



Miniature circuit breaker 400 V 6kA, 4-pole, C, 50 A, D=70 mm

| Model  |                                 |
|--|---------------------------------|
| product brand name   | SENTRON                         |
| product designation  | Miniature circuit breaker       |
| General technical data                                       |                                 |
| number of poles  | 4                               |
| design of pole   | 4P                              |
| tripping characteristic class                                | C                               |
| mechanical service life (operating cycles) typical           | 10 000                          |
| overvoltage category   | 3                               |
| degree of pollution  | 3                               |
| Voltage  |                                 |
| type of voltage of the operating voltage                     | AC                              |
| insulation voltage (U <sub>i</sub> )                         |                                 |
| • with single-phase operation at AC rated value              | 440 V                           |
| • with multi-phase operation at AC rated value               | 440 V                           |
| supply voltage with single-phase operation at AC rated value | 230 V                           |
| • operational current  |                                 |
| — at 40 °C rated value                                       | 48 A                            |
| — at 50 °C rated value                                       | 45.95 A                         |
| — at 55 °C rated value                                       | 44.9 A                          |
| • operational current at AC rated value                      | 50 A                            |
| Supply voltage   |                                 |
| supply voltage   |                                 |
| • at AC  | 400 V                           |
| • at DC rated value  | 60 V                            |
| value range of the supply voltage frequency                  | 50/60 Hz                        |
| operating voltage at DC rated value maximum                  | 72 V                            |
| Protection class   |                                 |
| protection class IP  | IP20, with connected conductors |
| Breaking Capacity  |                                 |
| switching capacity current                                   |                                 |
| • at DC according to IEC 60947-2 rated value                 | 15 kA                           |
| • according to EN 60898 rated value                          | 6 kA                            |
| • according to IEC 60947-2 rated value                       | 10 kA                           |
| energy limitation class                                      | 3                               |
| Dissipation  |                                 |
| power loss [W] for rated value of the current at AC in hot   | 3.8 W                           |

|   |  |
|---|--|
| operating state per pole  |  |
| <b>suitability for operation</b>  | Infrastructure / Industry                            |
| <b>Product details</b>  |  |
| <b>product feature touch protection</b>   | Yes  |
| <b>product component</b>  |  |
| • combined terminal top   | Yes  |
| • combined terminal bottom  | Yes  |
| • neutral conductor switching   | No   |
| <b>product feature properties for main switches in accordance with EN 60204-1</b>   | Yes  |
| <b>product feature halogen-free</b>   | Yes  |
| <b>product feature sealable</b>   | Yes  |
| <b>product feature silicon-free</b>   | Yes  |
| <b>product extension installable supplementary devices</b>                          | Yes  |
| <b>Product function</b>   |  |
| <b>set values setting current (Ii) for I-tripping</b>                               | 6,5  |
| <b>reference value setting current (Ii) for I-tripping</b>                          | x I <sub>n</sub>                                     |
| <b>Short circuit</b>  |  |
| <b>short-circuit current breaking capacity (I<sub>cn</sub>)</b>                     |  |
| • at AC according to UL 1077 and CSA C22.2 No.235                                   | 5 kA   |
| <b>Connections</b>  |  |
| <b>connectable conductor cross-section solid</b>                                    |  |
| • minimum   | 0.75 mm <sup>2</sup>                                 |
| • maximum   | 35 mm <sup>2</sup>                                   |
| <b>connectable conductor cross-section stranded</b>                                 |  |
| • minimum   | 0.75 mm <sup>2</sup>                                 |
| • maximum   | 35 mm <sup>2</sup>                                   |
| <b>connectable conductor cross-section finely stranded with core end processing</b> |  |
| • minimum   | 0.75 mm <sup>2</sup>                                 |
| • maximum   | 25 mm <sup>2</sup>                                   |
| <b>AWG number as coded connectable conductor cross section</b>                      |  |
| • minimum   | 18   |
| • maximum   | 4  |
| <b>tightening torque [lbf-in] with screw-type terminals</b>                         |  |
| • minimum   | 22 lbf-in  |
| • maximum   | 31 lbf-in  |
| <b>tightening torque with screw-type terminals</b>                                  |  |
| • minimum   | 2.5 N·m  |
| • maximum   | 3.5 N·m  |
| <b>position of power supply cord</b>  | Any  |
| <b>Mechanical Design</b>  |  |
| <b>height</b>   | 90 mm  |
| <b>width</b>  | 72 mm  |
| <b>depth</b>  | 76 mm  |
| <b>installation depth</b>   | 70 mm  |
| <b>number of modular width units</b>  | 4  |
| <b>fastening method</b>   | DIN rail   |
| <b>mounting position</b>  | any  |
| <b>Net Weight</b>   | 656 g  |
| <b>Environmental conditions</b>   |  |
| <b>influence of the surrounding temperature</b>                                     | max. 95% RH up to 55°C                               |
| <b>standard</b>   | IEC / EN 60898-1, IEC / EN 60947-2 / UL1077          |
| <b>vibration resistance according to IEC 60068-2-6</b>                              | ±1mm at 5 to 25Hz; 50m/s <sup>2</sup> at 25 to 150Hz |
| <b>ambient temperature during operation</b>   |  |
| • minimum   | -25 °C   |
| • maximum   | 55 °C  |
| <b>ambient temperature during storage</b>   |  |

- minimum
- maximum

-40 °C

75 °C

number of test cycles for environmental testing according to IEC 60068-2-30

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### Approvals Certificates

Environment

General Product Approval

[Environmental Confirmations](#)



[Environmental Confirmations](#)



General Product Approval



[Miscellaneous](#)



[Confirmation](#)

General Product Approval

EMV

Test Certificates

Maritime application



[Miscellaneous](#)



Maritime application

other



[Confirmation](#)

### Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

Information- and Downloadcenter (Catalogs, Brochures,...)

<https://www.siemens.com/lowvoltage/catalogs>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=5SY6450-7>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/5SY6450-7>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)

[https://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=5SY6450-7](https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=5SY6450-7)

CAX-Online-Generator

<https://www.siemens.com/cax>

Tender specifications

<https://www.siemens.com/specifications>

Characteristic curves

[https://curves.simaris.siemens.com/curves/<mmp\\_prod\\_noCOMP="HAUPT"></mmp\\_prod\\_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP=)



**CB**



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