



Miniature circuit breaker 230/400 V 6kA, 1-pole, C, 20 A, D=70 mm

| Model                                                                               |                                 |
|-------------------------------------------------------------------------------------|---------------------------------|
| product brand name                                                                  | SENTRON                         |
| product designation                                                                 | Miniature circuit breaker       |
| General technical data                                                              |                                 |
| number of poles                                                                     | 1                               |
| design of pole                                                                      | 1P                              |
| tripping characteristic class                                                       | C                               |
| mechanical service life (operating cycles) typical                                  | 10 000                          |
| overvoltage category                                                                | III                             |
| degree of pollution                                                                 | 3                               |
| Voltage                                                                             |                                 |
| type of voltage of the operating voltage                                            | AC                              |
| <b>insulation voltage (Ui)</b>                                                      |                                 |
| • 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                                                              | 18.78 A                         |
| • at 50 °C rated value                                                              | 17.48 A                         |
| • at 55 °C rated value                                                              | 16.8 A                          |
| • at AC rated value                                                                 | 20 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                                              | 15 kA                           |
| energy limitation class                                                             | 3                               |
| Dissipation                                                                         |                                 |
| power loss [W] for rated value of the current at AC in hot operating state per pole | 1.7 W                           |
| suitability for operation                                                           | Infrastructure / Industry       |
| Product details                                                                     |                                 |

|                                                                              |                                                      |
|------------------------------------------------------------------------------|------------------------------------------------------|
| product component                                                            |                                                      |
| • combined terminal top                                                      | Yes                                                  |
| • combined terminal bottom                                                   | Yes                                                  |
| • neutral conductor switching                                                | No                                                   |
| <b>product feature</b>                                                       |                                                      |
| • properties for main switches in accordance with EN 60204-1                 | Yes                                                  |
| • halogen-free                                                               | Yes                                                  |
| • sealable                                                                   | Yes                                                  |
| • silicon-free                                                               | Yes                                                  |
| product extension installable supplementary devices                          | Yes                                                  |
| <b>Product function</b>                                                      |                                                      |
| set values setting current (Ii) for I-tripping                               | 7,5                                                  |
| reference value setting current (Ii) for I-tripping                          | x In                                                 |
| <b>Short circuit</b>                                                         |                                                      |
| short-circuit current breaking capacity (Icn)                                |                                                      |
| • at AC according to UL 1077 and CSA C22.2 No.235                            | 5 kA                                                 |
| <b>Connections</b>                                                           |                                                      |
| connectable conductor cross-section solid                                    |                                                      |
| • minimum                                                                    | 0.75 mm <sup>2</sup>                                 |
| • maximum                                                                    | 35 mm <sup>2</sup>                                   |
| connectable conductor cross-section stranded                                 |                                                      |
| • minimum                                                                    | 0.75 mm <sup>2</sup>                                 |
| • maximum                                                                    | 35 mm <sup>2</sup>                                   |
| connectable conductor cross-section finely stranded with core end processing |                                                      |
| • minimum                                                                    | 0.75 mm <sup>2</sup>                                 |
| • maximum                                                                    | 25 mm <sup>2</sup>                                   |
| AWG number as coded connectable conductor cross section                      |                                                      |
| • minimum                                                                    | 18                                                   |
| • maximum                                                                    | 4                                                    |
| tightening torque [lbf-in] with screw-type terminals                         |                                                      |
| • minimum                                                                    | 22 lbf-in                                            |
| • maximum                                                                    | 31 lbf-in                                            |
| tightening torque with screw-type terminals                                  |                                                      |
| • minimum                                                                    | 2.5 N·m                                              |
| • maximum                                                                    | 3.5 N·m                                              |
| position of power supply cord                                                | Any                                                  |
| <b>Mechanical Design</b>                                                     |                                                      |
| height                                                                       | 90 mm                                                |
| width                                                                        | 18 mm                                                |
| depth                                                                        | 76 mm                                                |
| installation depth                                                           | 70 mm                                                |
| number of modular width units                                                | 1                                                    |
| fastening method                                                             | Quick assembly system                                |
| mounting position                                                            | any                                                  |
| net weight                                                                   | 126 g                                                |
| <b>Environmental conditions</b>                                              |                                                      |
| influence of the surrounding temperature                                     | max. 95% to 55°C, max. 55% to 70°C, max. 35% to 75°C |
| standard                                                                     | IEC / EN 60898-1, IEC / EN 60947-2 / UL1077          |
| vibration resistance according to IEC 60068-2-6                              | ±1mm at 5 to 25Hz; 50m/s <sup>2</sup> at 25 to 150Hz |
| ambient temperature during operation                                         |                                                      |
| • minimum                                                                    | -25 °C                                               |
| • maximum                                                                    | 55 °C                                                |
| ambient temperature during storage                                           |                                                      |
| • minimum                                                                    | -40 °C                                               |
| • maximum                                                                    | 75 °C                                                |
| number of test cycles for environmental testing according to IEC 60068-2-30  | 6                                                    |
| <b>Environmental footprint</b>                                               |                                                      |
| Environmental Product Declaration (EPD)                                      | Yes                                                  |

|                                                        |            |
|--------------------------------------------------------|------------|
| Global Warming Potential [CO2 eq] total                | 8.5 kg     |
| Global Warming Potential [CO2 eq] during manufacturing | 0.683 kg   |
| Global Warming Potential [CO2 eq] during operation     | 7.83 kg    |
| Global Warming Potential [CO2 eq] after end of life    | -0.0048 kg |

#### Approvals Certificates

##### General Product Approval

[Confirmation](#)



##### General Product Approval

##### EMV



[Miscellaneous](#)

[KC](#)



[Miscellaneous](#)



##### Test Certificates

##### Marine / Shipping

[Miscellaneous](#)



##### other

##### Environment

[Miscellaneous](#)

[Confirmation](#)



[Environmental Con-  
firmations](#)

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firmations](#)

#### Further information

##### Information on the packaging

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

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

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

##### Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=5SY6120-7>

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

<https://support.industry.siemens.com/cs/ww/en/ps/5SY6120-7>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=5SY6120-7](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=5SY6120-7)

##### CAX-Online-Generator

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

##### Tender specifications

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



# CB



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