



Miniature circuit breaker 230/400 V 10kA, 1-pole, B, 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	B
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 40 °C rated value	18.78 A
— at 50 °C rated value	17.48 A
— at 55 °C rated value	16.8 A
— at 60 °C rated value	16.08 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 EN 60898 rated value	10 kA
• according to IEC 60947-2 rated value	20 kA
energy limitation class	3
Dissipation	

power loss [W] for rated value of the current at AC in hot operating state per pole	2.2 W
<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>	4
<b>reference value setting current (Ii) for I-tripping</b>	x In
<b>Short circuit</b>	
<b>short-circuit current breaking capacity (Icn)</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>	18 mm
<b>depth</b>	76 mm
<b>installation depth</b>	70 mm
<b>number of modular width units</b>	1
<b>fastening method</b>	DIN rail
<b>mounting position</b>	any
<b>Net Weight</b>	165 g
<b>Environmental conditions</b>	
<b>influence of the surrounding temperature</b>	max. 95% RH up to 55°C, max. 55% RH up to 70°C, max. 35% RH up to 75°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	-40 °C
• maximum	70 °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

6

### Approvals Certificates

Environment

General Product Approval

[Environmental Confirmations](#)

[Environmental Confirmations](#)



General Product Approval



[Miscellaneous](#)



[Confirmation](#)



General Product Approval

EMV

Test Certificates

Maritime application



[Miscellaneous](#)

[Special Test Certificate](#)



Maritime application

other

Railway



[Confirmation](#)



[Confirmation](#)

Railway

[Special Test Certificate](#)

### 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=5SY4120-6>

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

<https://support.industry.siemens.com/cs/ww/en/ps/5SY4120-6>

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

[https://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=5SY4120-6](https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=5SY4120-6)

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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