The miniature circuit breakers of the System pro M compact® series S 200 and S 200 M provide state-of-the-art safety and comfort. They stand out due to their high performance and the wide range of accessories and approvals.

**Features**
- Clear contact position indication in red/green ("real CPI")
- Unique, patented twin terminal with captive screws and an increased opening for cables up to max. 35 mm², finger-proof (IP20)
- Busbar slot in the back for best visibility during installation
- High performance at an increased rated voltage for marine and industrial applications: 10 kA/15 kA at $U_n = 440$ V AC acc. to IEC/EN 60947-2
- Individual product identification code
- Approved acc. to IEC/EN 60898-1, IEC/EN 60947-2 and UL 1077/CSA 22.2 No. 235 for global use
**Miniature Circuit Breaker S 200/S 200 M**

**Technical data**

<table>
<thead>
<tr>
<th>S 200</th>
<th>S 200 M</th>
</tr>
</thead>
</table>

### General Data

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

- **Poles**
  - 1P, 2P, 3P, 4P, 1P+N, 3P+N

- **Tripping Characteristics**
  - B, C, D, K, Z

- **Rated current** $I_n$
  - 0.5 up to 63 A

- **Rated insulation voltage** $U_i$
  - 250 V AC (phase to ground), 500 V AC (phase to phase)

- **Rated frequency**
  - 50/60 Hz

- **Overvoltage Category**
  - III

- **Pollution Degree**
  - 3

### IEC/EN 60898-1

- **Rated operational voltage** $U_{e}$

- **Power frequency recovery voltage** $U_{	ext{max}}$

- **Min. operating voltage**
  - 12 V AC, 12 V DC

- **Rated short-circuit capacity** $I_{	ext{ch}}$
  - 6 kA

- **Energy limiting class** (B, C up to 40 A)
  - 3

- **Rated impulse withstand voltage** $U_{	ext{imp}}$
  - 4 kV (test voltage 6.2 kV at sea level, 5 kV at 2,000 m)

- **Dielectric test voltage**
  - 2.0 kV (50/60 Hz, 1 min)

- **Reference temperature for tripping characteristics**
  - B, C, D: 30 °C

### IEC/EN 60947-2

- **Rated operational voltage** $U_{e}$

- **Power frequency recovery voltage** $U_{	ext{max}}$

- **Min. operating voltage**
  - 12 V AC, 12 V DC

- **Rated ultimate short-circuit breaking capacity** $I_{	ext{cu}}$
  - 10 kA

- **Rated service short-circuit breaking capacity** $I_{	ext{cs}}$
  - 7.5 kA

- **Rated impulse withstand voltage** $U_{	ext{imp}}$
  - 4 kV (test voltage 6.2 kV at sea level, 5 kV at 2,000 m)

- **Dielectric test voltage**
  - 2.0 kV (50/60 Hz, 1 min)

- **Reference temperature for tripping characteristics**
  - B, C, D: 55 °C; K, Z: 20 °C

### Data acc. to UL/CSA

- **Rated voltage**
  - 480Y / 277 V AC

- **Application**
  - Suppl. prot. for general use. Application Codes: TC2, OL0, SC: U1

- **Reference temperature for tripping characteristic**
  - B, C, D, K, Z: 25 °C

- **Electrical endurance**
  - 6,000 ops. (AC), 6,000 ops. (DC); one cycle 1 s - ON, 9 s - OFF

### Mechanical data

- **Housing**
  - Insulation group II, RAL 7035

- **Toggle**
  - Insulation group II, black, sealable

- **Contact position indication**
  - Marking on toggle (I ON/0 OFF), Real CPI (red ON/green OFF)

- **Protection degree acc. to 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, 11 ms

- **Vibration resistance acc. to IEC/EN 60068-2-6**
  - 5 g, 20 cycles at 5...150...5 Hz with load 0.8 $I_n$

- **Environmental conditions acc. to IEC/EN 60068-2-30**
  - 28 cycles with 55 °C/90-96 % and 25 °C/95-100 %

- **Ambient temperature**
  - -25...+55 °C

- **Storage temperature**
  - -40...+70 °C

* Also fulfilling the requirements acc. to the protection degree IPX0B
Miniature Circuit Breaker S 200/S 200 M
Technical data and tripping characteristics

### Installation

<table>
<thead>
<tr>
<th>Feature</th>
<th>S 200</th>
<th>S 200 M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal</td>
<td>Fallsafe bi-directional cylinder-lift terminal</td>
<td></td>
</tr>
<tr>
<td>Cross-section of conductors (top/bottom)</td>
<td>35 mm² / 35 mm²</td>
<td>18 – 4 AWG</td>
</tr>
<tr>
<td>Cross-section of busbars (top/bottom)</td>
<td>10 mm² / 10 mm²</td>
<td>18 – 8 AWG</td>
</tr>
<tr>
<td>Torque</td>
<td>2.8 Nm</td>
<td>25 in-lbs.</td>
</tr>
<tr>
<td>Screwdriver</td>
<td>No. 2 Pozidrive</td>
<td></td>
</tr>
<tr>
<td>Mounting</td>
<td>On DIN rail 35 mm acc. to EN 60715 by fast clip</td>
<td>any</td>
</tr>
<tr>
<td>Mounting position</td>
<td></td>
<td>optional</td>
</tr>
</tbody>
</table>

### Dimensions and weight

<table>
<thead>
<tr>
<th>Feature</th>
<th>S 200</th>
<th>S 200 M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions and weight</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mounting dimensions acc. to DIN 43880</td>
<td></td>
<td>Mounting dimension 1</td>
</tr>
<tr>
<td>Pole dimensions (H x D x W)</td>
<td>85 x 69 x 17.5</td>
<td></td>
</tr>
<tr>
<td>Pole weight</td>
<td>approx. 125 g</td>
<td></td>
</tr>
</tbody>
</table>

### Combination with auxiliary elements

<table>
<thead>
<tr>
<th>Feature</th>
<th>S 200</th>
<th>S 200 M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auxiliary contact</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Signal/auxiliary contact</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Shunt trip</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Undervoltage release</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Motor Operating Device</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

### Tripping characteristics

<table>
<thead>
<tr>
<th>Acc. to</th>
<th>Tripping characteristics</th>
<th>Rated current</th>
<th>Thermal release</th>
<th>Electromagnetic release</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEC/EN 60898-1</td>
<td>B</td>
<td>6 to 63 A</td>
<td>1.13 · Iₙ,</td>
<td>1.45 · Iₙ,</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>0.5 to 63 A</td>
<td>1.13 · Iₙ,</td>
<td>1.45 · Iₙ,</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>0.5 to 63 A</td>
<td>1.13 · Iₙ,</td>
<td>1.45 · Iₙ,</td>
</tr>
<tr>
<td>IEC/EN 60947-2</td>
<td>K</td>
<td>0.5 to 63 A</td>
<td>1.05 · Iₙ,</td>
<td>1.2 · Iₙ,</td>
</tr>
<tr>
<td></td>
<td>Z</td>
<td>0.5 to 63 A</td>
<td>1.05 · Iₙ,</td>
<td>1.2 · Iₙ,</td>
</tr>
</tbody>
</table>

1) The thermal releases are calibrated to a nominal reference ambient temperature; for B, C, D the reference value is 30 °C, for K and Z the reference value is 20 °C. In the case of higher ambient temperatures, the current values fall by approx. 6 % for each 10 K temperature rise.
2) The indicated tripping values of electromagnetic tripping devices apply to a frequency of 50/60 Hz. The thermal release operates independent of frequency.
3) As from operating temperature (after lₙ > 1h or, as applicable, 2h)
Miniature Circuit Breaker S 200/S 200 M

Tripping characteristics

B characteristic

C characteristic

D characteristic

K characteristic

Z characteristic
Miniature Circuit Breaker S 200/S 200 M

Derating

For installations of miniature circuit breakers at other temperatures than the reference value and installations of several miniature circuit breakers directly side by side, derating factors have to be considered.

Deviating ambient temperature

The rated value of the current of a miniature circuit breaker refers to a reference ambient temperature of 30 °C for circuit breakers with the characteristics B, C and D and 20 °C for circuit breakers with the characteristics K and Z. The following table contains the derating of the load capability at ambient temperatures from -40 °C to 70 °C for the characteristics B, C, D, K and Z.

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Characteristic</th>
<th>A</th>
<th>B, C, D</th>
<th>K, Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 °C</td>
<td>0.5</td>
<td>1.0</td>
<td>1.33</td>
<td>1.32</td>
</tr>
<tr>
<td>10 °C</td>
<td>1.0</td>
<td>1.6</td>
<td>2.13</td>
<td>2.05</td>
</tr>
<tr>
<td>20 °C</td>
<td>1.6</td>
<td>2.0</td>
<td>2.65</td>
<td>2.55</td>
</tr>
<tr>
<td>30 °C</td>
<td>2.0</td>
<td>2.5</td>
<td>3.0</td>
<td>2.9</td>
</tr>
<tr>
<td>40 °C</td>
<td>2.5</td>
<td>3.0</td>
<td>4.0</td>
<td>3.9</td>
</tr>
<tr>
<td>50 °C</td>
<td>3.0</td>
<td>4.0</td>
<td>5.0</td>
<td>4.9</td>
</tr>
<tr>
<td>60 °C</td>
<td>4.0</td>
<td>5.0</td>
<td>6.0</td>
<td>5.9</td>
</tr>
<tr>
<td>70 °C</td>
<td>5.0</td>
<td>6.0</td>
<td>7.0</td>
<td>6.9</td>
</tr>
</tbody>
</table>

Example

S201-C16 at T = 40 °C

<table>
<thead>
<tr>
<th>Conditions of use</th>
<th>Values to use</th>
<th>Calculation</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load at ambient temperature 40 °C with 8 adjacent devices</td>
<td>I_4 (40 °C), Factor F</td>
<td>15.1 A x 0.75</td>
<td>I_4 = 11.33 A</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>No. of adjacent devices</th>
<th>Factor F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2, 3</td>
<td>0.9</td>
</tr>
<tr>
<td>4, 5</td>
<td>0.8</td>
</tr>
<tr>
<td>≥ 6</td>
<td>0.75</td>
</tr>
</tbody>
</table>
Miniature Circuit Breaker S 200/S 200 M
Accessories and dimensional drawing

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
**BP**  Mechanical tripping device  S2C-BP
**NT**  Neutral disconnector  S2C-Nt
**MOD-S**  Motor operating device  S2C-CM
**ST**  Shunt trip  S2C-A...
**UR**  Undervoltage release  S2C-UA
**OR**  Overvoltage release  S2C-OVP

**H-L**  Auxiliary contact  S2C-H...L
**H-BF**  Auxiliary contact for bottom fitting  S2C-H01 (1 per pole)

*In case of using S 200/S 200 M coupled with DDA 200, MOD-S does not operate in case of earth-leakage fault.*

Dimensional drawing

![Dimensional drawing diagram with dimensions 69x44, 17.5x35, 52.5x70, and 17.5x6.8]
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