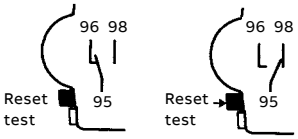
SU200M, SU200ML, SUP200M, SU200MR and SU200DC — UL 489, CSA 22.2 No. 5

## Connection drawings

**Bell alarm S2C-S6RU**

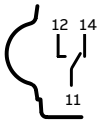



In ON and OFF position after hand operation




In OFF position after tripping

**Auxiliary contact S2C-H6RU**




Auxiliary contact in ON position

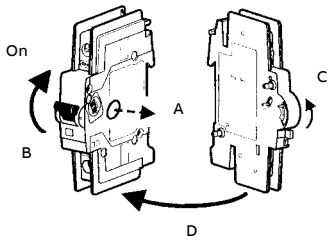



Auxiliary contact in OFF position

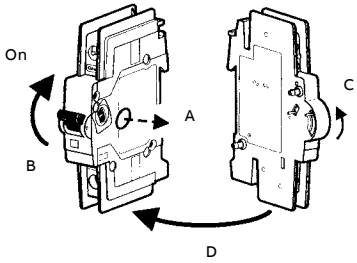
**Shunt trip S2C-A...U**



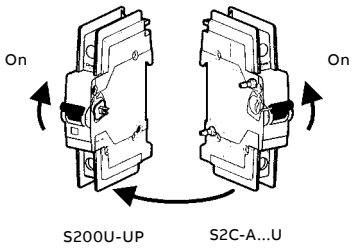

## Mounting




**Addition of a S2C-H6RU auxiliary contact**




**Addition of a S2C-S6RU bell alarm contact**

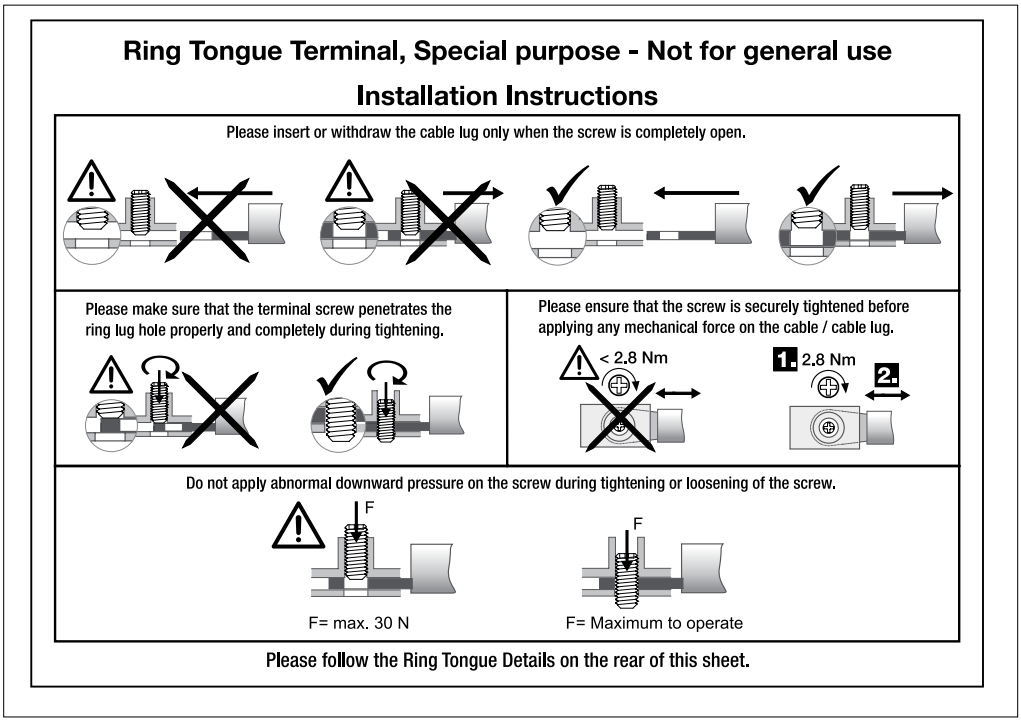


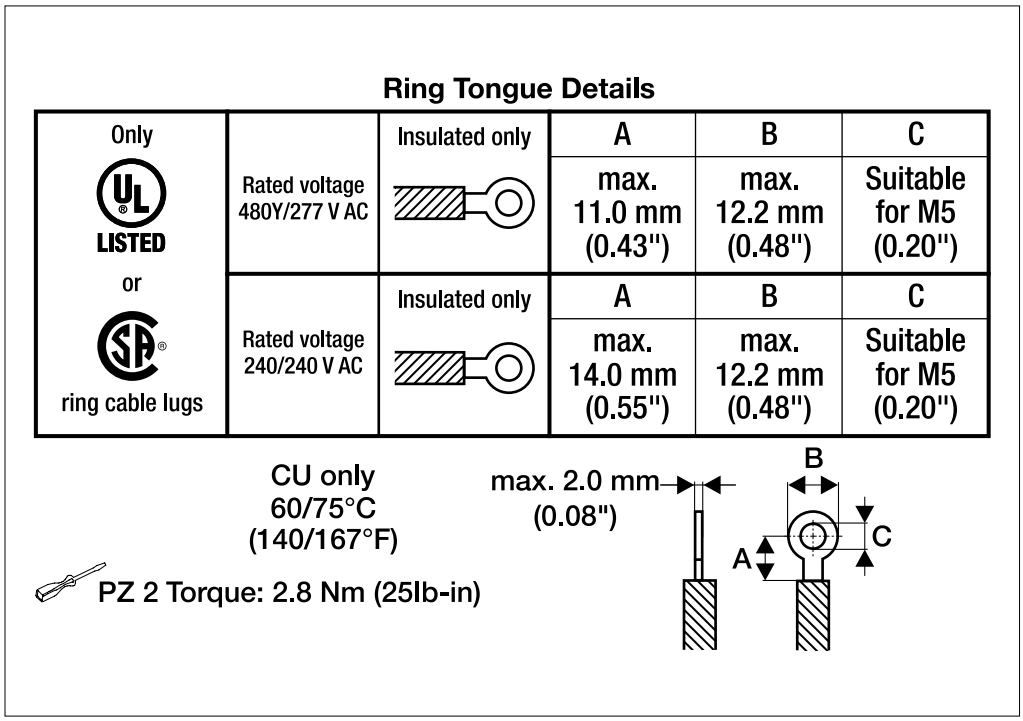

**Addition of a S2C-A...U shunt trip**

# Accessories

SU200MR — UL 489, CSA 22.2 No. 5

**SU200MR Instructions for use**



# Accessories

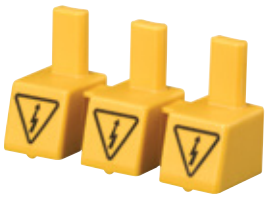
## SU200M, SU200ML, SUP200M, SU200MR and SU200DC — UL 489, CSA 22.2 No. 5

### 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 |

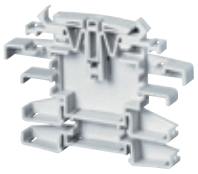
[1] For devices with auxiliary contact (half module) after each phase sequence

## 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<br>(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

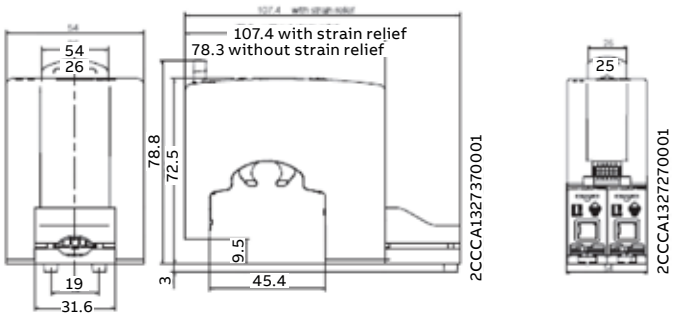
**Safety intelligence**

- 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 | 480V AC/125V DC |
| Contact | 1 pole double throw |
| Connection capacity | 18–14 AWG (0.75–2.5 $mm^2$) |
| Tightening torque | 10.6 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 | Ω | 3.7 | 225 |
| Terminals | AWG | 18–16 AWG/14-10AWG | 18–16AWG/14-10 AWG |
| Tightening torque | in. lbs./Nm | 18/2 | 18/2 |

# Technical specifications

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

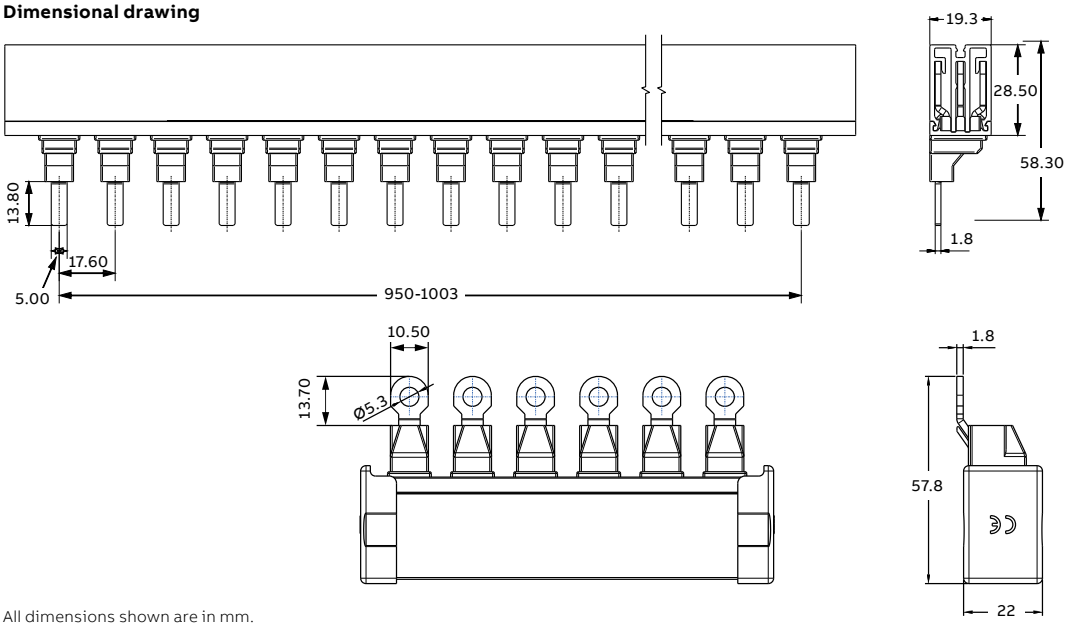
| Electrical data | Busbars PS...BP-C/CR |
|---|---|
| Standards | UL508<br>EN 60947-1 / IEC 60947-1:2004 |
| Rated voltage $U_e$ | 600 V AC/DC |
| Rated frequency | 50 Hz (IEC) / 60 Hz (UL) |
| Rated impulse withstand voltage Uimp. | ≥ 10 kV |
| Rated current / phase | |
| End fed [1)] | 100 A |
| Center 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 |

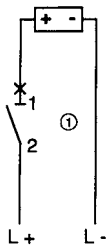
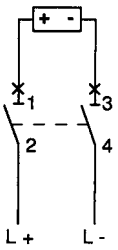
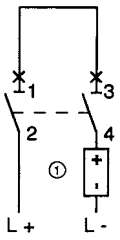
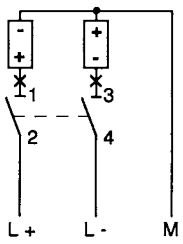
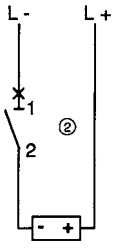
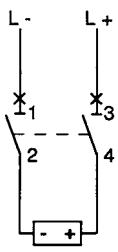
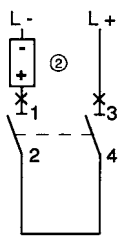
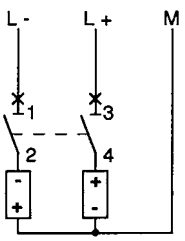
### INTERNAL RESISTANCE AND POWER LOSS PER POLE (SU200DC)

| | 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 |

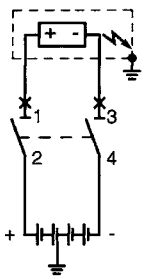
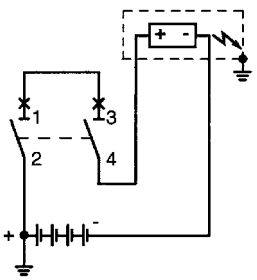
# Technical specifications

## 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:

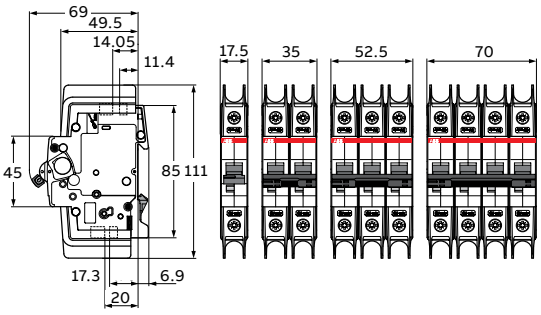
| | | | |
|---|---|---|---|
| Voltage between conductors | Un | 250 V<br>All-pole disconnection | 250 V<br>1-pole disconnection |
| Voltage between conductor and earth | Un | 125 V<br>Circuit symmetrically earthed | 250 V<br>Circuit unsymmetrically earthed |
| MCB | | 2-pole | 2-pole |
| | | SU202DC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

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

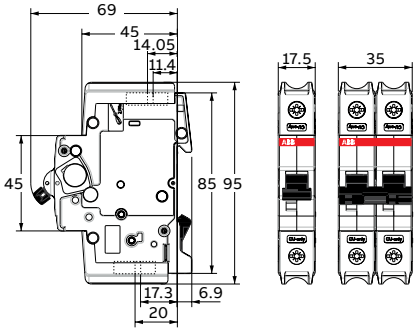
# Approximate dimensions

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

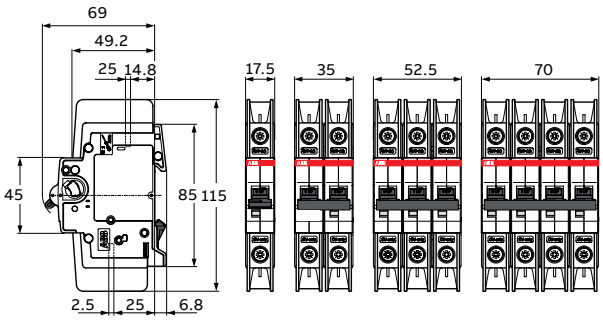
### SU200M, SUP200M



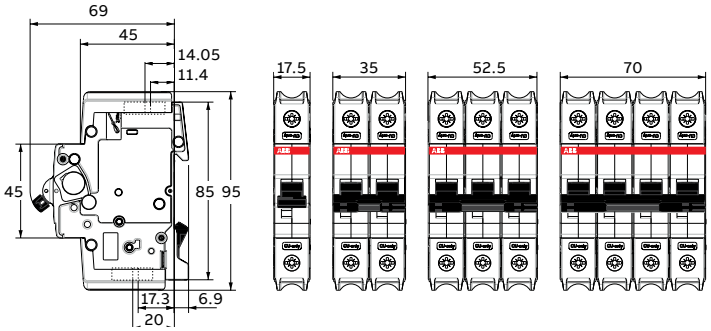

### SU200DC



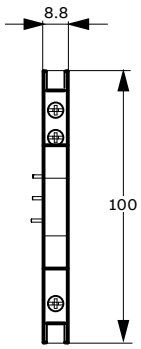

### SU200MR



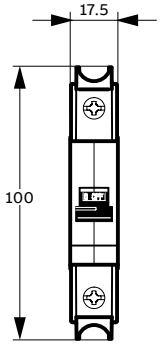

### SU200ML




### 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;<br>IEC/EN 60947-2<br>(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 /<br>10000 mechanical<br>40…70 A: 6000 electrical /<br>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<br>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<br>13, 2–100Hz / 0.7g<br>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;<br>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:<br>S800-AUX, S800 AUX/ALT<br>Remote switching unit: S800-RSU<br>Shunt trip: S800-SOR<br>Undervoltage release: S800-UVR<br>Rotary drive<br>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<br>AC15 240/ -UL<br>DC13 250/0.55 A125 V/1.1A-IEC<br>DC13 125 V/1.1A<br>DC13 60 V/2A<br>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<br>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;<br>IEC 60068-2;<br>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<br>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<br>AC15 240/6A-UL<br>DC13 250/0.55 A125 V/1.1A-IEC<br>DC13 125 V/1.1A-IEC<br>DC13 60 V/2A<br>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<br>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;<br>IEC 60068-2;<br>EN 61373 Cat. 1/class B |

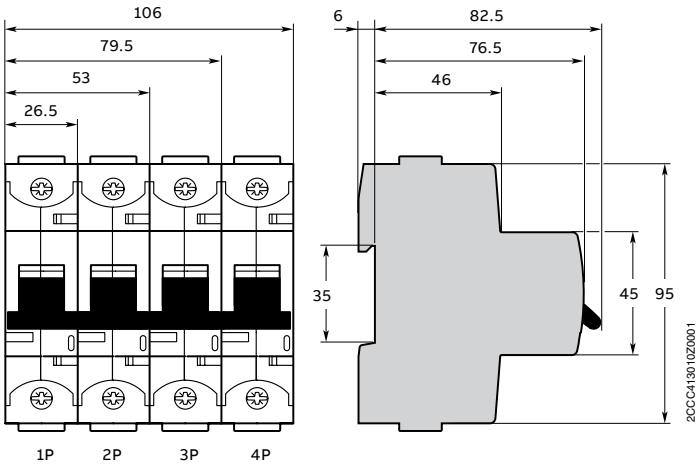
### SHUNT OPERATION RELEASE — S800-SOR

| | 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<br>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 |

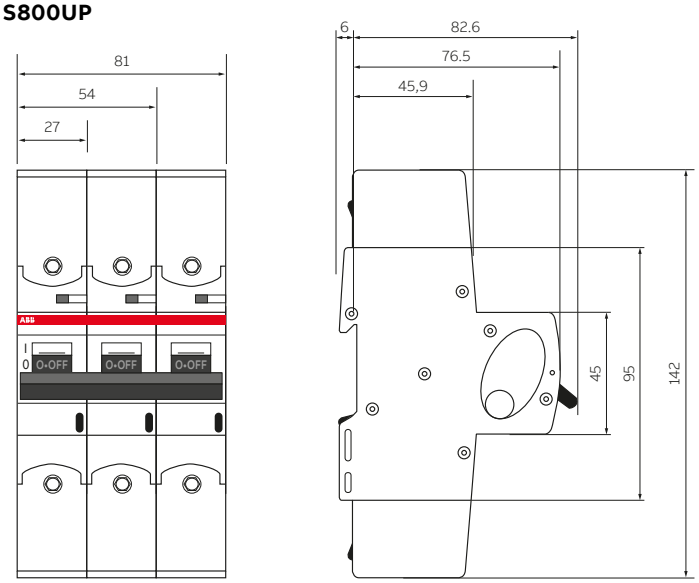
# Approximate dimensions

S800U

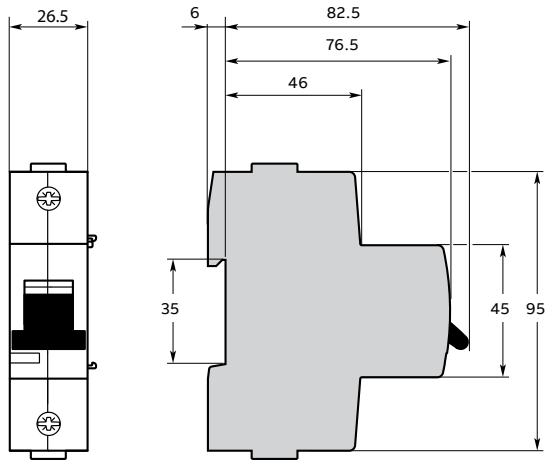
### S800U



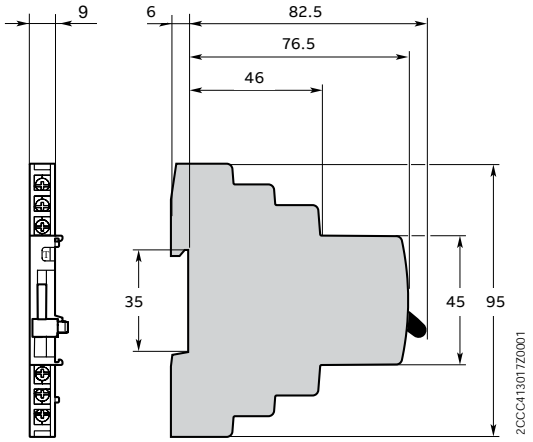

### S800UP




### S800-SOR and S800-UVR




### S800-AUX

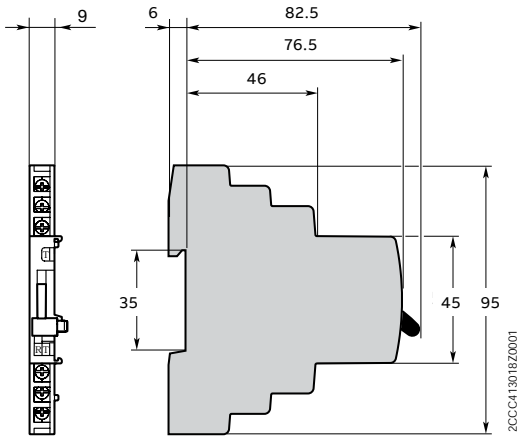



All dimensions shown are in mm.

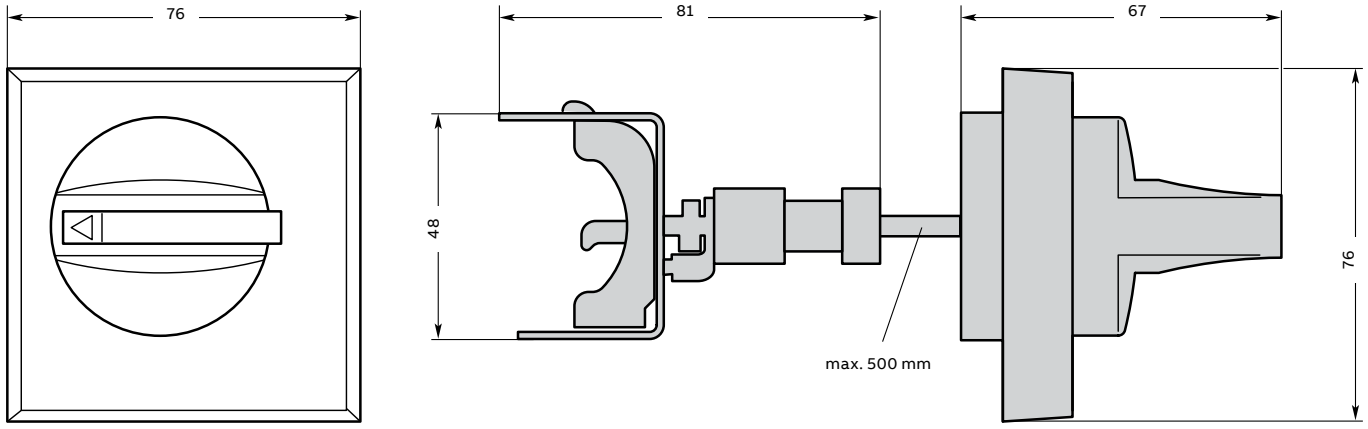
# Approximate dimensions

S800U

### S800-AUX/ALT




### S800-RD AND S800-RHE




All dimensions shown are in mm.

# S804U-UCZ

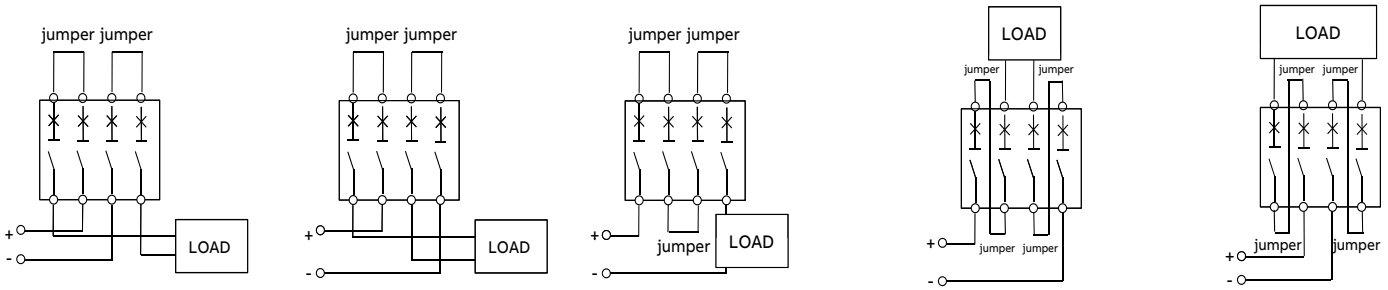
This breaker is specially designed for networks up to 600 V DC, i.e., a data center. It is available as 4-pole version with a short-circuit current rating of 10 kA according to UL 489.

## 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<br>File #E312425 |

# S804U-UCZ

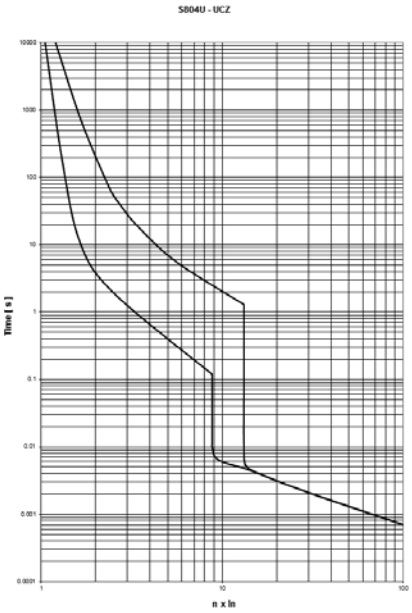
## Tested and listed wirings



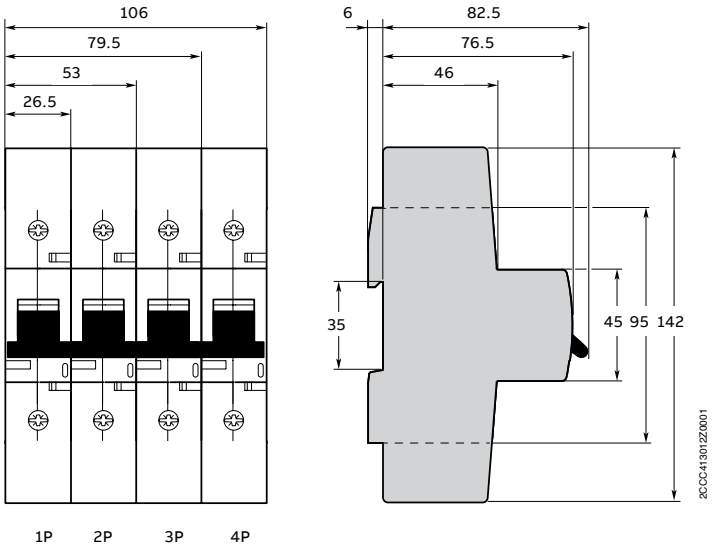

Line and load might be reversed

| | | | |
|---|---|---|---|
| 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

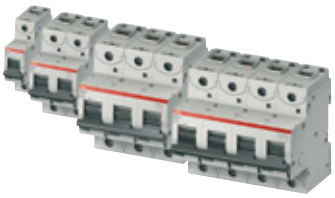
**S800S, S800C and S800P series**

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<br>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<br>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

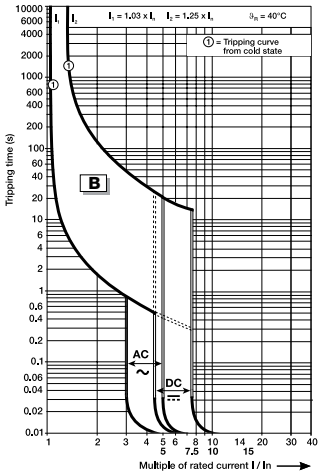








**Diagram**




| 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



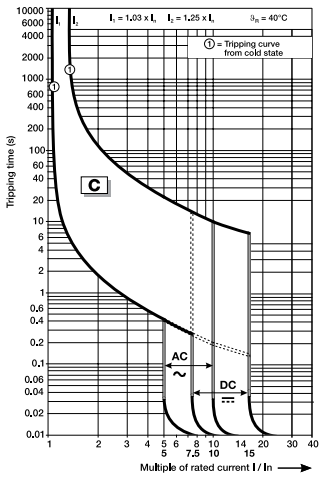






| | Number of poles | Rated current $I_n$ A | Cat. no. | Number of poles | Rated current $I_n$ A | Cat. no. |
|---|---|---|---|---|---|---|
| | 1 | 0.5 | ST201M-C0.5 | 2 | 0.5 | ST202M-C0.5 |
| | | 1 | ST201M-C1 | | 1 | ST202M-C1 |
| | | 1.6 | ST201M-C1.6 | | 1.6 | ST202M-C1.6 |
| | | 2 | ST201M-C2 | | 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



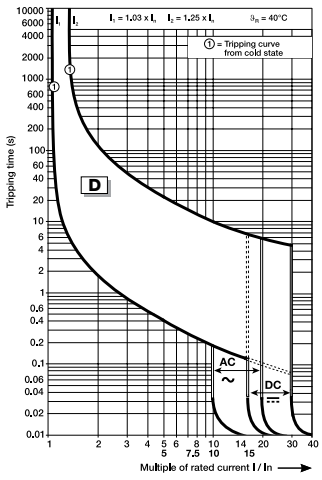






| | Number of poles | Rated current $I_n$ A | Cat. no. | Number of poles | Rated current $I_n$ A | Cat. no. |
|---|---|---|---|---|---|---|
| | 1 | 0.5 | ST201M-D0.5 | 2 | 0.5 | ST202M-D0.5 |
| | | 1 | ST201M-D1 | | 1 | ST202M-D1 |
| | | 1.6 | ST201M-D1.6 | | 1.6 | ST202M-D1.6 |
| | | 2 | ST201M-D2 | | 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

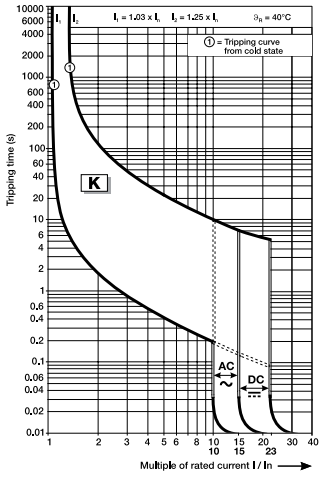








**Diagram**




| 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

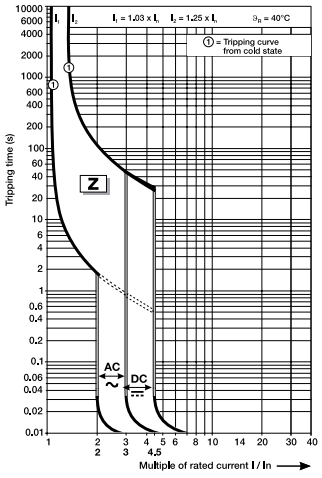








**Diagram**




| 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



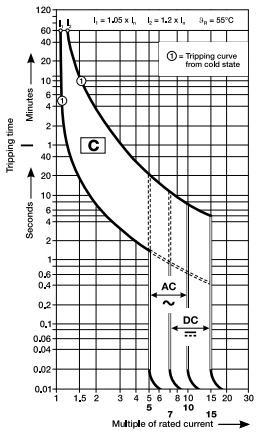






| Number of poles | Rated current $I_n$ A | Cat. no. | Number of poles | Rated current $I_n$ A | Cat. no. |
|---|---|---|---|---|---|
| 1 | 0.5 | S201MUC-C0.5 | 3 | 0.5 | S203MUC-C0.5 |
| | 1 | S201MUC-C1 | | 1 | S203MUC-C1 |
| | 1.6 | S201MUC-C1.6 | | 1.6 | S203MUC-C1.6 |
| | 2 | S201MUC-C2 | | 2 | 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

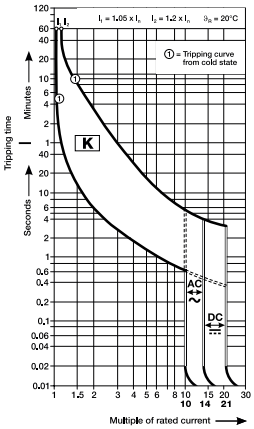








**Diagram**




| 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

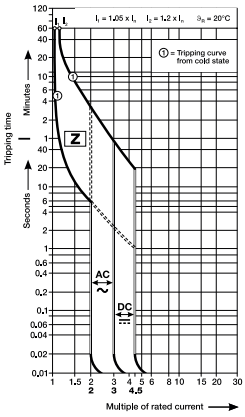








**Diagram**




| 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 |

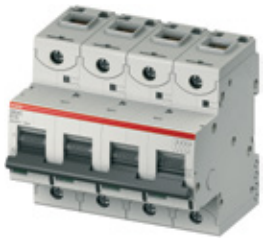
## S800C-B

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 |

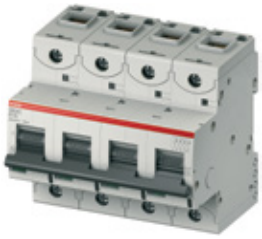
## S800C-C

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 |

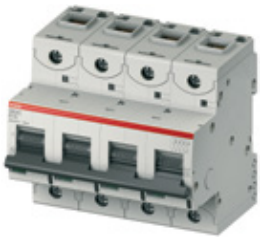
## S800C-D

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 |

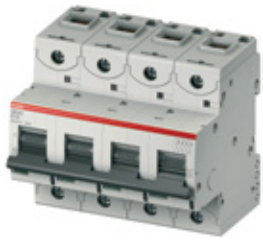
## S800C-K

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 |

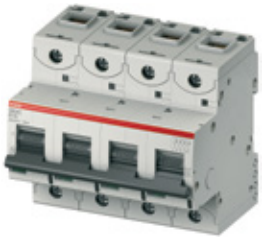
## S800S-B

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 |

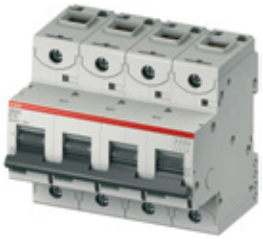
## S800S-C

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 |

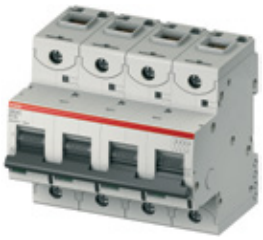
## S800S-D

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 |

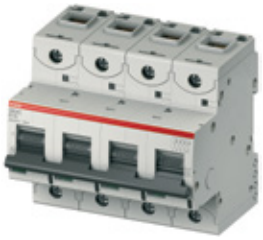
## S800S-K

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



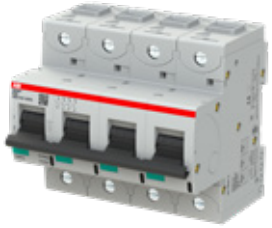
| Number of poles | Rated current $I_n$ A | Cat no. | Number of poles | Rated current $I_n$ A | Cat no. |
|---|---|---|---|---|---|
| 1 | 80 | S801P-C80 | 2 | 80 | S802P-C80 |
| | 100 | S801P-C100 | | 100 | S802P-C100 |
| 3 | 80 | S803P-C80 | 4 | 80 | S804P-C80 |
| | 100 | S803P-C100 | | 100 | S804P-C100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

### 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**

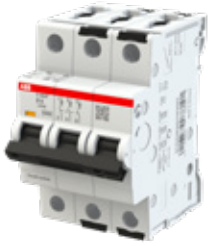
Function: Protection and control of circuits against overloads and short circuits; protection for people and long lengths of cables in TN and IT systems.

**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.

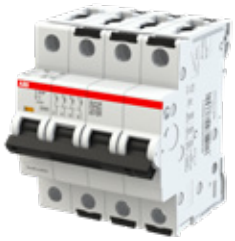
**Standards: UL 1077, IEC/EN 60898-1, IEC/EN 60947-2**

**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 |

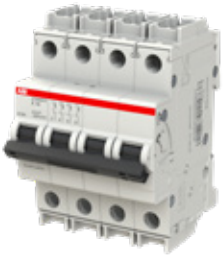
## ST200MTR — ring tongue terminal

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









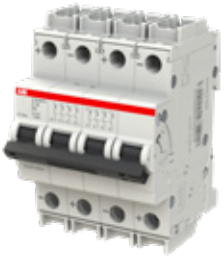
| Number of poles | Rated current $I_n$ A | Cat. no. | Number of poles | Rated current $I_n$ A | Cat. no. |
|---|---|---|---|---|---|
| 1 | 0.5 | ST201MTR-Z0,5 | 3 | 0.5 | ST203MTR-Z0,5 |
| | 1 | ST201MTR-Z1 | | 1 | ST203MTR-Z1 |
| | 1.6 | ST201MTR-Z1,6 | | 1.6 | ST203MTR-Z1,6 |
| | 2 | ST201MTR-Z2 | | 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 |

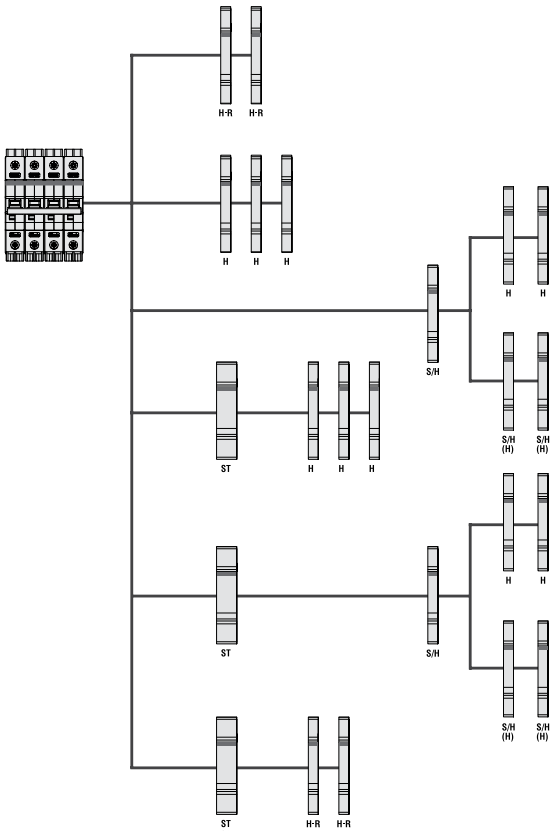
### BOTTOM-FITTED AUXILIARY CONTACT

| | 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<br>IEC EN 60947-1 | | |
| **Electrical data** | Rated voltage $U_e$ | V | **1-phase**<br>1,000 V AC/DC | **2- / 3-phase**<br>UL: 600 V AC/DC<br>IEC: 690 V AC/DC | |
| | Current carrying capacity / phase<br>(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<br>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)<br>or use feeder terminal AST 35/15-1 CB; AST 35/15-2 CB;<br>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<br>AST 35/38-1 CB; AST 35/38-2 CB<br>SZ-ESK SP | | |
| | End caps | | PS-END 1 CB<br>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

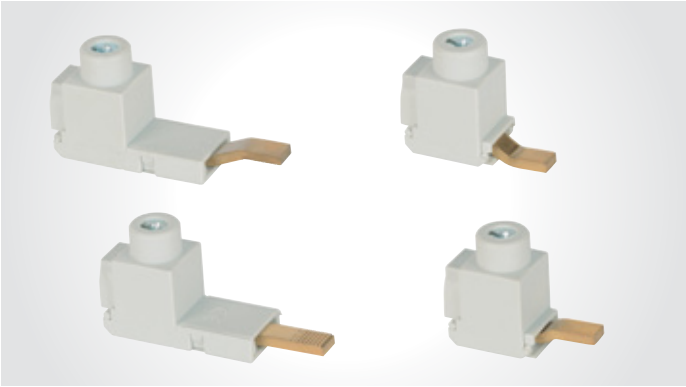
| Phases | mm² | No. of pins | Weight 1 piece kg | Pack unit pc. | Cat. no. |
|---|---|---|---|---|---|
| **1-phase busbars, pin distance 17.6 mm, end caps PS-END 1 CB** | | | | | |
| 1 | 18 | 57 | 0.289 | 10 | PS1/57/18CB |
| 1 | 25 | 57 | 0.360 | 10 | PS1/57/25CB |
| **1-phase busbars, connection of 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<br>IEC: 1,000 V AC / 1,500 V DC |
| | Rated current $I_e$ | UL: 115 A<br>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<br>Flexible with ferrules: 6..35 mm²; 10 AWG..2 AWG |
| | Tightening torque | 6 mm² / 10 AWG: 4.0 Nm / 35 lbf-in<br>8 mm² / 8 AWG: 4.5 Nm / 40 lbf-in<br>10..16 mm² / 6..4 AWG: 5.1 Nm / 45 lbf-in<br>25..50 mm² / 3..1/0 AWG: 5.5 Nm / 50 lbf-in*<br>* 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<br>CE, RoHS and REACH compliant<br>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.<br>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.<br>Irrespective of the current carrying capacity of the feeder terminal, the max. rated current of the devices terminal must not be exceeded. |

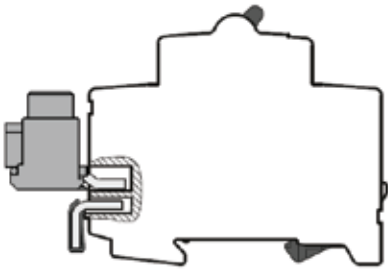
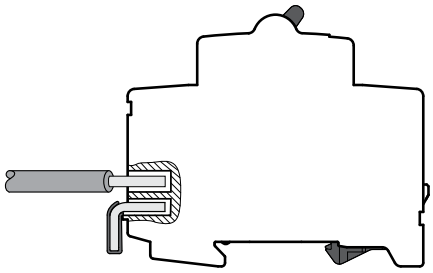
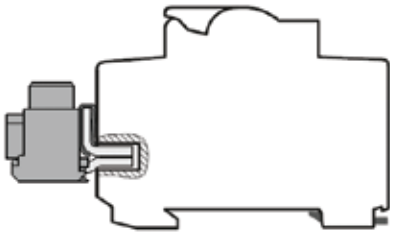
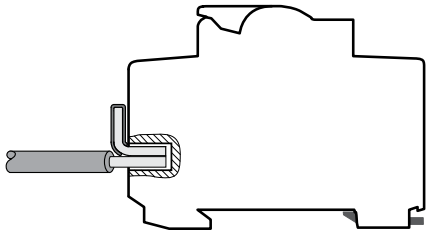
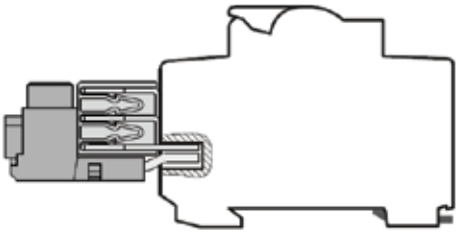
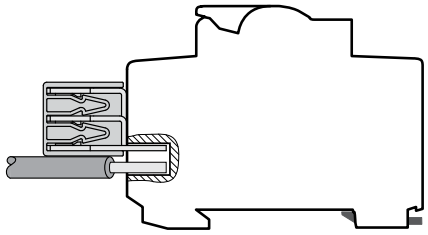
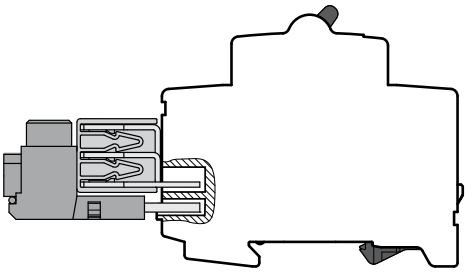
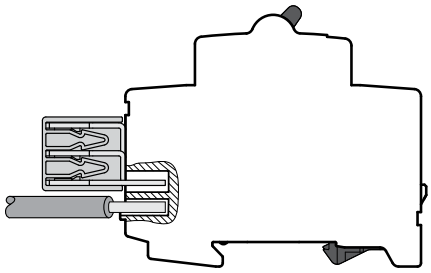
### ORDER CODES

| | 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

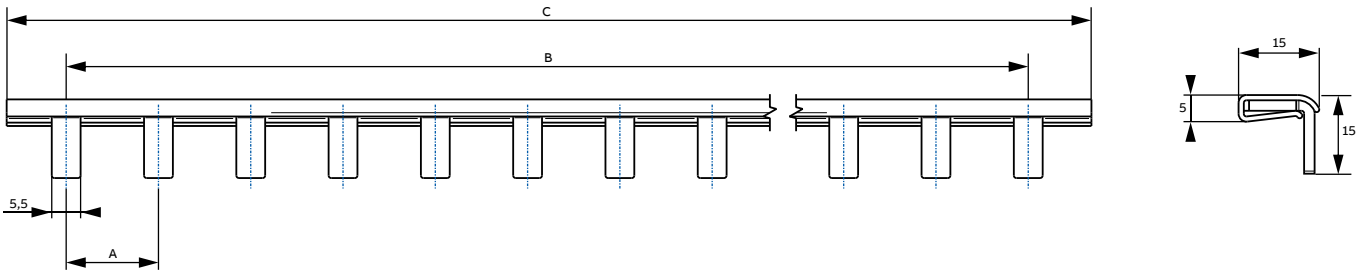
## INSTALLATION OF BUSBARS AND USE OF FEEDER TERMINALS/CABLES FOR FEED

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

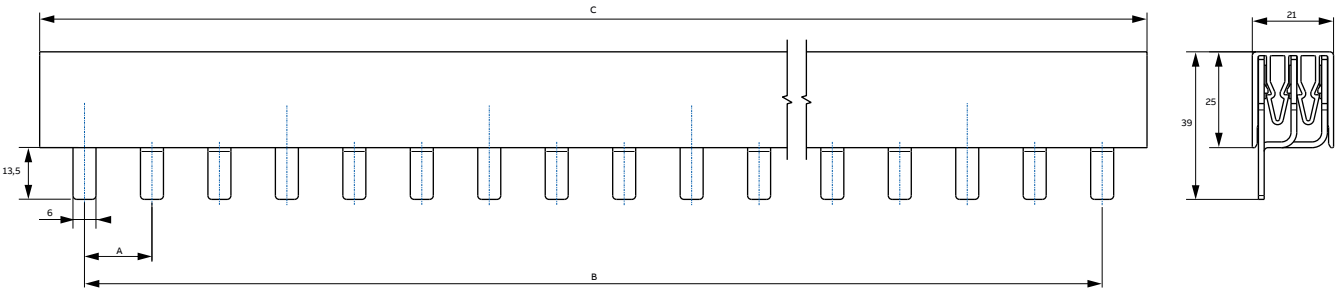
# Busbars PS...CB and accessories according to UL 508

## 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)<br>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.

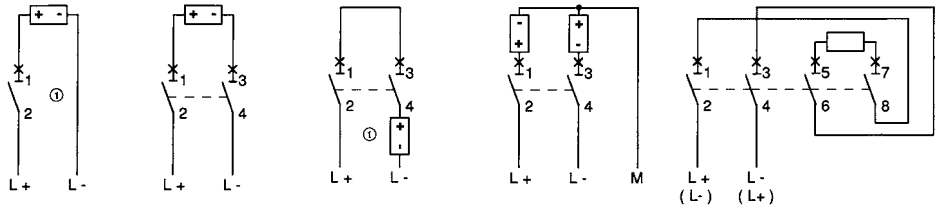
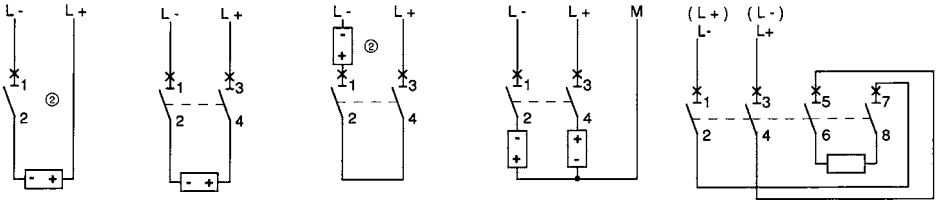
S200MUC differs from the standard S200 type. It is equipped with permanent magnets that assist in the forced extinguishing of the arc.

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**

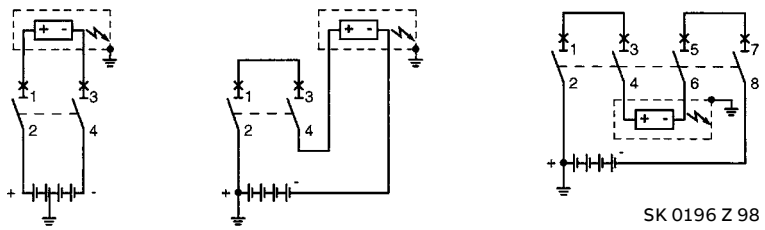
S200MUC MCBs have permanent magnets in the area of arc chutes. Therefore, it is necessary to take into account the polarity during the installation process. In the case of a short circuit, the magnetic field of the permanent magnets corresponds with the electromagnetic field of the short-circuit current, 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:**

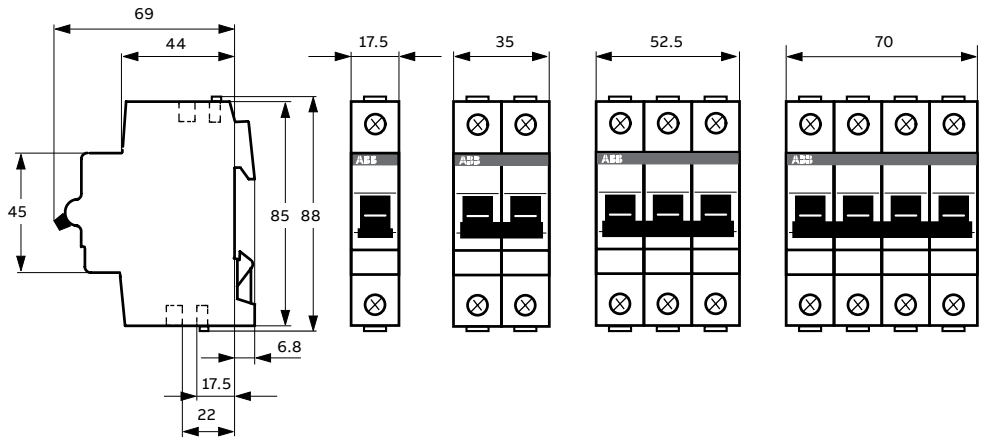
| | | | | |
|---|---|---|---|---|
| Voltage between conductors | $U_n$ | 500 V DC all-pole disconnection | 500 V DC 1-pole disconnection | 500 V DC all-pole disconnection |
| Voltage between conductor and ground | $U_n$ | 250 V DC circuit symmetrically grounded | 250 V DC unsymmetrically grounded | 250 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.

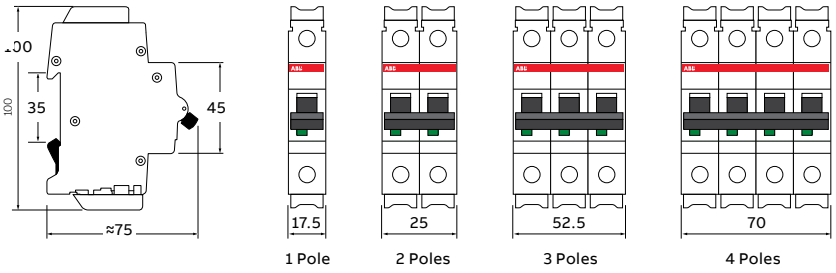
# Approximate dimensions

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)<br>277/480Y V AC (1p, 3p)<br>125 V DC (1p)<br>250 V DC (2p)<br>375 V DC (3p)<br>500 V DC (4p) |
| Rated current I | 10–100 A |
| Short-circuit breaking capacity $I_{cc}$ | 20 kA (240 V AC)<br>10 kA (277/480Y V AC)<br>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)<br>1–8 AWG (40–100 A, stranded)<br>Single conductor per terminal,<br>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)<br>14 (277/480Y V up to 63 A)<br>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)<br>1–8 AWG (40–100 A, stranded)<br>Single conductor per terminal,<br>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

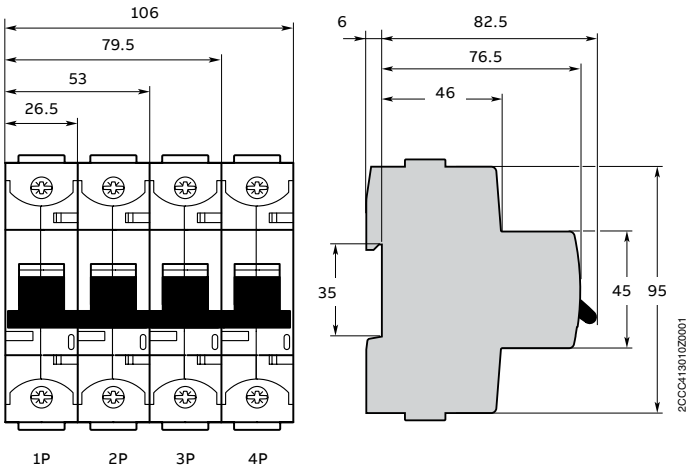
S800P

| | | |
|---|---|---|
| **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 |

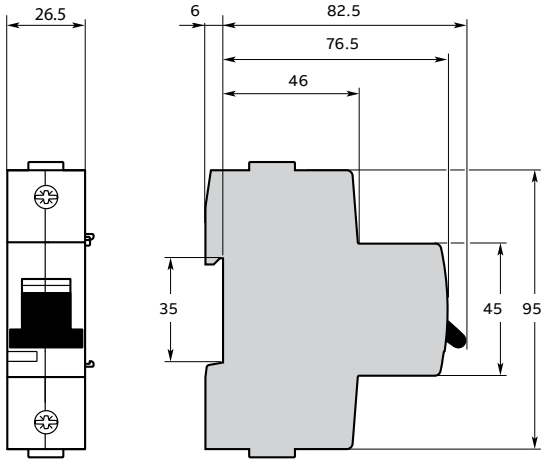
# Approximate dimensions

S800C, S800S, S800P

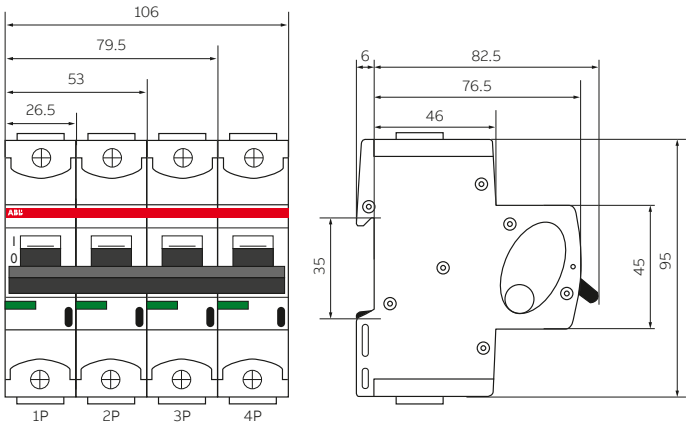
### S800C, S800S



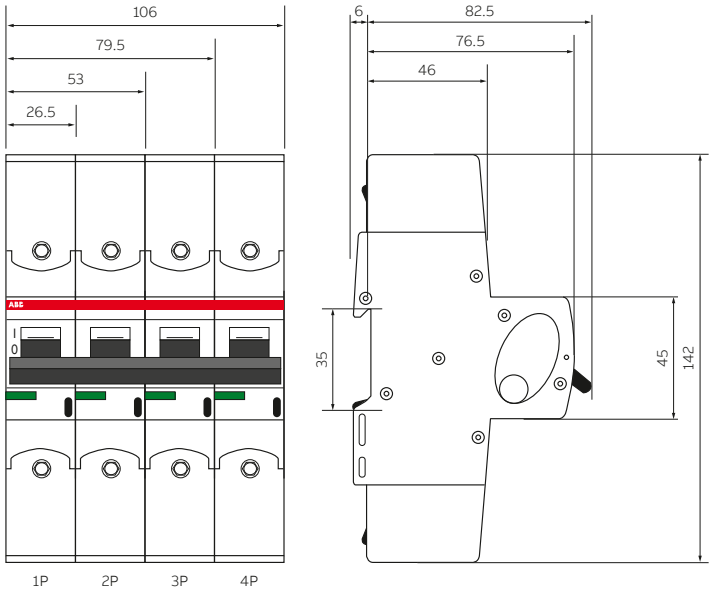

### S800-SOR and S800-UVR




### 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<br>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<br>flexible: 25 mm² / 25 mm²<br>14–4 AWG |
| Cross-section of busbars (top/bottom) | 10 mm² / 10 mm²<br>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<br>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<br>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)<br>500 V DC (pollution degree 2) |
| Overvoltage category | III |
| Rated voltage | 480Y / 277 V AC<br>1P: 250 V DC and 2+4P: up to 500 V DC (pollution degree 2) |
| Rated interrupting capacity | 6 kA AC<br>10 kA DC |
| Application | Suppl. prot. for general use.<br>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

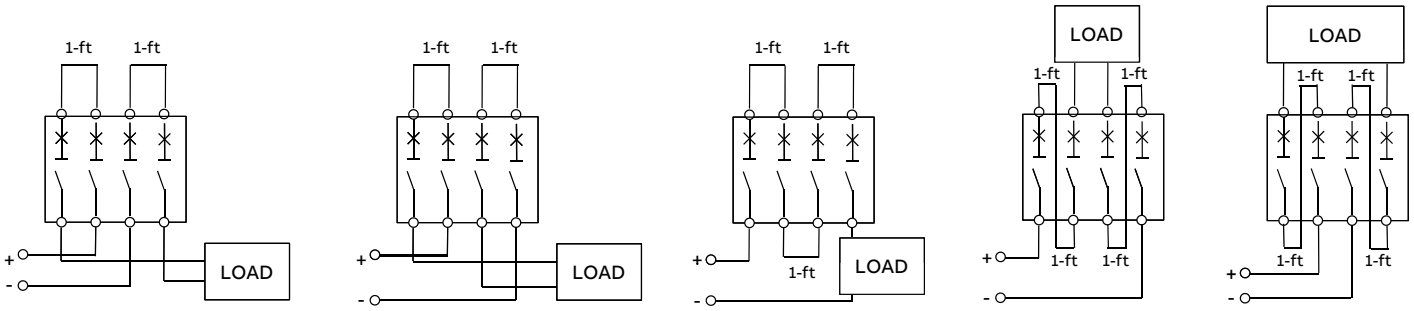
| | |
|---|---|
| Standard | UL 489B |
| Characteristic | PV-S |
| Rated current $I_e$ | 5 A |
| Rated voltage $U_e$ | 1000 V DC |
| No. of poles | 4 |
| Short-circuit current rating acc. to UL 489B | 3 kA |
| Connections 5 A | |
| Single conductor per terminal—copper only, 75C wire | 14–2 AWG Cu, solid 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

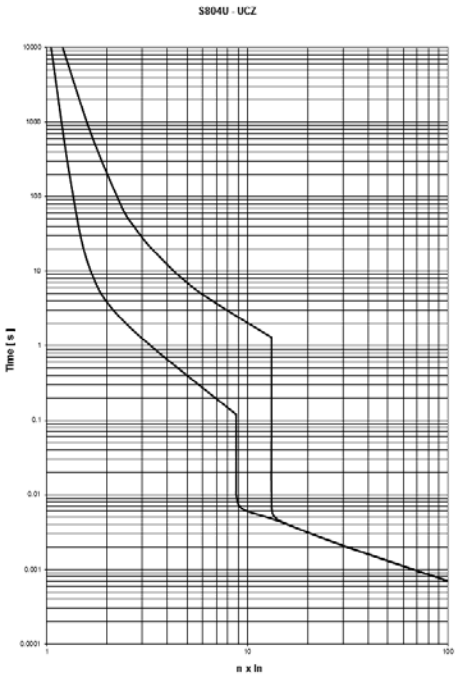
| | Rated current (A) | Cat. no. |
|---|---|---|
|  | 5 | S804U-PVS5 |

# S804U-PVS5

## Tested and listed wirings

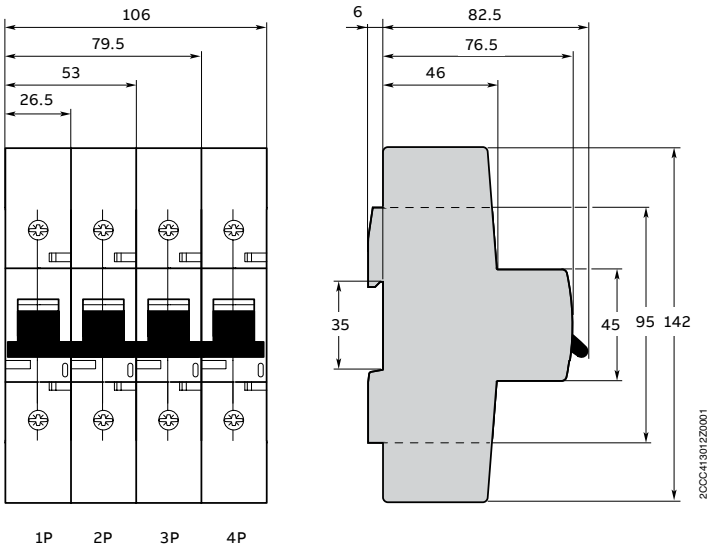



## Trip curve for S804U-PVS5




**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

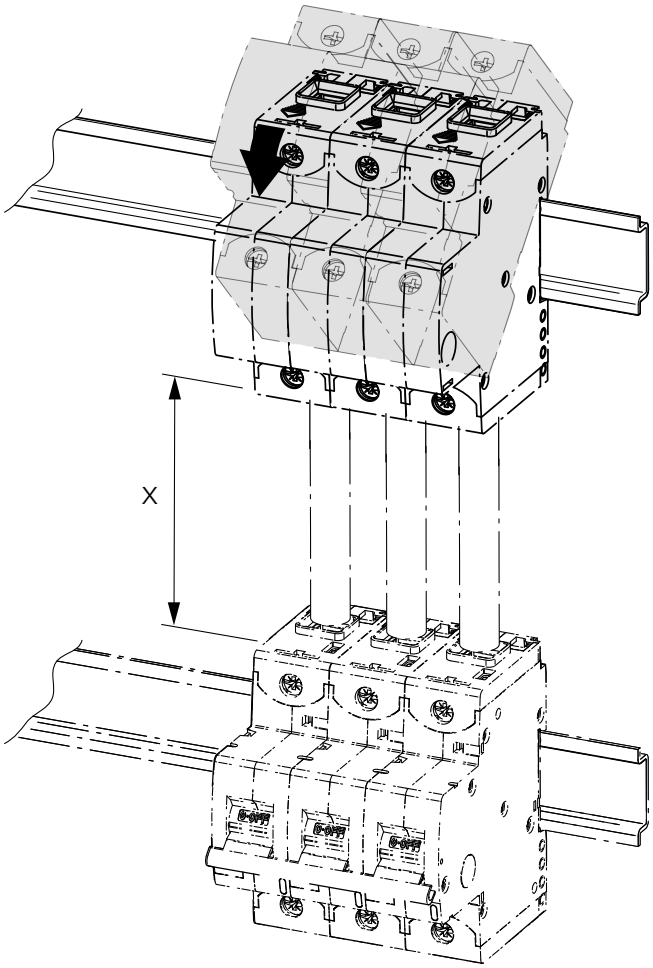
## Approximate dimensions

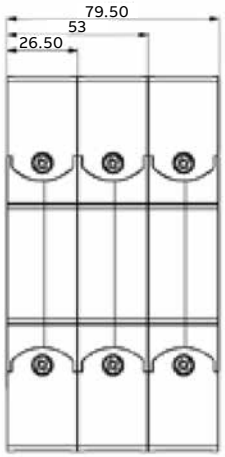
### MINIMUM CABLE LENGTH BETWEEN S803W-SCL-SR AND DOWNSTREAM DEVICES
**(Connection has to be short-circuit proofed acc. to IEC 61439-1)**

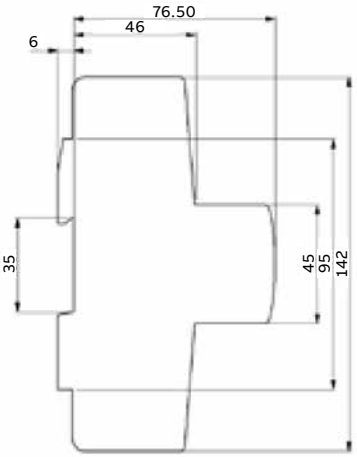
**MS/M0325**
**MS/M0132**
**S800**

| 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**



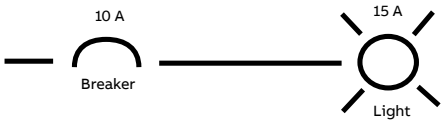



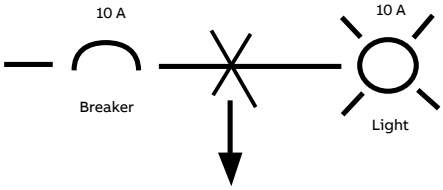

All dimensions shown are in mm.

# 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.

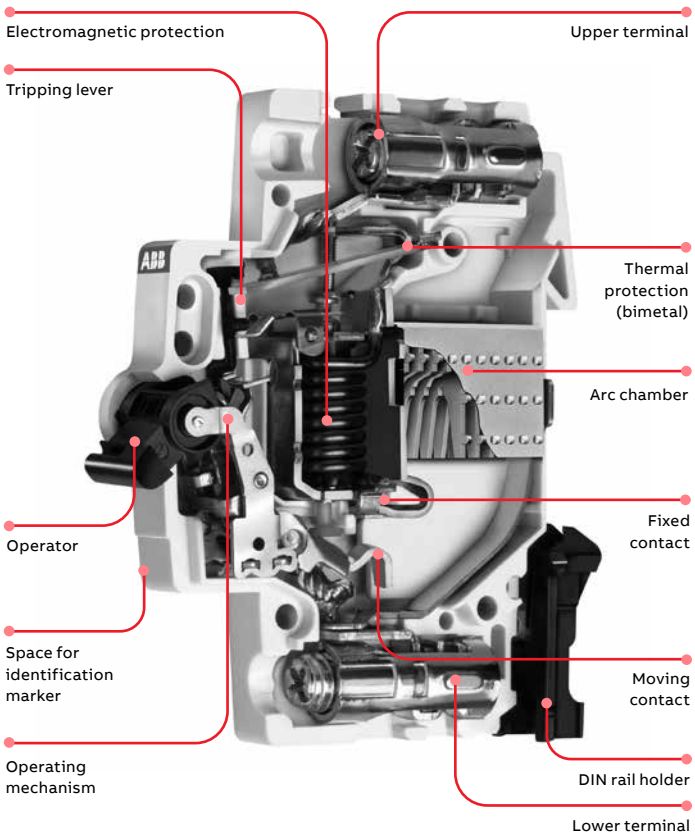



ABB current-limiting breaker

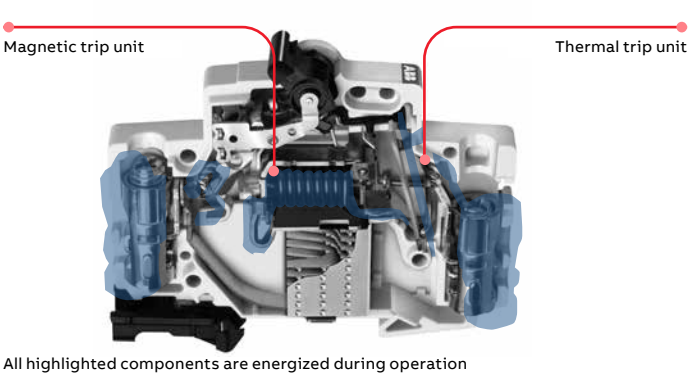
**Introduction**
The circuit breaker plays an important role in providing over-current protection and a disconnect means in electrical networks. Recent advancements in circuit breaker technology have increased breaker performance and protection.

**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.

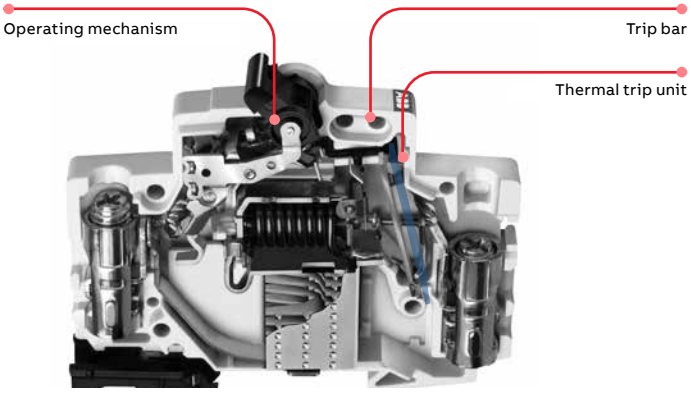
**Short circuit**
A short circuit is a rapid and intense overcurrent situation that causes the ampacity of the circuit to increase. This type of event is characterized by a dramatic increase in the load (ampacity) on the circuit and is interrupted by the magnetic trip unit of the breaker.

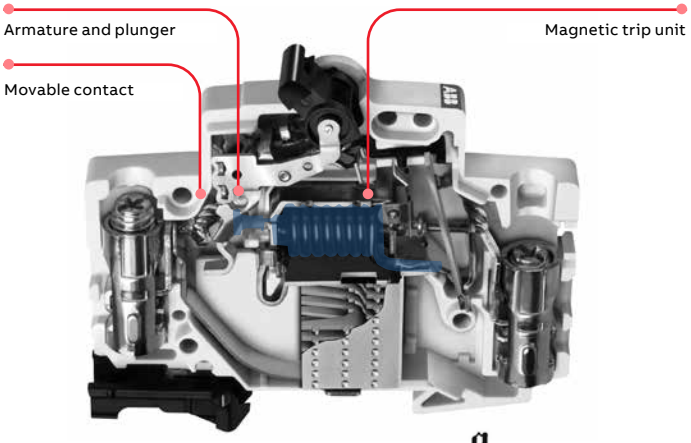
**Breaker definition**
A breaker is a device designed to isolate a circuit during an over-current event without the use of a fusible element. A breaker is a resettable protective device that protects against two types of over-current situations: overload and short circuit.

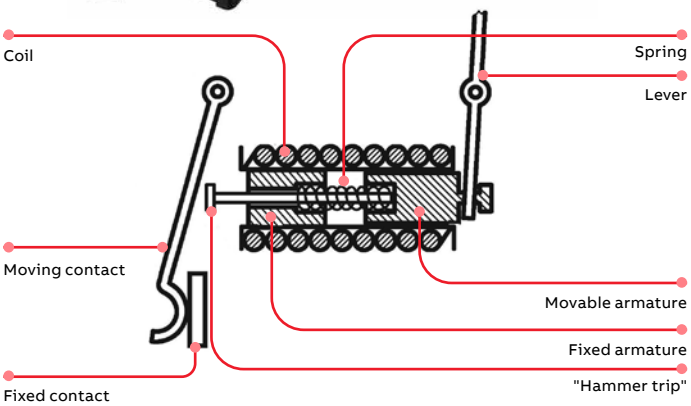
# Circuit breaker construction




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.

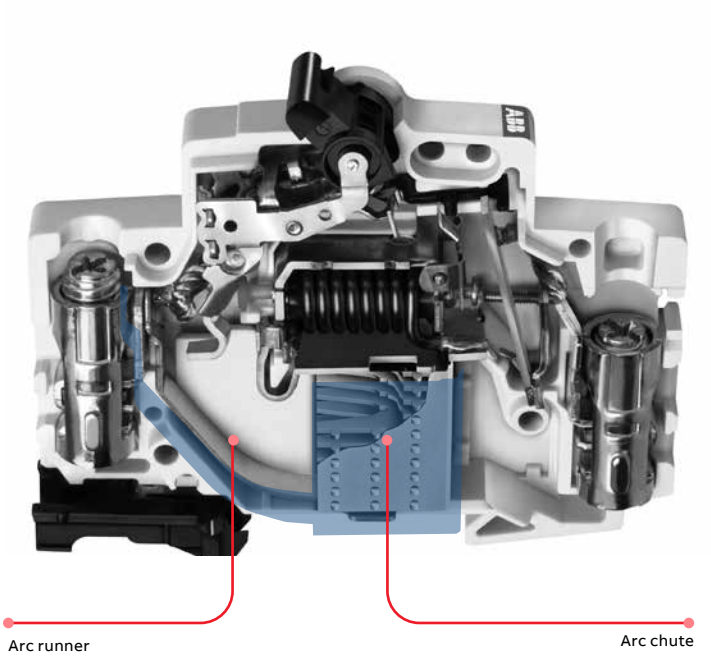
**Breaker curves**
**Thermal trip unit (region one)**
The first sloping region of the breaker curve is a graphical representation of the tripping characteristics of the thermal trip unit. This portion of the curve is sloped due to the nature of the thermal trip unit. The trip unit bends to trip the breaker's 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.

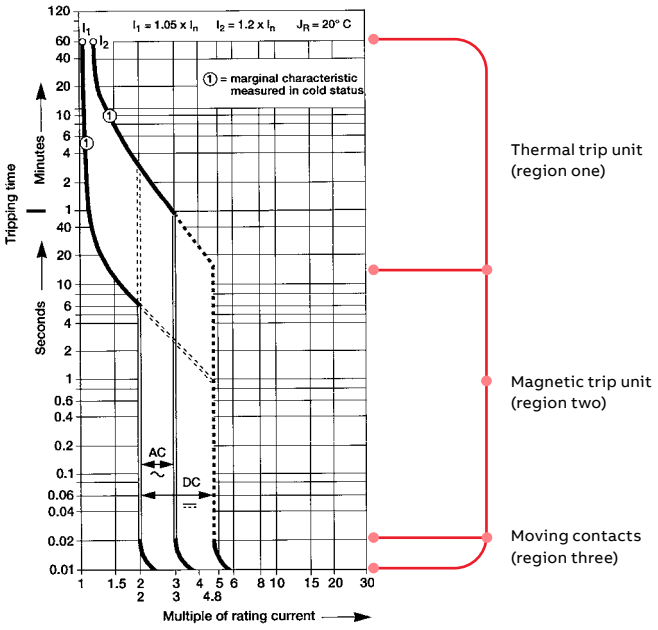
Example using the curve below: If you had a 10 amp breaker and the circuit was producing 30 amps of current, the breaker would trip between two seconds and one minute. In this example, you would find the circuit current on the bottom of the graph (multiples of rated current). The first line is 10 amps (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.

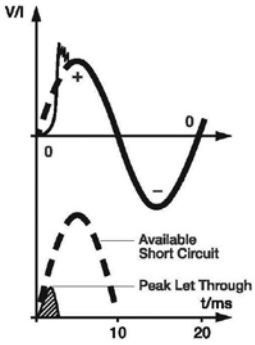
See curve example. If you had a 10 amp breaker, the magnetic trip element would interrupt a short circuit between 10 and 30 amps (10 amp breaker x multiple of two and three) in 2.3 to 2.5 milliseconds.

**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.

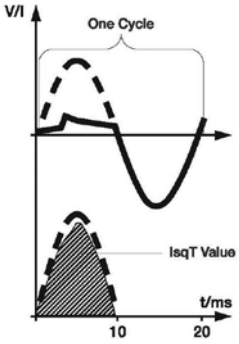


# Circuit breaker current limitation



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.

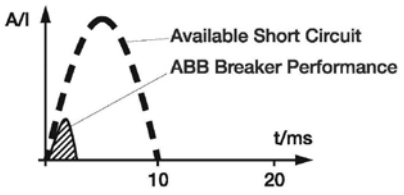
A current-limiting breaker "runs" the arc down the breaker arc runner into an arc chute that extinguishes the arc.

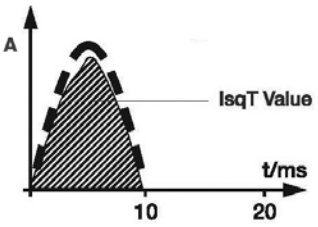
A zero crossing breaker does not attempt to extinguish the arc. The breaker is designed to withstand the energy of the arc long enough for the waveform to cross zero. When the wave form crosses zero, the potential energy is zero and the arc naturally extinguishes itself.

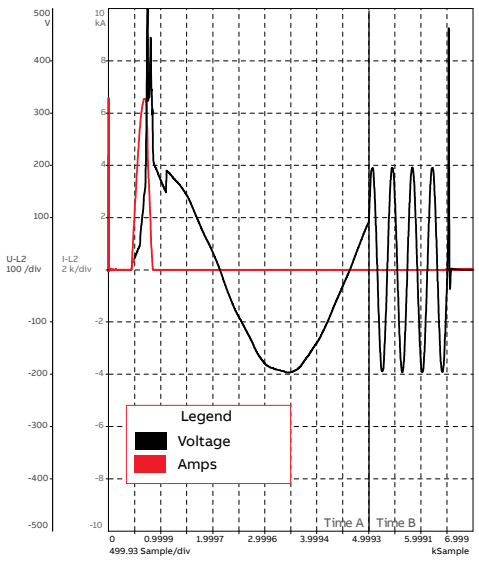
ABB's current-limiting breakers interrupt the arc energy in 2.3 ms to 2.5 ms (⅛ cycle), and a zero crossing breaker allows the arc to be present for up to 8.3 ms (½ cycle). A zero crossing breaker will let through 100 times as much energy as an ABB current-limiting breaker.

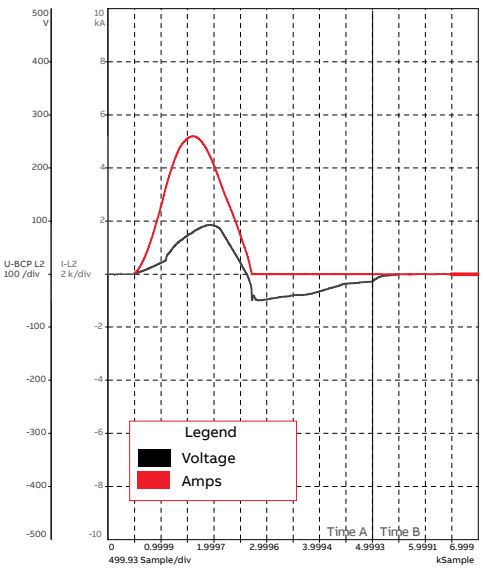
**Current limiting example**
The lab test report below details a 20 A S200 series current-limiting breaker interrupting a 28 kA fault in 1.7 milliseconds. The total "I Square T" value is 32.0 kA.

**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.



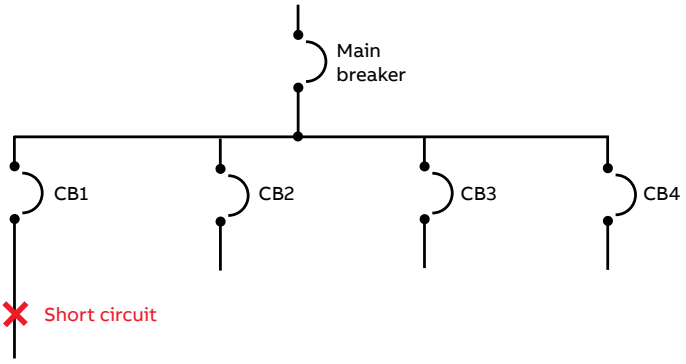



# Selective coordination and series ratings

**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.

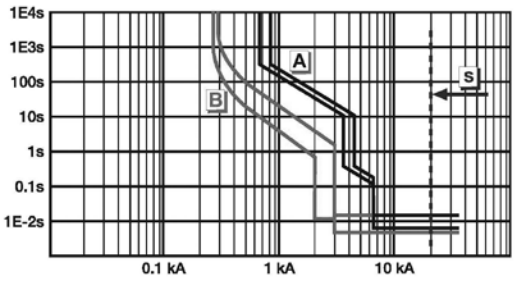
**Example of breaker coordination**
When an over-current event occurs at the branch breaker level (CB1), and the event is within the operating characteristics of the breaker, then the branch breaker should interrupt the circuit (open) and the main breaker should remain closed and energized. The chart 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.

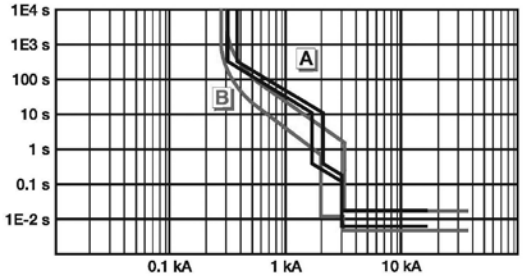



**Selective coordination and current-limiting breakers**
Recent improvements in ABB circuit breaker technology has pushed the performance of breakers to the same level as fuses. The reaction time and tripping characteristics of current-limiting breakers are now on par with fuses. This allows ABB to provide 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.

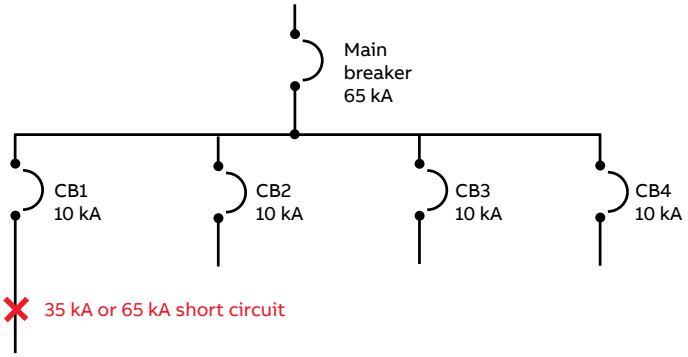


Coordination



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.

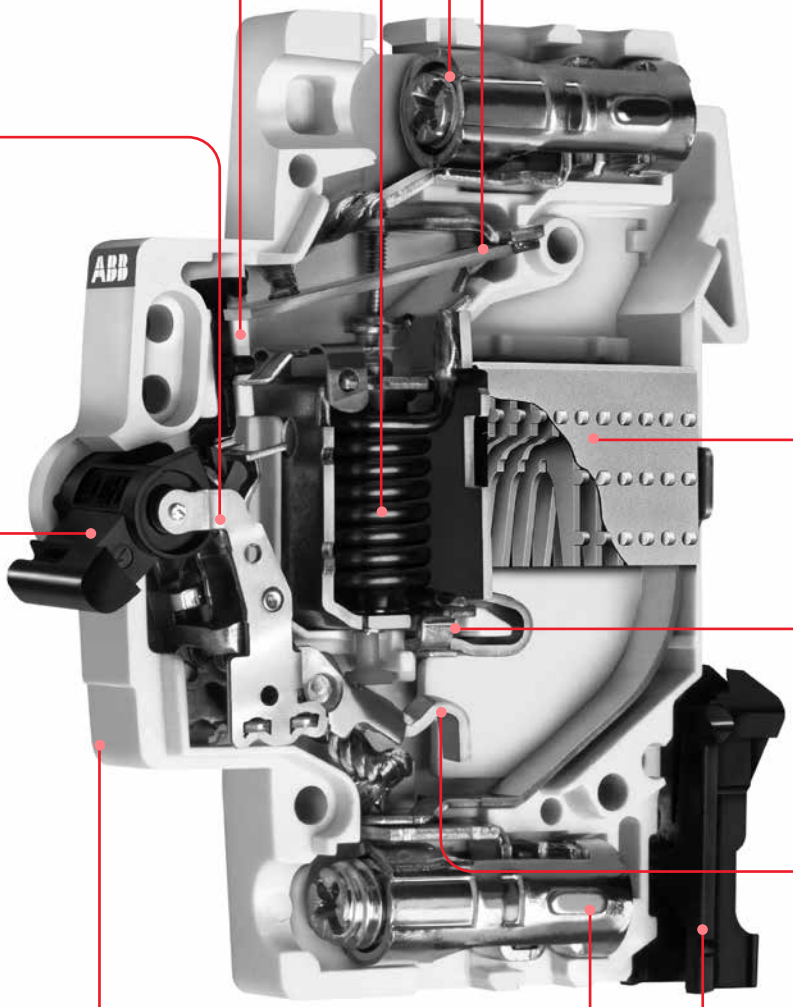
**Series ratings**
Series ratings are different from coordination ratings. Unlike coordination ratings where the branch opens and the main remains closed, a series-rated combination is one where both the branch and main breakers open and work together to isolate the fault.

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.

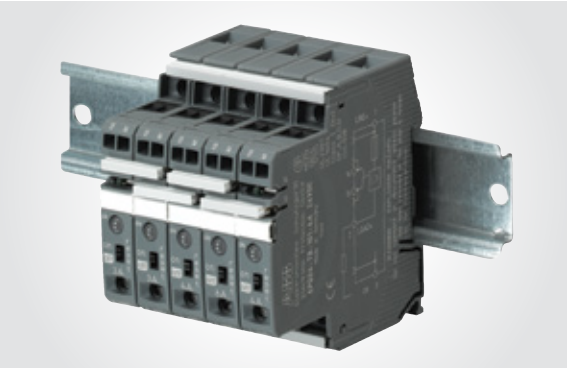
## Miniature circuit breaker cutaway



# 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

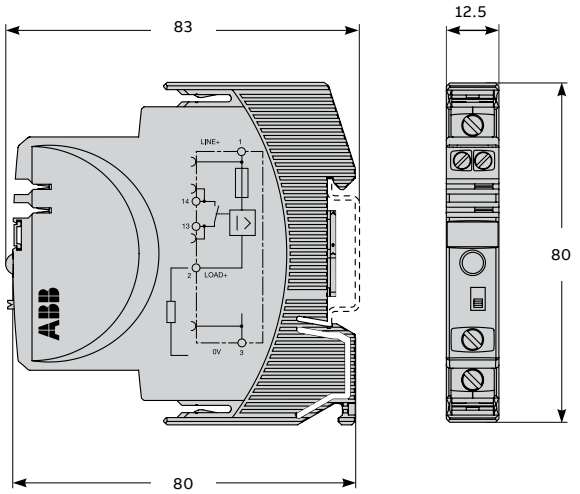
| Rated current $I_N$ A | Weight 1 piece in kg | Packing unit | Cat. no. |
|---|---|---|---|
| 0.5 | 0.065 | 4 | EPD24-TB-101-0.5A |
| 1 | 0.065 | 4 | EPD24-TB-101-1A |
| 2 | 0.065 | 4 | EPD24-TB-101-2A |
| 3 | 0.065 | 4 | EPD24-TB-101-3A |
| 4 | 0.065 | 4 | EPD24-TB-101-4A |
| 6 | 0.065 | 4 | EPD24-TB-101-6A |
| 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<br>110-277 2P RCD<br>110-480 4P RCD<br>(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.

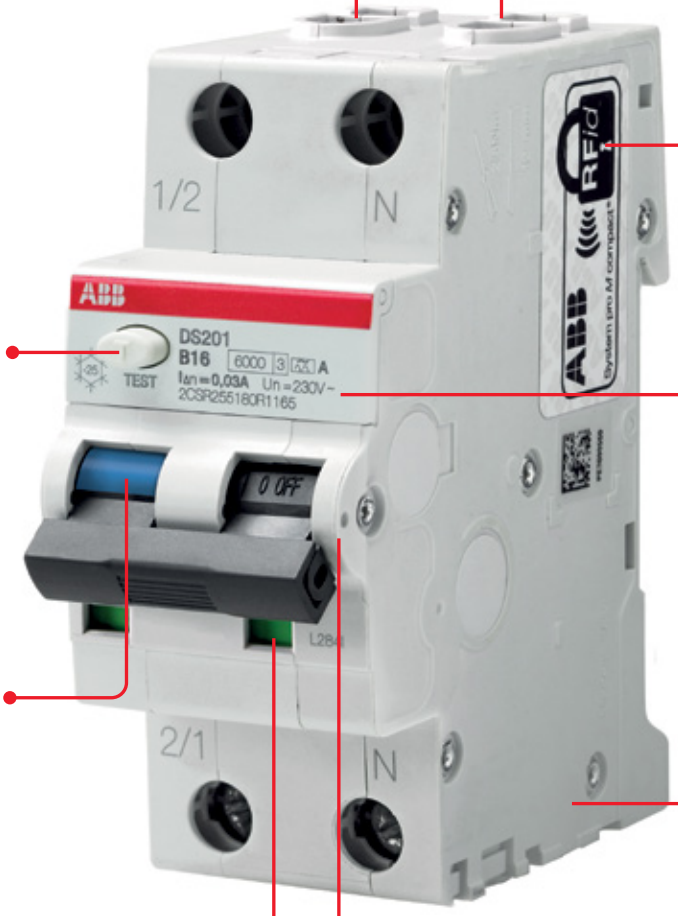
**Application**
Protection of supplementary circuits against overload, short circuit and ground fault.

**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.

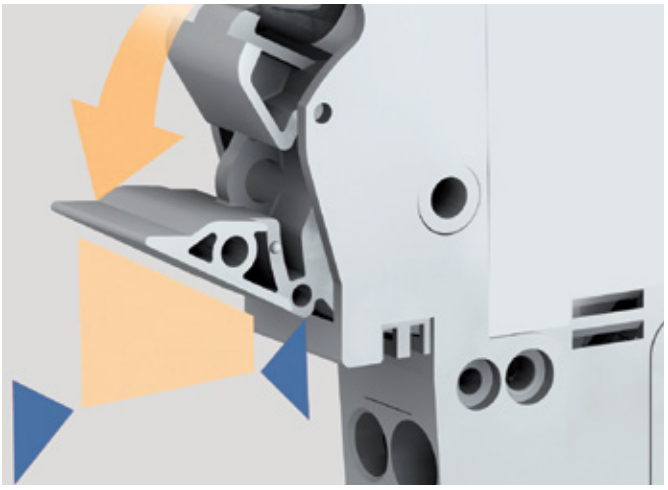
**Universal use**
Screw holes have increased diameter to accommodate insulated screwdrivers and electric screwdrivers.

## E 90. Uncompromising performance

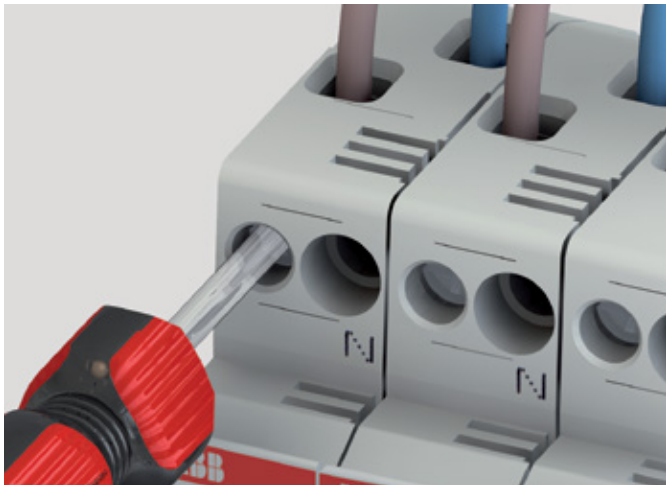
A safe and smart range designed for quick, flexible and error-proof installation



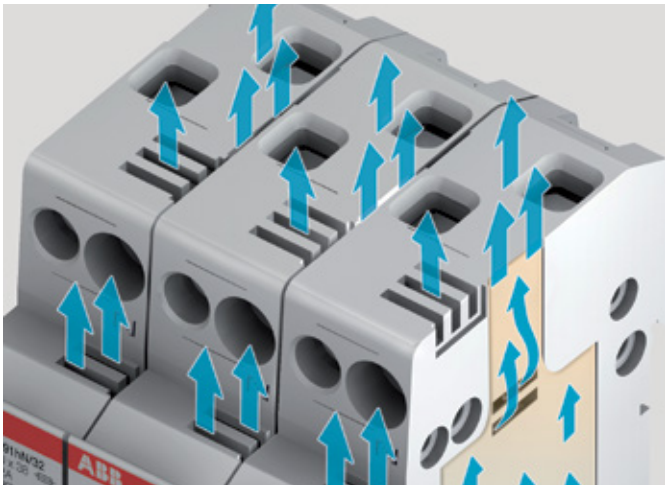
Fuseholder profile has been designed for maximum ease of use: the 90° flip hinge with ergonomic knob, makes the replacement of fuses easier even in small spaces or when wearing protective gloves.



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<br>rigid copper conductors | [AWG] | 16÷10 | not forseen | 1 wire: 16-10 AWG |
| Cross section<br>stranded copper conductors | [AWG] | 16÷3 | 8÷3 | 1 wire: 0.75 -25 (18-4 AWG)<br>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**<br>Without = 1P<br>2L = 2P<br>3L = 3P<br>1N = 1P+N<br>2N = 2P+N<br>3N = 3P+N | | **Max voltage (Uc)**<br>150 V (175 V)<br>320 V<br>440 V<br>550 V<br>660 V | | | **UL 1449**<br>**5th edition** | |
| **ABB SPD** | | | | | | | | |
| OVR | T2 | 3N | 40 | 320 | P | TS | U | |
| **Designation**<br>Type 2 apps | | | **Surge capacity (Imax)**<br>15 kA<br>40 kA | | **Pluggable** | | **Auxiliary contact**<br>(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 |

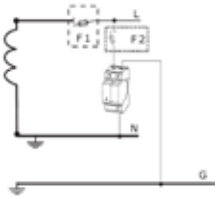
# OVRT2 series

## 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 |

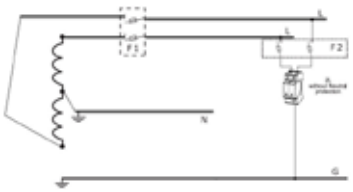
## OVRT2 series

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 |

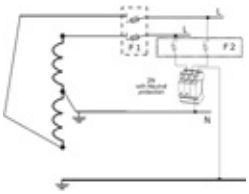
# OVRT2 series

## 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 |

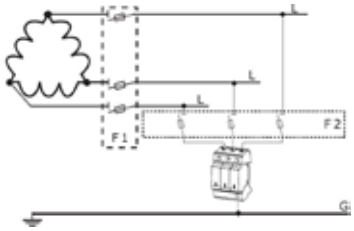
## OVRT2 series

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 |

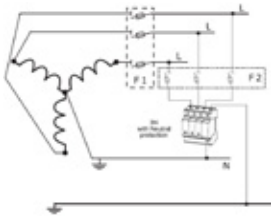
## OVRT2 series

OVRT2 3N



**Product features**

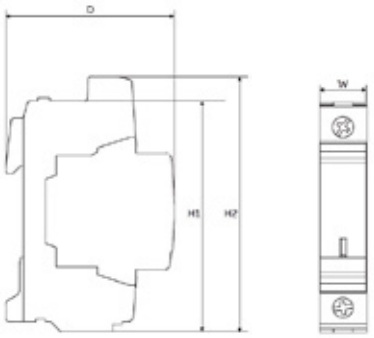
- Type 4 SPD, UL 1449 5th Edition for Type 2 applications
- Metal oxide varistor (MOV) technology
- 3p+N+Gnd complete design
- Replaceable and pluggable cartridges
- DIN rail-mounted SPD
- State indication flag standard on all units
- End-of-life signal standard on 40 kA units

| 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 |

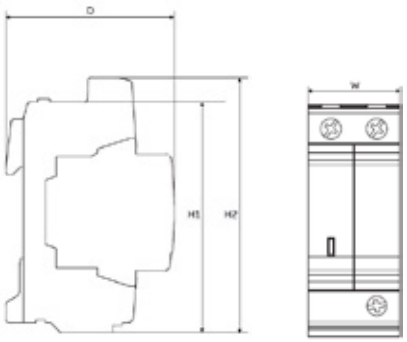
# OVRT2 series
## Dimensions

**Dimensions OVRT2**



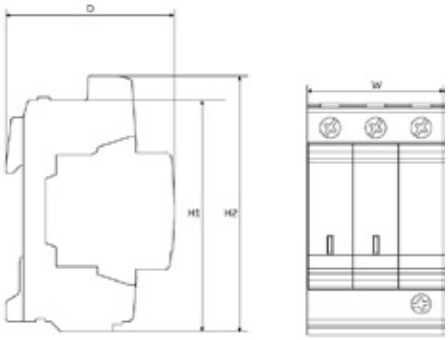

| Value | Inches / millimeters |
|---|---|
| W | 0.70 / 17.8 |
| D | 2.55 / 64.8 |
| H1 (without TS option) | 3.35 / 85.0 |
| H2 (with TS option) | 3.88 / 98.5 |

**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 |

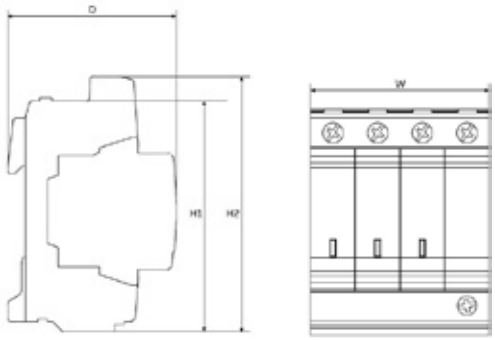
**Dimensions OVRT2 2N, OVRT2 3L**




| 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<br>UL 1449 5th Ed | IEC 61643-31<br>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**

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