



Miniature circuit breaker 230/400 V 10kA, 1-pole, D, 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	D
mechanical service life (operating cycles) typical	10 000
overvoltage category	III
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
Supply voltage	
supply voltage	
• at AC rated value	400 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
Switching 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
Dissipation	
power loss [W] for rated value of the current at AC in hot operating state per pole	1.6 W
Current	
operational current	
• at 35 °C rated value	20 A
• at 40 °C rated value	18.78 A
• at 45 °C rated value	18.14 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

<ul style="list-style-type: none"> <li>● at AC rated value</li> </ul>	20 A
suitability for operation	Mechanical engineering / industry
<b>Product details</b>	
product component	
<ul style="list-style-type: none"> <li>● combined terminal top</li> </ul>	Yes
<ul style="list-style-type: none"> <li>● combined terminal bottom</li> </ul>	Yes
<ul style="list-style-type: none"> <li>● neutral conductor switching</li> </ul>	No
product feature	
<ul style="list-style-type: none"> <li>● properties for main switches in accordance with EN 60204-1</li> </ul>	Yes
<ul style="list-style-type: none"> <li>● halogen-free</li> </ul>	Yes
<ul style="list-style-type: none"> <li>● sealable</li> </ul>	Yes
<ul style="list-style-type: none"> <li>● silicon-free</li> </ul>	Yes
product extension installable supplementary devices	Yes
<b>Short circuit</b>	
short-circuit current breaking capacity (I <sub>cn</sub> )	
<ul style="list-style-type: none"> <li>● at AC according to UL 1077 and CSA C22.2 No.235</li> </ul>	5 kA
<b>Connections</b>	
connectable conductor cross-section solid	
<ul style="list-style-type: none"> <li>● minimum</li> </ul>	0.75 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>● maximum</li> </ul>	35 mm <sup>2</sup>
connectable conductor cross-section stranded	
<ul style="list-style-type: none"> <li>● minimum</li> </ul>	0.75 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>● maximum</li> </ul>	35 mm <sup>2</sup>
connectable conductor cross-section finely stranded with core end processing	
<ul style="list-style-type: none"> <li>● minimum</li> </ul>	0.75 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>● maximum</li> </ul>	25 mm <sup>2</sup>
AWG number as coded connectable conductor cross section	
<ul style="list-style-type: none"> <li>● minimum</li> </ul>	18
<ul style="list-style-type: none"> <li>● maximum</li> </ul>	4
tightening torque [lbf-in] with screw-type terminals	
<ul style="list-style-type: none"> <li>● minimum</li> </ul>	22 lbf-in
<ul style="list-style-type: none"> <li>● maximum</li> </ul>	31 lbf-in
tightening torque with screw-type terminals	
<ul style="list-style-type: none"> <li>● minimum</li> </ul>	2.5 N-m
<ul style="list-style-type: none"> <li>● maximum</li> </ul>	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	162 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	
<ul style="list-style-type: none"> <li>● minimum</li> </ul>	-40 °C
<ul style="list-style-type: none"> <li>● maximum</li> </ul>	70 °C
ambient temperature during storage	
<ul style="list-style-type: none"> <li>● minimum</li> </ul>	-40 °C
<ul style="list-style-type: none"> <li>● maximum</li> </ul>	75 °C
number of test cycles for environmental testing according to IEC 60068-2-30	6
<b>General Product Approval</b>	



[Confirmation](#)



[Miscellaneous](#)

General Product Approval

EMC

Declaration of Conformity

Test Certificates



[Miscellaneous](#)



EG-Konf.



[Special Test Certificate](#)

Test Certificates

Marine / Shipping

[Miscellaneous](#)



LRS



other

Railway

[Environmental Confirmations](#)

[Miscellaneous](#)

[Confirmation](#)

[Vibration and Shock](#)

#### 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=5SY4120-8>

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

<https://support.industry.siemens.com/cs/ww/en/ps/5SY4120-8>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=5SY4120-8](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=5SY4120-8)

CAX-Online-Generator

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

Tender specifications

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



**CB**



