



circuit breaker 3VA1 IEC Frame 160 breaking capacity class H  $I_{cu}=70 \text{ kA} @ 415 \text{ V}$   
3-pole, starter protection TM120M, AM,  $I_n=20 \text{ A}$  without overload protection short-circuit protection  $I_i=7 \dots 16 \times I_n$  nut keeper kit

Model	
product brand name	SENTRON
product designation	Molded case circuit breaker
design of the product	Starter protection
design of the overcurrent release	TM120M
protection function of the overcurrent release	I
number of poles	3
General technical data	
insulation voltage / rated value	800 V
operating voltage / at AC / rated value	690 V
power loss [W] / maximum	12 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	0.97 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	H
maximum short-circuit current breaking capacity ( $I_{cu}$ )	
• at 240 V	100 kA
• at 415 V	70 kA
• at 440 V	55 kA
• at 500 V	5 kA
• at 690 V	5 kA
operating short-circuit current breaking capacity ( $I_{cs}$ )	
• at 240 V	100 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>	<p>70 kA</p> <p>40 kA</p> <p>5 kA</p> <p>5 kA</p>
<p>short-circuit current making capacity (I<sub>cm</sub>)</p> <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>220 kA</p> <p>154 kA</p> <p>121 kA</p> <p>7.5 kA</p> <p>7.5 kA</p>
<p>design of short-circuit protection</p>	<p>For switching power values in DC networks, see the 3VA molded case circuit breaker device manual; link to be found under Service &amp; Support in the last chapter</p>

#### Adjustable parameters

<p>adjustable response value setting current (I<sub>i</sub>) / for I-tripping</p> <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	<p>140 A</p> <p>320 A</p>
<p>adjustable setting current (I<sub>nN</sub>) / for N-tripping</p> <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	<p>0 A</p> <p>0 A</p>
<p>product function / grounding protection</p>	<p>No</p>

#### Mechanical Design

<p>product component</p> <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>No</p>
<p>height [in]</p>	<p>5.12 in</p>
<p>height</p>	<p>130 mm</p>
<p>width [in]</p>	<p>3 in</p>
<p>width</p>	<p>76.2 mm</p>
<p>depth [in]</p>	<p>2.76 in</p>
<p>depth</p>	<p>70 mm</p>

#### Connections

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

#### Auxiliary circuit

<p>number of CO contacts / for auxiliary contacts</p>	<p>0</p>
---	----------

#### Accessories

<p>product extension / optional / motor drive</p>	<p>Yes</p>
---	------------

#### Environmental conditions

<p>protection class IP / on the front</p>	<p>IP40</p>
<p>ambient temperature</p> <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>	<p>-25 °C</p> <p>70 °C</p> <p>-40 °C</p> <p>80 °C</p>

#### Environmental footprint

<p>Environmental Product Declaration (EPD)</p>	<p>Yes</p>
<p>Global Warming Potential [CO<sub>2</sub> eq] / total</p>	<p>190 kg</p>
<p>Global Warming Potential [CO<sub>2</sub> eq] / during manufacturing</p>	<p>4.67 kg</p>
<p>Global Warming Potential [CO<sub>2</sub> eq] / during operation</p>	<p>186 kg</p>
<p>Global Warming Potential [CO<sub>2</sub> eq] / after end of life</p>	<p>-0.826 kg</p>
<p>reference code / according to IEC 81346-2</p>	<p>Q</p>

#### Approvals / Certificates

General Product Approval



[Confirmation](#)



[Miscellaneous](#)

General Product Approval

EMV

Test Certificates

Marine / Shipping



[Special Test Certificate](#)

[Miscellaneous](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping

other

Environment



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

[Confirmation](#)

[Miscellaneous](#)

[Miscellaneous](#)



Environment



[Environmental Confirmations](#)

[Environmental Confirmations](#)

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=3VA1120-6MH32-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA1120-6MH32-0AA0>

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

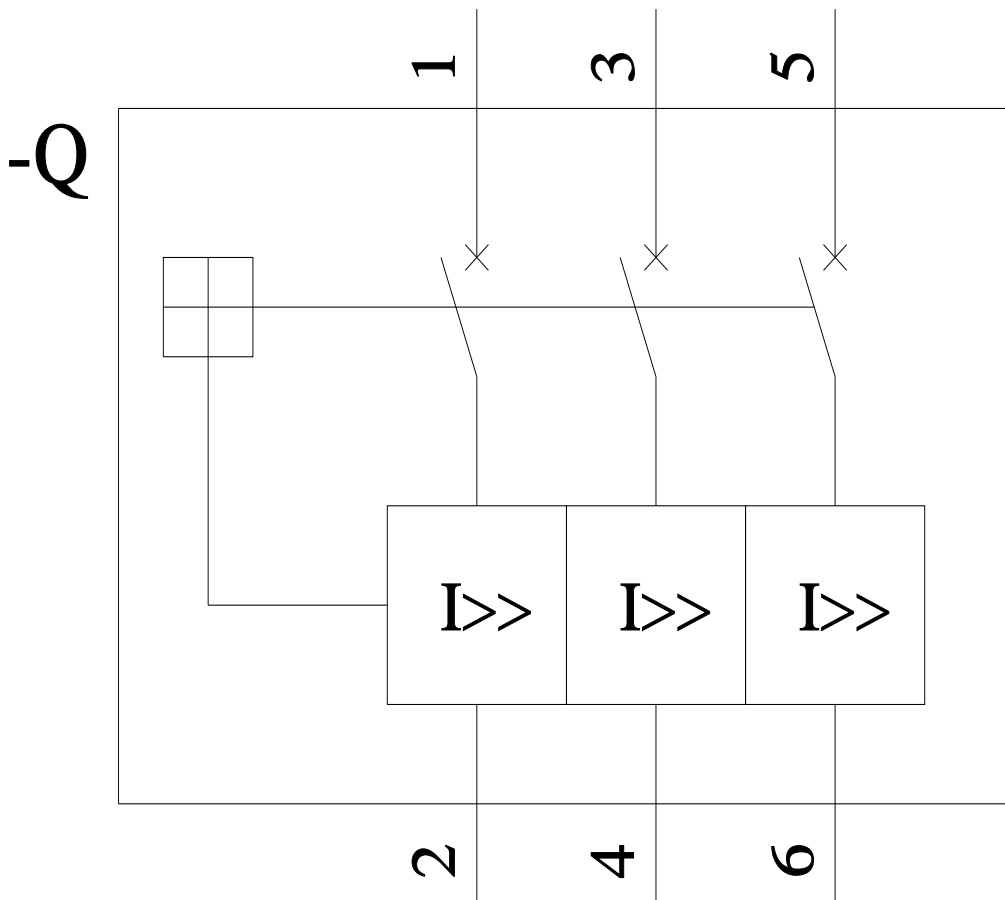
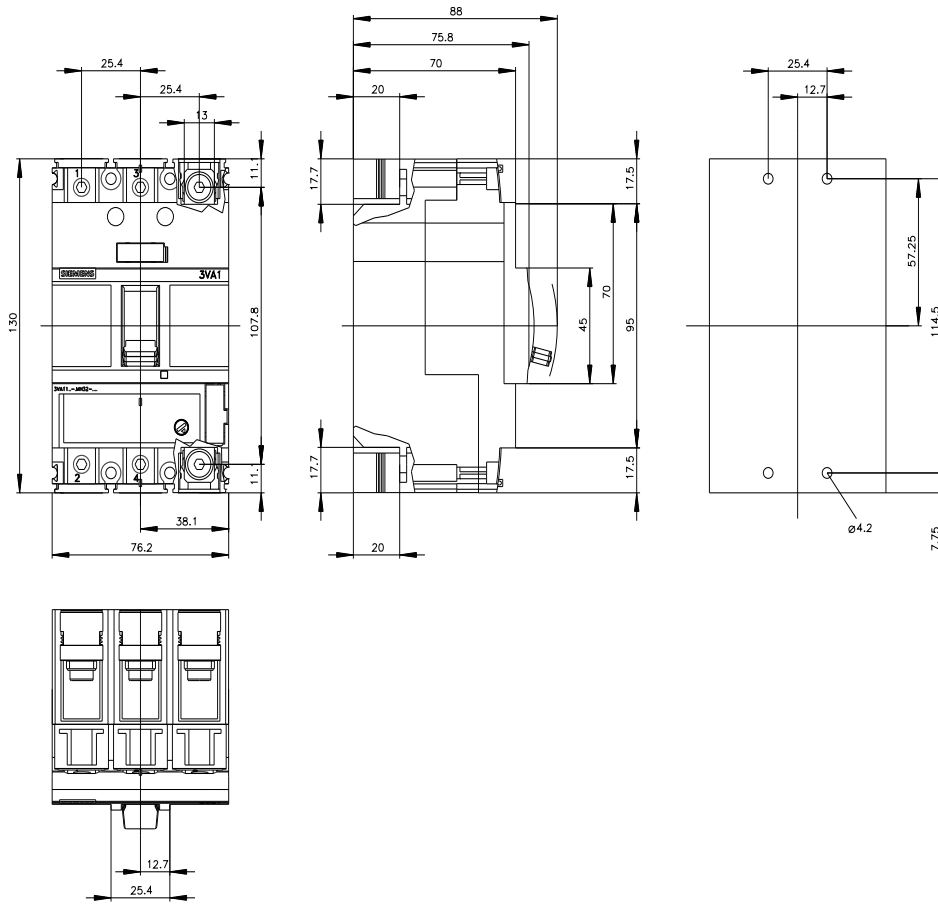
[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA1120-6MH32-0AA0](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1120-6MH32-0AA0)

CAX-Online-Generator

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

Tender specifications

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



last modified:

11/3/2023



