



Miniature circuit breaker 400 V D=70 mm 25 kA according to EN 60947-2, 4P, D20

| Model | |
|-------------------------------------------------------------------------------------|---------------------------------|
| product brand name | SENTRON |
| product designation | Miniature circuit breaker |
| General technical data | |
| number of poles | 4 |
| design of pole | 4P |
| tripping characteristic class | D |
| 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 (Ui) | |
| • 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 50 °C rated value | 19.5 A |
| — at 55 °C rated value | 18.98 A |
| • operational current 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 IEC 60947-2 rated value | 30 kA |
| energy limitation class | 3 |
| Dissipation | |
| power loss [W] for rated value of the current at AC in hot operating state per pole | 1.6 W |
| suitability for operation | Infrastructure / Industry |

| Product details | |
|---------------------------------------------------------------------------------------------------|------------------------------------------------------|
| product feature touch protection | Yes |
| product component | |
| <ul style="list-style-type: none"> combined terminal top | Yes |
| <ul style="list-style-type: none"> combined terminal bottom | Yes |
| <ul style="list-style-type: none"> neutral conductor switching | No |
| product feature properties for main switches in accordance with EN 60204-1 | Yes |
| product feature halogen-free | Yes |
| product feature sealable | Yes |
| product feature silicon-free | Yes |
| product extension installable supplementary devices | Yes |
| Product function | |
| set values setting current (Ii) for I-tripping | 14 |
| reference value setting current (Ii) for I-tripping | x I _n |
| Short circuit | |
| short-circuit current breaking capacity (I _{cn}) | |
| <ul style="list-style-type: none"> at AC according to UL 1077 and CSA C22.2 No.235 | 5 kA |
| Connections | |
| connectable conductor cross-section solid | |
| <ul style="list-style-type: none"> minimum | 0.75 mm ² |
| <ul style="list-style-type: none"> maximum | 35 mm ² |
| connectable conductor cross-section stranded | |
| <ul style="list-style-type: none"> minimum | 0.75 mm ² |
| <ul style="list-style-type: none"> maximum | 35 mm ² |
| connectable conductor cross-section finely stranded with core end processing | |
| <ul style="list-style-type: none"> minimum | 0.75 mm ² |
| <ul style="list-style-type: none"> maximum | 25 mm ² |
| AWG number as coded connectable conductor cross section | |
| <ul style="list-style-type: none"> minimum | 18 |
| <ul style="list-style-type: none"> maximum | 4 |
| tightening torque [lbf·in] with screw-type terminals | |
| <ul style="list-style-type: none"> minimum | 22 lbf·in |
| <ul style="list-style-type: none"> maximum | 31 lbf·in |
| tightening torque with screw-type terminals | |
| <ul style="list-style-type: none"> minimum | 2.5 N·m |
| <ul style="list-style-type: none"> maximum | 3.5 N·m |
| position of power supply cord | Any |
| Mechanical Design | |
| height | 90 mm |
| width | 72 mm |
| depth | 76 mm |
| installation depth | 70 mm |
| number of modular width units | 4 |
| fastening method | DIN rail |
| mounting position | any |
| Net Weight | 624 g |
| Environmental conditions | |
| influence of the surrounding temperature | max. 95% RH up to 55°C |
| standard | IEC / EN 60947-2 / UL1077 |
| vibration resistance according to IEC 60068-2-6 | ±1mm at 5 to 25Hz; 50m/s ² at 25 to 150Hz |
| ambient temperature during operation | |
| <ul style="list-style-type: none"> minimum | -25 °C |
| <ul style="list-style-type: none"> maximum | 55 °C |
| ambient temperature during storage | |
| <ul style="list-style-type: none"> minimum | -40 °C |
| <ul style="list-style-type: none"> maximum | 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](#)



[Miscellaneous](#)



General Product Approval

other

[Confirmation](#)



[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=5SY8420-8>

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

<https://support.industry.siemens.com/cs/ww/en/ps/5SY8420-8>

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

https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=5SY8420-8

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=)



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