



circuit breaker 3VA1 IEC Frame 100 breaking capacity class S Icu=36 kA @ 415 V  
 3-pole, line protection TM210, FTFM, In=20 A overload protection Ir=20 A  
 permanently set short-circuit protection Ii=16 x In nut keeper kit 1 auxiliary switch  
 HQ 1 trip alarm switch HQ

Model	
product brand name	SENTRON
product designation	Molded case circuit breaker
design of the product	Line protection
design of the overcurrent release	TM210
protection function of the overcurrent release	LI
number of poles	3
design of the auxiliary switch	1 auxiliary switch + 1 trip alarm switch HQ
General technical data	
insulation voltage / rated value	800 V
operating voltage / at DC / rated value	500 V
operating voltage / at AC / rated value	690 V
power loss [W] / maximum	12 W
power loss [W] / for rated value of the current / at AC / in hot operating state / per pole	4 W
mechanical service life (operating cycles) / typical	20 000
electrical endurance (operating cycles) / at AC-1 / at 380/415 V	9 000
electrical endurance (operating cycles) / at AC-1 / at 690 V	6 300
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	0.96 kg
Current	
operational current	
• at 40 °C	20 A
• at 45 °C	20 A
• at 50 °C	20 A
• at 55 °C	20 A
• at 60 °C	19 A
• at 65 °C	19 A
• at 70 °C	19 A
Switching capacity according to IEC 60947	
switching capacity class of the circuit breaker	S
maximum short-circuit current breaking capacity (Icu)	
• at 240 V	55 kA
• at 415 V	36 kA

<ul style="list-style-type: none"> <li>• at 440 V</li> <li>• at 500 V</li> <li>• at 690 V</li> </ul>	<p>25 kA</p> <p>7 kA</p> <p>7 kA</p>
operating short-circuit current breaking capacity (Ics)	
<ul style="list-style-type: none"> <li>• at 240 V</li> <li>• at 415 V</li> <li>• at 440 V</li> <li>• at 500 V</li> <li>• at 690 V</li> </ul>	<p>55 kA</p> <p>36 kA</p> <p>25 kA</p> <p>5 kA</p> <p>5 kA</p>
short-circuit current making capacity (Icm)	
<ul style="list-style-type: none"> <li>• at 240 V</li> <li>• at 415 V</li> <li>• at 440 V</li> <li>• at 500 V</li> <li>• at 690 V</li> </ul>	<p>121 kA</p> <p>75.5 kA</p> <p>52.5 kA</p> <p>11.9 kA</p> <p>11.9 kA</p>
design of short-circuit protection	For switching power values in DC networks, see the 3VA molded case circuit breaker device manual; link to be found under Service & Support in the last chapter

#### Adjustable parameters

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 <sup>2</sup> t characteristic	
<ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	<p>20 A</p> <p>20 A</p>
adjustable response value delay time (t <sub>r</sub> ) / for L-tripping / with I <sup>2</sup> t characteristic	
<ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	<p>1 s</p> <p>1 s</p>
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>	<p>320 A</p> <p>320 A</p>
adjustable setting current (I <sub>nN</sub> ) / for N-tripping	
<ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	<p>0 A</p> <p>0 A</p>
product function / grounding protection	No

#### Mechanical Design

product component	
<ul style="list-style-type: none"> <li>• undervoltage release</li> <li>• voltage trigger</li> <li>• trip indicator</li> </ul>	<p>No</p> <p>No</p> <p>Yes</p>
height [in]	5.12 in
height	130 mm
width [in]	3 in
width	76.2 mm
depth [in]	2.76 in
depth	70 mm

#### Connections

arrangement of electrical connectors / for main current circuit	Front terminal
type of electrical connection / for main current circuit	nut keeper kit on both ends
type of connectable conductor cross-sections / for flat-bar terminal connection / minimum	12 x 1 mm
type of connectable conductor cross-sections / for flat-bar terminal connection / maximum	17 x 6,5 mm
design of the surface / of the connections / on the top of the switch (N, 1, 3, 5)	Silver
design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6)	Tin

#### Auxiliary circuit

number of CO contacts / for auxiliary contacts	2
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#### Accessories

product extension / optional / motor drive	No
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manufacturer's article number	
<ul style="list-style-type: none"> <li>• of the supplied basic switch</li> <li>• of the integrated auxiliary switch/alarm switch</li> <li>• of the integrated auxiliary switch/alarm switch</li> </ul>	<a href="#">3VA10204ED320AA0</a> <a href="#">3VA9988-0AA12</a> <a href="#">3VA9988-0AB12</a>

### Environmental conditions

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
reference code / according to IEC 81346-2	Q

### Approvals / Certificates

#### General Product Approval



[Miscellaneous](#)



[Confirmation](#)

#### General Product Approval



[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

#### Maritime application



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

#### other

[Miscellaneous](#)

[Confirmation](#)

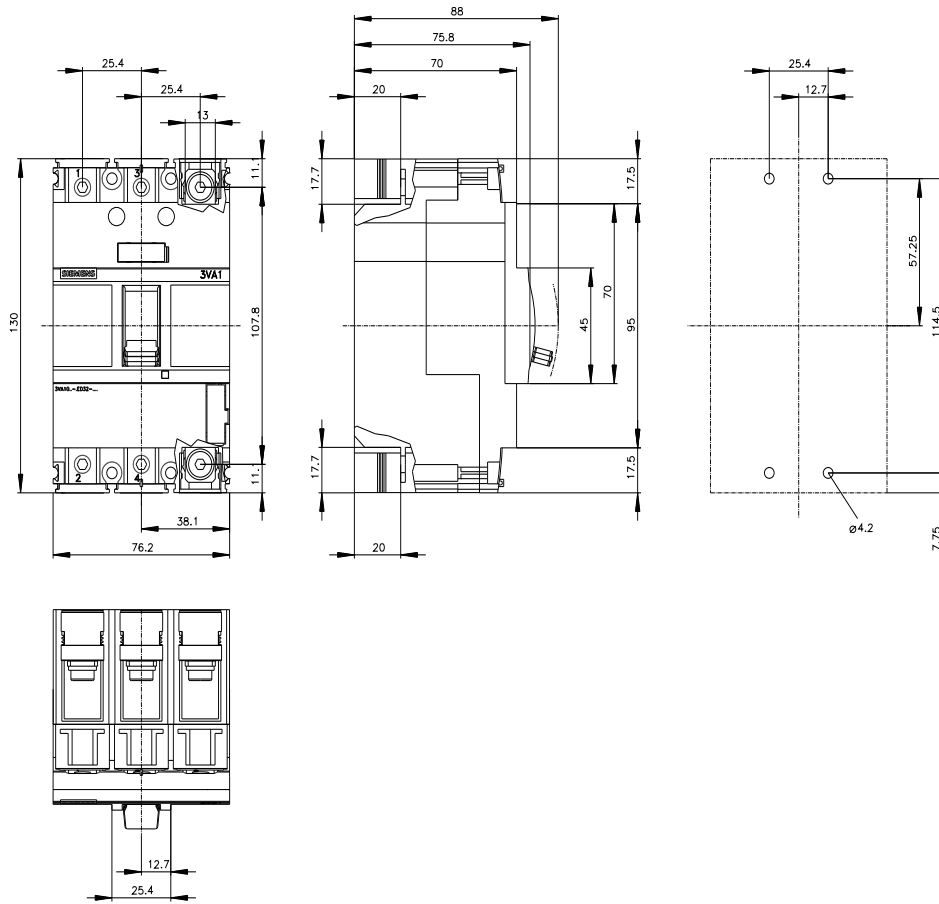


[Environmental Confirmations](#)

[Environmental Confirmations](#)

### 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=3VA1020-4ED32-0AF0>
- Service&Support (Manuals, Certificates, Characteristics, FAQs,...)  
<https://support.industry.siemens.com/cs/ww/en/ps/3VA1020-4ED32-0AF0>
- Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)  
[https://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA1020-4ED32-0AF0](https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1020-4ED32-0AF0)
- CAX-Online-Generator  
<https://www.siemens.com/cax>
- Tender specifications  
<https://www.siemens.com/specifications>
- Characteristic curves  
[https://curves.simar.siemens.com/curves/<mmp\\_prod\\_noCOMP="HAUPT"></mmp\\_prod\\_no>](https://curves.simar.siemens.com/curves/<mmp_prod_noCOMP=)



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