



circuit breaker 3VA1 IEC frame 160 breaking capacity class M  $I_{cu}=55\text{kA}$  @ 415V  
4-pole, line protection TM220, ATFM,  $I_n=20\text{A}$  overload protection  $I_r=14\text{A}\dots20\text{A}$   
short-circuit protection  $I_i=16 \times I_n$  N conductor unprotected clamp connection

Model	
product brand name	SETRON
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	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	1.299 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	M
maximum short-circuit current breaking capacity ( $I_{cu}$ )	
• at 240 V	85 kA
• at 415 V	55 kA
• at 440 V	36 kA
• at 500 V	10 kA
• at 690 V	10 kA
operating short-circuit current breaking capacity ( $I_{cs}$ )	

<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>	85 kA 55 kA 36 kA 5 kA 5 kA
short-circuit current making capacity (I <sub>cm</sub> ) <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>	187 kA 121 kA 75.6 kA 17 kA 17 kA
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
<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>	14 A 20 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>	1 s 1 s
adjustable response value setting current (I <sub>l</sub> ) / for I-tripping <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	320 A 320 A
adjustable setting current (I <sub>N</sub> ) / for N-tripping <ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	0 A 0 A
design of the N-conductor protection	without
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]	5.12 in
height	130 mm
width [in]	4 in
type of connectable conductor cross-sections / of the round conductor terminal / stranded	1 x (1,5 - 70 mm <sup>2</sup> )
width	101.6 mm
depth [in]	2.76 in
depth	70 mm
<b>Connections</b>	
arrangement of electrical connectors / for main current circuit	Front terminal
type of electrical connection / for main current circuit	box terminal on both sides
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
<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> </ul>	-25 °C 70 °C -40 °C

• during storage / maximum

80 °C

## Certificates

reference code / according to IEC 81346-2

Q

## General Product Approval



[Confirmation](#)



[Miscellaneous](#)

[KC](#)



## EMC

## Declaration of Conformity

## Test Certificates



[Special Test Certificate](#)

[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

## Marine / Shipping

## other



[CCS / China Classification Society](#)

[Confirmation](#)

## other

## Environment

[Miscellaneous](#)

[Miscellaneous](#)

[Environmental Confirmations](#)

## Further information

Siemens has decided to exit the Russian market (see here).

<https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business>

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

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=3VA1120-5EE46-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA1120-5EE46-0AA0>

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

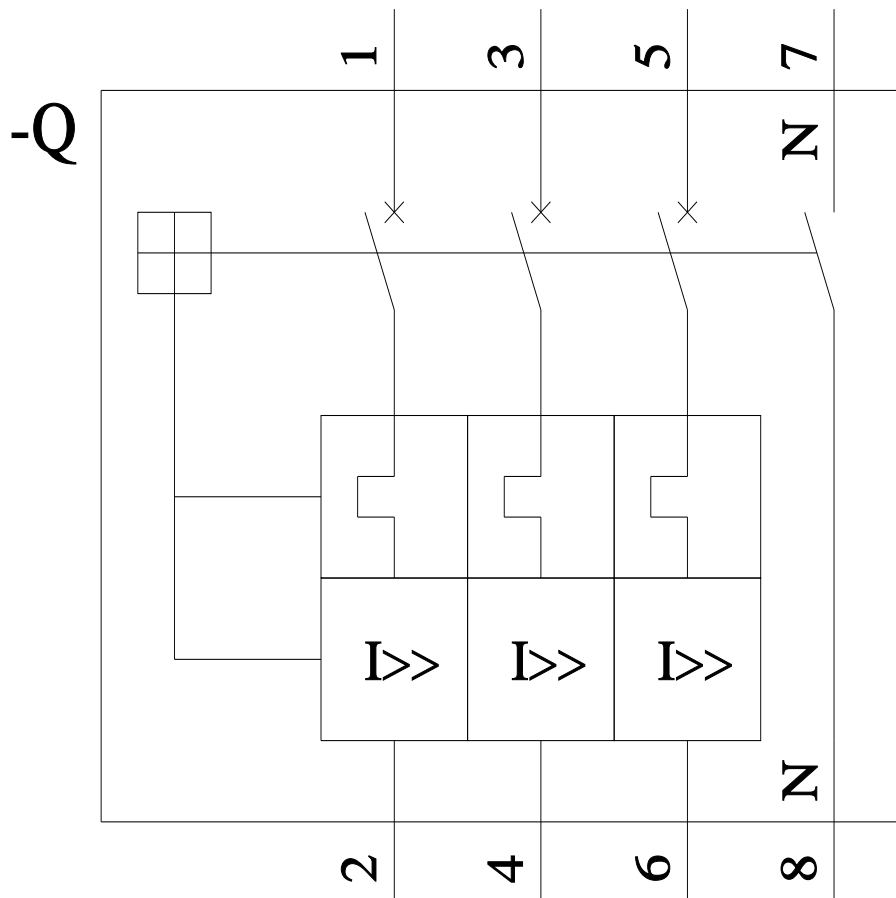
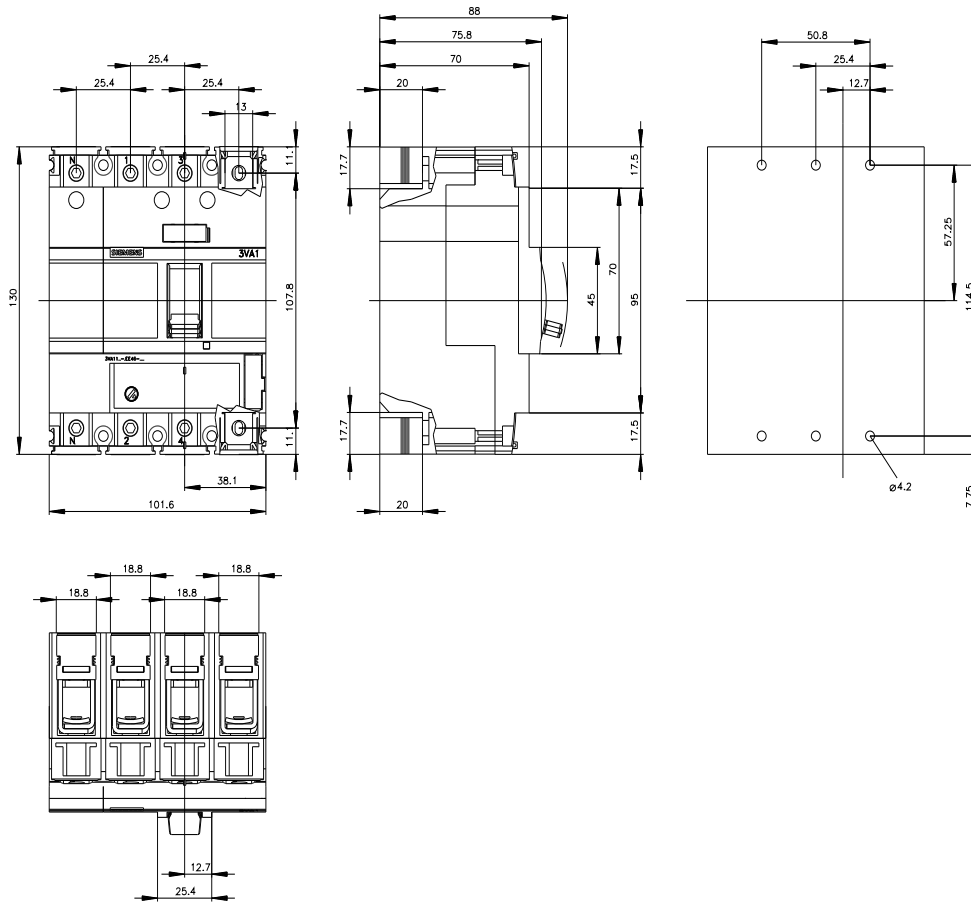
[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3VA1120-5EE46-0AA0](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1120-5EE46-0AA0)

CAX-Online-Generator

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

Tender specifications

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







# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Siemens:

[3VA11205EE460AA0](#)