



circuit breaker 3VA1 IEC Frame 250 breaking capacity class H Icu=70 kA @ 415 V  
4-pole, line protection TM220, ATFM, In=160 A overload protection Ir=112 A...160  
A short-circuit protection Ii=10 x In neutral conductor protection 100% nut keeper  
kit

Model	
product brand name	SENTRON
product designation	Molded case circuit breaker
design of the product	Line protection
design of the overcurrent release	TM220
protection function of the overcurrent release	LI
number of poles	4
General technical data	
insulation voltage / rated value	800 V
operating voltage / at DC / rated value	600 V
operating voltage / at AC / rated value	690 V
power loss [W] / maximum	33 W
power loss [W] / for rated value of the current / at AC / in hot operating state / per pole	11 W
mechanical service life (operating cycles) / typical	20 000
electrical endurance (operating cycles) / at AC-1 / at 380/415 V	8 000
electrical endurance (operating cycles) / at AC-1 / at 690 V	5 400
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	2.1 kg
Current	
operational current	
• at 40 °C	160 A
• at 45 °C	160 A
• at 50 °C	160 A
• at 55 °C	156 A
• at 60 °C	151 A
• at 65 °C	147 A
• at 70 °C	142 A
Switching capacity according to IEC 60947	
switching capacity class of the circuit breaker	H
maximum short-circuit current breaking capacity (Icu)	
• at 240 V	100 kA
• at 415 V	70 kA
• at 440 V	36 kA

<ul style="list-style-type: none"> <li>• at 500 V</li> <li>• at 690 V</li> </ul>	<p>15 kA</p> <p>10 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>100 kA</p> <p>70 kA</p> <p>36 kA</p> <p>10 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>220 kA</p> <p>154 kA</p> <p>75.5 kA</p> <p>30 kA</p> <p>17 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>112 A</p> <p>160 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>1 600 A</p> <p>1 600 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>160 A</p> <p>160 A</p>
design of the N-conductor protection	100%
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>No</p>
height [in]	6.22 in
height	158 mm
width [in]	5.51 in
width	140 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	13 x 1 mm
type of connectable conductor cross-sections / for flat-bar terminal connection / maximum	25 x 8 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)	Silver

#### Auxiliary circuit

number of CO contacts / for auxiliary contacts	0
--	---

#### Accessories

product extension / optional / motor drive	Yes
--	-----

## Environmental conditions

protection class IP / on the front	IP40
ambient temperature	
<ul style="list-style-type: none"> <li>during operation / minimum</li> </ul>	-25 °C
<ul style="list-style-type: none"> <li>during operation / maximum</li> </ul>	70 °C
<ul style="list-style-type: none"> <li>during storage / minimum</li> </ul>	-40 °C
<ul style="list-style-type: none"> <li>during storage / maximum</li> </ul>	80 °C

## Environmental footprint

global warming potential [CO2 eq] / total	285.47 kg
global warming potential [CO2 eq] / during manufacturing	6.87 kg
global warming potential [CO2 eq] / during operation	279 kg
global warming potential [CO2 eq] / after end of life	-0.78 kg
reference code / according to IEC 81346-2	Q

## Approvals / Certificates

### General Product Approval



[Miscellaneous](#)



[Confirmation](#)

### General Product Approval



[Miscellaneous](#)

[Special Test Certificate](#)



### Maritime application



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

[Miscellaneous](#)

[Confirmation](#)



[Environmental Confirmations](#)

### Environment

[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=3VA1216-6GE42-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA1216-6GE42-0AA0>

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

[https://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA1216-6GE42-0AA0](https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1216-6GE42-0AA0)

### CAX-Online-Generator

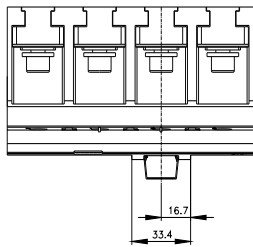
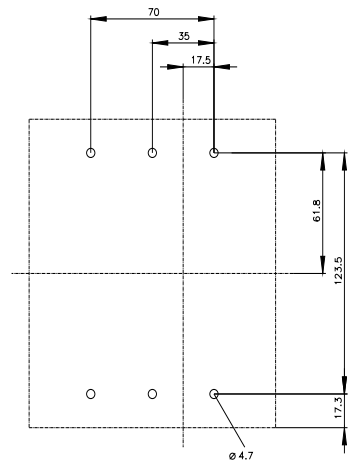
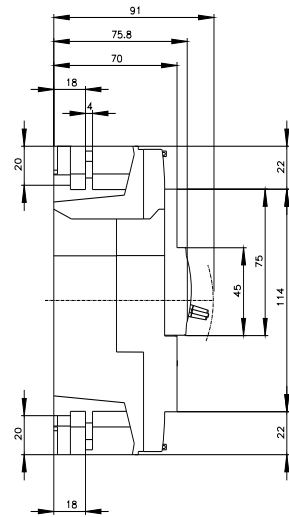
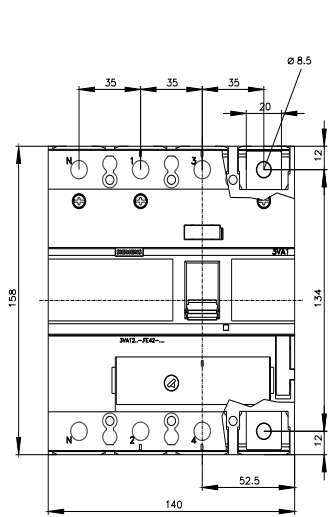
<https://www.siemens.com/cax>

### 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=)



last modified:

4/18/2026



