



circuit breaker 3VA2 IEC Frame 100 breaking capacity class C Icu=110 kA @ 415 V 4-pole, line protection ETU320, LI, In=100 A overload protection Ir=40 A...100 A short-circuit protection Ii=1.5...12 x In neutral conductor protection adjustable (OFF, 50%, 100%) terminal connection

Model	
product brand name	SENTRON
product designation	Molded case circuit breaker
design of the product	Line protection
design of the overcurrent release	ETU320
protection function of the overcurrent release	LI
number of poles	4
General technical data	
insulation voltage / rated value	800 V
operating voltage / at AC / rated value	690 V
power loss [W] / maximum	7.7 W
power loss [W] / for rated value of the current / at AC / in hot operating state / per pole	2.57 W
mechanical service life (operating cycles) / typical	25 000
electrical endurance (operating cycles) / at AC-1 / at 380/415 V	15 000
electrical endurance (operating cycles) / at AC-1 / at 690 V	10 500
product feature / for neutral conductors / upgradable/retrofitable / short-circuit and overload proof	No
ground-fault monitoring version	Without
product function	
• communication function	No
• other measurement function	No
Net Weight	3.2 kg
Current	
operational current	
• at 40 °C	100 A
• at 45 °C	100 A
• at 50 °C	100 A
• at 55 °C	100 A
• at 60 °C	100 A
• at 65 °C	100 A
• at 70 °C	100 A
Switching capacity according to IEC 60947	
switching capacity class of the circuit breaker	C
maximum short-circuit current breaking capacity (Icu)	
• at 240 V	150 kA
• at 415 V	110 kA
• at 440 V	110 kA
• at 500 V	85 kA
• at 690 V	2 kA
operating short-circuit current breaking capacity (Ics)	
• at 240 V	150 kA
• at 415 V	110 kA
• at 440 V	110 kA
• at 500 V	85 kA
• at 690 V	2 kA
short-circuit current making capacity (Icm)	
• at 240 V	330 kA

<ul style="list-style-type: none"> <li>• at 415 V</li> <li>• at 440 V</li> <li>• at 500 V</li> <li>• at 690 V</li> </ul>	242 kA 242 kA 187 kA 3 kA
<b>Adjustable parameters</b>	
product feature / for L-tripping / can be switched on/off	No
adjustable response value setting current (I <sub>r</sub> ) / of the L-trip / with I <sub>2t</sub> characteristic	
<ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	40 A 100 A
adjustable response value delay time (t <sub>r</sub> ) / for L-tripping / with I <sub>2t</sub> characteristic	
<ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	0.5 s 17 s
adjustable response value setting current (I <sub>i</sub> ) / for I-tripping	
<ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	150 A 1 200 A
adjustable setting current (I <sub>n</sub> ) / for N-tripping	
<ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	20 A 100 A
design of the N-conductor protection	adjustable OFF; 50%; 100%
product function / grounding protection	No
<b>Mechanical Design</b>	
product component	
<ul style="list-style-type: none"> <li>• undervoltage release</li> <li>• voltage trigger</li> <li>• trip indicator</li> </ul>	No No No
height [in]	7.13 in
height	181 mm
width [in]	5.51 in
type of connectable conductor cross-sections / of the round conductor terminal / stranded	1 x (6 - 120 mm <sup>2</sup> )
width	140 mm
depth [in]	3.39 in
depth	86 mm
<b>Connections</b>	
arrangement of electrical connectors / for main current circuit	Front terminal
type of electrical connection / for main current circuit	double-sided box terminal
design of the surface / of the connections / on the top of the switch (N, 1, 3, 5)	tin
design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6)	tin
<b>Auxiliary circuit</b>	
number of CO contacts / for auxiliary contacts	0
<b>Accessories</b>	
product extension / optional / motor drive	Yes
<b>Environmental conditions</b>	
protection class IP / on the front	IP40
ambient temperature	
<ul style="list-style-type: none"> <li>• during operation / minimum</li> <li>• during operation / maximum</li> <li>• during storage / minimum</li> <li>• during storage / maximum</li> </ul>	-25 °C 70 °C -40 °C 80 °C
<b>Environmental footprint</b>	
global warming potential [CO <sub>2</sub> eq] / total	61.814 kg
global warming potential [CO <sub>2</sub> eq] / during manufacturing	14.6 kg
global warming potential [CO <sub>2</sub> eq] / during operation	48.9 kg
global warming potential [CO <sub>2</sub> eq] / after end of life	-2.2 kg
Siemens Eco Profile (SEP)	Siemens EcoTech
reference code / according to IEC 81346-2	Q

Approvals / Certificates

General Product Approval



[Miscellaneous](#)



[Confirmation](#)

General Product Approval

EMV

Test Certificates

Maritime application



[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Maritime application

other



[CCS \(China Classification Society\)](#)

[Miscellaneous](#)

other

Dangerous goods

Environment

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Environment

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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?mifb=3VA2010-7HL46-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA2010-7HL46-0AA0>

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

[https://www.automation.siemens.com/bilddb/cax\\_en.aspx?mifb=3VA2010-7HL46-0AA0](https://www.automation.siemens.com/bilddb/cax_en.aspx?mifb=3VA2010-7HL46-0AA0)

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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